



Offshore Cranes and Lifting Appliances

**Danish Offshore Legislation
and Standardisation**

2nd Edition

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Austrian Marine Equipment Manufacturers
Marketing Forum der österreichischen Marineausstatter

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1. General

The Danish Government has been promoting not only goal based construction standards in the Maritime Safety Committee of IMO since many years, but follows also a strategy of extending these standards to other areas like machinery and electrical systems, so that the same regime covers the entire ship. It will be not the task of IMO to take over the detailed work of the classification societies, but rather that IMO would state what has to be achieved, leaving classification societies, ship designers and naval architects, marine engineers, and ship builders the freedom to decide on how best to employ their professional skills to meet the required standards.

In addition to that the Ministry of Climate and Energy has been working on some guide lines for offshore platforms via the Danish Energy Agency (DEA), which will be published in the near future.

The majority of electrical offshore regulations for the Danish offshore industry refer to the equivalent onshore laws.

2. Regulators

2a. Denmark



Ministry of Climate and Energy Klima- og Energiministeriet

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The Danish Government has unveiled its “Energy Strategy 2050” in February 2011. It describes how the country can achieve its independency from coal, oil and gas by 2050 and significantly reduce its greenhouse gas emissions. The Strategy contains a list of initiatives that are intended to reduce the energy industry’s use of fossil fuels by 33 percent in 2020, compared with 2009. This concept is reflected by the fact that climate and energy – two originally controversial issues - are dealt with by the same Ministry. The energy sector is governed by the Danish Energy Agency in both areas – resources and health & safety.



Danish Energy Agency Energistyrelsen

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General

The Danish Energy Agency (DEA) – established in 1976 – is an agency under the supremacy of the Ministry of Climate and Energy. The DEA engages itself nationally and internationally in the production, supply and consumption of energy – as well as the efforts to reduce emissions of greenhouse gases. The task is to ensure the legal and political framework for reliable, affordable and clean supply of energy in Denmark.

The DEA has a double function:

- overseeing exploitation of the resources and
- overseeing health and safety on fixed offshore installations

The resources (oil & gas) part and the health & safety part are dealt with in two different departments of the DEA!

The DEA provides technical support to the Danish Environmental Protection Agency in their work with the Oslo-Paris Convention (OSPAR) for the oil and gas sector on the protection of the environment of the sea from the impact of offshore activities in the North Sea. The work takes place in a committee named Offshore Industry Committee (OIC).

The Danish Energy Agency is a member of OMHEC (Offshore Mechanical Handling Equipment Committee), a committee which was established for the purpose of discussing issues related to crane and lifting operations.

List of oil and gas fields in the Danish sector of the North Sea

- **Nils** oilfield
- **Skjold** oilfield - Chalk reservoir
- **Gorm** oil and gas field – Chalk reservoir
- **Roar** oilfield – Chalk reservoir
- **Harald** oilfield – Chalk reservoir
- **Dan** oil and gas field – Chalk reservoir
- **Kraka** oilfield – Chalk reservoir
- **Halfdan** oil and gas field – Chalk reservoir
- **Tyra** oil and gas field – Chalk reservoir
- **Tyra Southeast** oil field
- **Svend** oil field
- **Valdemar** oilfield
- **Lulita** gas field
- **Regnar** oil field
- **Rolf** oil field
- **Dagmar** oil field
- **Siri** oil field
- **Nini** oil field
- **Cecilie** oil field
- **South Arne** oil and gas field (operator: Amerada Hess)

The three operators in the 20 Danish North sea oil and gas fields are:

- Maersk Olie og Gas (15 of the 20 fields are operated by Maersk)
- DONG Energy A/S former DONG E&P
- Amerada Hess Denmark

All platforms in the Danish sector of the continental shelf are fixed (non-floating/non mobile structures).

Regulations and Guidelines

Legislation consists of Acts which are passed by the Parliament and Executive Orders under the acts which are issued either by the Ministry of Climate and Energy or the Danish Energy Agency.

The Danish Energy Agency regulations issues regulations which support the legislation.

There is an obligation for the industry to adhere to recognised standards.

Resources

Cranes

Specific regulations on design and operation of cranes and lifting appliances exist for fixed and mobile offshore installations as Executive Orders No. 1480:2005, 1481:2010 and 1482:2010.

Executive Order 1480:2010

Fixed Offshore Installations and Pipelines Construction, Design and Equipment

Executive Order 1481:2010

Mobile Offshore Installations Construction, Design and Equipment

Executive Order 1482:2010

Operation of Offshore Installations

Health and Safety

The Danish Energy Agency is the supervising authority on health and safety matters regarding offshore installations on the Danish Continental Shelf.

On 15 December 2005, the Danish Parliament passed a new Act on Safety on Offshore Installations – the Offshore Safety Act (OSA) – to replace the previous Offshore Installations Act from 1981. The objective of the Act is to maintain a high offshore health and safety level.

Act 1424:2005 and amendments

Safety on Offshore Installations for Exploration, Extraction and Transport of Hydrocarbons (The

Offshore Safety Act) with underlying regulations (Executive Orders), e.g.

Executive Order 1504:2010
Safety Organisation, fixed installations

Executive Order 1505:2010
Safety Organisation, mobile installations

These two regulations require that safety representatives are elected for each work area on the installation.



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Danish Standards is a private commercial foundation. Profits are re-invested into the development of new activities for the benefit of the corporate sector and the society.

Primary fields of activity are:

- Standardisation
- Sale of standards and handbooks
- Training
- Ecolabelling
- Certification (DS Certificering A/S)



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General

The Danish Environmental Protection Agency is subordinate to the Ministry of the Environment.

2b. European Standards

CENELEC EN 60204-1 DS/EN 60204-1

Safety of Machinery
Electrical equipment of machines
General requirements

As a result, every crane manufacturer is forced to demonstrate its compliance by obtaining certification by an independent auditing organisation. By the way – IEC 364 is a forerunner of IEC/DS/EN 60204-1.

DS/EN 13135-1 +A1 Cranes – Equipment Part 1: Electrotechnical equipment Part 2: Non-electrotechnical equipment

DS/EN 60204-11: Safety of machinery Electrical equipment of machines Part 11: Requirements for High Voltage equipment above 1000 V a.c. or 1500 V d.c. “Starkstrom Bekendtgørelse” “Starkstrombekanntmachung”

DS/EN 60204-32:2008 Safety of machinery Electrical equipment of machines Part 32: Requirements for hoisting machines Krav til loftemaskiner

This part of DS/EN 60204 applies to the application of electrical and electronic equipment and systems to hoisting machines and related equipment.

The equipment covered by this standard commences at the point of connection of the supply to the electrical equipment of the hoisting machine (crane supply switch) including systems for power supply and control feeders outside the hoisting machine, for example, flexible cables or conductor bars. For higher voltage see Part 11.

For the purpose of this standard, hoisting machines include cranes of all types, like overhead travelling cranes, offshore cranes, tower cranes, slewing luffing cranes, gantry cranes, cable cranes, rubber tired gantry cranes (RTGs).

3. Recognised Organisations



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The Danish Safety Technology Authority was founded in 2004, and focuses on the safety technology aspects relevant to fires, accidents and explosions. The Authority has – among others – overall responsibility for

- gas safety
in connection with all types of gas installations and plants
- electrical safety
in connection with production, transmission, distribution and the use of electricity

DANAK – The Danish Accreditation and Metrology Fund – is the performing party whose work for the Authority is based on a contract.

DANAK

The Danish Accreditation and Metrology Fund Dansk Akkreditering (DANAK)

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DANAK was founded in 2002 by the industry and public authorities.

It's primary activities are: accreditation, certification, inspection, verification and testing on behalf of the Danish Safety Technology Authority.

Legislation on accreditation is contained in the Law on Industry and Trade Promotion.

4. Abbreviations and Acronyms

CENELEC	Comité Européen de Normalisation Électrotechnique
DANAK	Danish Accreditation and Metrology Fund Dansk Akkreditering (DANAK)
DEA	Danish Energy Agency Energistyrelsen
DONG	Danish Oil and Gas Dansk Olie og Naturgas
DS	Danish Standard Dansk Standard
E&P	Exploration & Production
EN	European Standard
EU	European Union
IMO	International Maritime Organisation
OIC	Offshore Industry Committee
OMHEC	Offshore Mechanical Handling Equipment
OSA	Offshore Safety Act
OSPAR	Oslo-Paris Convention
RTG	Rubber Tired Gantry (Crane)

