

Collection of metocean data

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Foreword

The NORSOK standards are developed by the Norwegian petroleum industry to ensure adequate safety, value adding and cost effectiveness for petroleum industry developments and operations. Furthermore, NORSOK standards are, as far as possible, intended to replace oil company specifications and serve as references in the authorities' regulations.

The NORSOK standards are normally based on recognised international standards, adding the provisions deemed necessary to fill the broad needs of the Norwegian petroleum industry. Where relevant, NORSOK standards will be used to provide the Norwegian industry input to the international standardisation process. Subject to development and publication of international standards, the relevant NORSOK standard will be withdrawn.

The NORSOK standards are developed according to the consensus principle generally applicable for most standards work and according to established procedures defined in NORSOK A-001.

The NORSOK standards are prepared and published with support by The Norwegian Oil Industry Association (OLF), The Federation of Norwegian Industry, Norwegian Shipowners' Association and The Petroleum Safety Authority Norway.

NORSOK standards are administered and published by Standards Norway.

Annex A and Annex B are informative.

Introduction

Offshore metocean monitoring systems can vary from simple weather stations for aviation purposes to complete data acquisition systems incorporating a wide range of sensors and sophisticated data processing, display, storage and transmission features. By providing real-time information for operational use and long-term records for engineering design purposes, offshore metocean monitoring systems play an important role in ensuring safe offshore operations.

This NORSOK standard is intended as an initial reference for offshore operators when planning metocean monitoring equipment on offshore installations. It covers both statutory requirements and operator's own requirements, spanning applications such as weather forecasting, climate statistics, helicopter traffic, tanker loading, marine operations etc.

The collection of metocean data is normally the result of requirements imposed by PSA or other authority, and the operator's own needs. When specifying a metocean data collection system, this standard shall be supplemented by a list stating which requirements to fulfil. This NORSOK standard contains the necessary information for the requirements normally imposed by PSA, and a check-list to identify operator's own needs.

1 Scope

This NORSOK standard presents functional requirements and common principles for the collection of metocean data, i.e. meteorological and oceanographic data.

2 Normative and informative references

The following standards include provisions and guidelines which, through reference in this text, constitute provisions and guidelines of this NORSOK standard. Latest issue of the references shall be used unless otherwise agreed. Other recognized standards may be used provided it can be shown that they meet the requirements of the referenced standards.

2.1 Normative references

NMI, 1997:	Norwegian Meteorological Institute: Report 18/97 KLIMA. Recommended format (NORSOK) for the delivery of metocean data
BSL G 7-1,	Civil Aviation Authority – Norway: Forskrift om flyværtjeneste (2008-07-01)
BSL D 5-1,	Civil Aviation Authority – Norway: Forskrift om kontinentalsokkelflyging - Ervervsmessig luftfart til og fra helikopterdekk på fartøy og innretninger til havs (2008-01-01)
ICAO Doc 9328-AN/908,	Manual of Runway Visual Range Observing and Reporting Practices, ICAO, 2005
PSS 78,	The Practical Salinity Scale 1978
WMO-No. 8,	Guide to Meteorological Instruments and Methods of Observation, WMO 2008 Geneva
WMO-No. 49,	Technical Regulations, Vol II, Meteorological Service for International Air Navigation, WMO 2004, Geneva
WMO-No. 306,	Manual on Codes, Volume I.1, WMO 1995, Geneva

NOTE The WMO is the major international reference on many of the topics discussed herein. The technical documentation of WMO is extensive; therefore this standard makes specific references to relevant parts of WMO documentation. Furthermore, NMI has accepted the responsibility to provide easy access to updated versions of the WMO publications referenced herein.

2.2 Informative references

WMO-No. 842,	Guide to the Provision of Meteorological Service for International Helicopter Operations, WMO/ICAO 1996, Geneva
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NOTE The following handbooks (in Norwegian only) (distributed by NMI) are standard equipment at all observing stations:

- NMI: Meteorologisk Kode, SHIP, Maritime stasjoner
- NMI: Meteorologiske koder for flyværtjenesten
- NMI: Veiledning for meteorologiske målinger offshore

3 Terms, definitions and abbreviations

For the purposes of this NORSOK standard, the following terms, definitions and abbreviations apply.

3.1 Terms and definitions

3.1.1

shall

verbal form used to indicate requirements strictly to be followed in order to conform to this NORSOK standard and from which no deviation is permitted, unless accepted by all involved parties

3.1.2**should**

verbal form used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required

3.1.3**may**

verbal form used to indicate a course of action permissible within the limits of this NORSOK standard

3.1.4**can**

verbal form used for statements of possibility and capability, whether material, physical or casual

3.2 Abbreviations

BSL	bestemmelser for sivil luftfart
CTD	conductivity-temperature-depth sensor
FM 13-XII Ext. SHIP	Format description of the report SHIP
FM 15-XIII Ext. METAR	Format description of the report METAR
FM 16-XIII Ext. SPECI	Format description of the report SPECI
ICAO	International Civil Aviation Organization
METAR	aviation routine weather report
metocean	meteorological and oceanographic
MOB	man over board
MOR	meteorological optical range
NMI	Norwegian Meteorological Institute
PSA	Petroleum Safety Authority – Norway
PSU	practical salinity unit
RVR	runway visual range
SAR	search and rescue
SHIP	report of surface observation from a sea station
SPECI	aviation selected special weather report
UTC	universal time coordinated
WMO	World Meteorological Organization

4 Common requirements**4.1 General**

Procedures, which ensure the proper functioning of the measuring and recording system, described in this NORSOK standard as well as instrument accuracy and calibration, shall be established and maintained.

Qualified personnel shall carry out observations, select, install, check and maintain the equipment and repair any faults or malfunctions. Service and calibration interval on equipment shall be maximum one year. When new types of instruments are introduced, a notification shall be given to all regular receivers of data.

Time references given in UTC shall be recorded together with the measured data or derived parameters. The time reference should not be dependent on manual setting following a possible stop in operation of the system. Local user interfaces should show both UTC and local time, clearly marked.

4.2 Instrumentation

The accuracy, range, type and location of the instruments should be determined with due regard to the purpose of the recordings.