STANDARD FOR CERTIFICATION

No. 1.2

Type Approval

JANUARY 2013

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FOREWORD

DNV is a global provider of knowledge for managing risk. Today, safe and responsible business conduct is both a license to operate and a competitive advantage. Our core competence is to identify, assess, and advise on risk management. From our leading position in certification, classification, verification, and training, we develop and apply standards and best practices. This helps our customers safely and responsibly improve their business performance. DNV is an independent organisation with dedicated risk professionals in more than 100 countries, with the purpose of safeguarding life, property and the environment.

Standards for Certification

Standards for Certification (previously Certification Notes) are publications that contain principles, acceptance criteria and practical information related to the Society's consideration of objects, personnel, organisations, services and operations. Standards for Certification also apply as the basis for the issue of certificates and/or declarations that may not necessarily be related to classification.

Any comments may be sent by e-mail to *rules@dnv.com*

CHANGES

General

This document supersedes Standard for Certification No. 1.2, April 2009.

Text affected by the main changes in this edition is highlighted in red colour. However, if the changes involve a whole chapter, section or sub-section, normally only the title will be in red colour.

Main changes

- **General**

The Type Approval process, conditions and terms are harmonized with the coming EU RO Mutual Recognition TA process.

The Standard for Certification is reflecting a more efficient process where digital signing of certificates is implemented.

In addition this Standard for Certification includes information about the new EU RO Mutual Recognition (MR) Type Approval scheme.

- **Sec.1 General**

— In 1.1 a short introduction of the EU RO MR Type Approval scheme is included.
— In 1.3 a definition of the EU RO MR TA scheme has been included.
— In 1.4 a short description of the scope of the EU RO MR TA scheme has been added.

- **Sec.2 Who can Obtain Type Approvals**

— In 2.1:
  — The formal conditions for a company applying for DNV TA have been changed.
  — Formal and technical conditions for EU RO MR TA have been added to the text.

— In 2.2:
  — Conditions for Type Examination have been moved from former 2.4 to 2.2. Accordingly, 2.4 has been deleted.
  — Information about which technical requirements that shall be basis for an EU RO MR TA and that the requirements are found in the DNV Publications “Type Approval Programmes for EU recognised organisation Mutual Recognition (MR)” have been included.

— Section 2.3 has been deleted since “Design Assessment for Type Approval” will not be available any longer. Companies will instead get a “Type Approval”.

- **Sec.3 How to Obtain Type Approval**

— In 3.1:
  — The TA application from the company shall include a declaration stating that the product is 100% free from asbestos.
  — When applying for TA, the company shall inform about which other companies that are allowed to or given the responsibility for designing and manufacturing the product.

— In 3.3:
  — “Initial survey” has been renamed to Initial assessment” and moved from 3.3 to 3.5.
  — “Design Assessment” has been moved from 3.5 to 3.3 and renamed “Detail Assessment of Documentation”.
  — When TA documentation is submitted in paper format, only two copies of the documentation shall be submitted. Today three copies are required.
  — No TA documentation will be returned to the company applying for TA.

— A new 3.6 giving description of the “Approval of the Production Quality Assurance (PQA) scheme” has been added. This TA element is required for EU RO MR Type Approval.

— In 3.7:
  — The TA certificate will now be delivered in electronic format and digitally signed.
  — The digitally signed electronic TAC is the original of the certificate.
  — Other companies manufacturing the product need not be listed in the certificate any longer.
  — The validity of an EU RO MR TAC (max. 5 years) has been added.

- **Sec.4 Periodical Assessments for Retention of the Type Approval Certificate**

— "Retention survey" has been renamed to "Periodical assessment".
— If other companies are allowed to manufacture the product, periodical assessments shall be carried out randomly at these companies.
— The scope and frequency of periodical assessments for retention of an EU RO MR TAC has been added.

- **Appendix A**

— A new App.A listing the products that can be accepted on the basis of an EU RO MR Type Approval only, has been included.

Editorial Corrections

In addition to the above stated main changes, editorial corrections may have been made.

CONTENTS

1 General

1.1 Introduction

DNV is operating the following two Type Approval schemes:

— DNV Type Approval
— EU RO Mutual Recognition (MR) Type Approval.

DNV Type Approval:

The DNV Type Approval (TA) scheme is a procedure for approval of the design of materials, products and systems. The TA scheme may be used as an alternative to design approval "case by case" when the materials, products and systems are intended for DNV classed vessels, see Standard for Certification 1.1.

For most products and systems DNV TA is a voluntary alternative for approval of design. However, for certain products and systems as defined in the applicable chapters of the DNV Rules, DNV TA is a mandatory procedure for design approval.

The DNV TA procedure should normally be used for approval of standard design of products produced in series.

EU RO Mutual Recognition (MR) Type Approval:

The EU RO MR Type Approval scheme is a procedure for type approval of certain products that can be accepted for installation onboard vessels on the basis of the EU RO MR Type Approval only.

This Type Approval scheme can only be used for products that are defined on a list of products agreed by the EU RO, see Appendix A.

When a product has got an EU RO MR Type Approval from DNV, the product shall be accepted for installation onboard vessels classed by any of the EU RO.

1.2 Objective of this publication

The objective of this publication is to give a description of the DNV and EU RO MR Type Approval schemes and services including some of the principles behind these.

1.3 Definition

DNV Type Approval scheme is a procedure for approval of design and is defined as:

"Approval of conformity with specified requirements on the basis of a systematic examination of one or more specimens of a product representative of the production".

EU RO MR Type Approval is a procedure for type approval of certain products that can be accepted onboard vessels on the basis of Type Approval only.

1.4 Scope of the Type Approval (TA) schemes

DNV TA scheme:

The scope of the DNV TA scheme will normally include the following activities:

— design assessment of documentation
— type testing of the material, product or system
— initial assessment at the TA applicant
— issuance of DNV Type Approval Certificate (TAC).

The type testing and initial assessment should preferably be carried out before or in parallel with the design assessment.

Further details are given in Sec.3 below.

When a DNV TAC is issued, it will for most products be valid for 4 years. For some products the validity of the TAC is 2 years.

EU RO MR TA scheme:

The scope of the EU RO MR TA scheme will normally include the following activities:

— design assessment of documentation
— type testing of the product
— approval of the company's Production Quality Assurance (PQA) scheme
— issuance of EU RO MR Type Approval Certificate (TAC).

The type testing and approval of the company's PQA should preferably be carried out in parallel with the design assessment.

Further details are given in Sec.3 below.

When an EU RO MR Type Approval Certificate is issued, it will be valid for maximum 5 years.

In order to retain the DNV and/or EU RO MR Type Approval certificate through the period of validity, periodical assessments shall be carried out, see Sec.4.

At the end of the validity period, a renewal of the Type Approval certificate may be applied for. The procedure for renewal of the Type Approval certificate is described in Sec.5.

1.5 Abbreviations

CMC Certification of Materials and Components
DNV Det Norske Veritas
EC European Community
EU European Union
MED Marine Equipment Directive
MR Mutual Recognition
PQA Production Quality Assurance
RO Recognized Organisation
TA Type Approval
TAC Type Approval Certificate
TE Type Examination
TEC Type Examination Certificate

2 Who can Obtain Type Approvals

2.1 Conditions for Type Approval

Formal conditions for a company applying for a *DNV TA* and/or an *EU RO MR TA*:

A TAC can be issued to a company placing a product on the market under the company's name and thus presenting the company as the manufacturer of the product even if the designing and/or manufacturing and/or assembly are partly or fully subcontracted or licenced to other companies, provided:

— the company is the owner of the design, or have a written acceptance from the owner of the design that the TAC can be issued in the name of the company
— the company takes the sole responsibility for the conformity of the product to the applicable requirements
— information about which other companies that are allowed to / given responsibility for designing, manufacturing or assembling the product is made available when TA is applied for
— the company accepts the conditions for periodical assessments for retention of the TAC and possible suspension or withdrawal of the TAC. This includes the DNV surveyor's access to the company's premises as well as the premises of other companies that are manufacturing the type approved products.

In addition, a company applying for *EU RO MR TA* must operate a quality management system certified to ISO 9001 or equivalent by an accredited certifying body.

Technical conditions for DNV TA:

— There must be specific and applicable design requirements for the product in question in the DNV Rules that are fulfilled and that can be referred to as basis for the TA.

Technical conditions for EU RO MR TA:

— The product for which TA is requested must be on the list of products that EU RO have agreed can be mutually accepted on the basis of Type Approval only, see Appendix A.
— The product must fulfil the specific requirements to the product established by the EU RO.

2.2 Standards used for Type Approval

DNV Type Approval:

The specified requirements that can be used as the basis for a DNV TA are found in the following standards:

— DNV Rules for Classification of Ships, and/or
— DNV Standards, and/or
— DNV Type Approval Programmes.

Common for these standards is that their ability to secure fitness for the intended application on board ships and offshore units have been evaluated by DNV and found to be satisfactory.

The DNV Rules, Offshore Standards and Type Approval Programmes are in this publication referred to simply as DNV Rules.

EU RO MR Type Approval:

The specific requirements that shall be used as basis for the EU RO MR Type Approval have been established by the EU RO. The requirements are described in the DNV Publications named "EU Recognized Organisation Mutual Recognition Type Approval Programmes".

DNV Type Examination:

In cases where a company want to have the design of a product verified for compliance with other standards than those applicable for DNV TA, a DNV Type Examination (TE) can be applied for.

The basis for DNV TE can be any national or international standard as long as the standards (in English language) include specific requirements to the design of the product. In general, these standards are not evaluated for application on DNV classed vessels.

In those cases the examination of the design is carried out on the basis of an EU Directive and the belonging international standards, an EC Type-Examination will be done.

The TA and the TE are hereafter in this publication referred to simply as TA.

3 How to Obtain Type Approval

3.1 Application for Type Approval

The TA shall be applied for in writing to the DNV local office. A DNV application form for TA shall be filled in and submitted to DNV. The application form is available from any DNV local office.

The application form shall ensure that necessary and needed information is available before the TA assessment is started.

The application shall include a declaration from the company that the product for which TA is applied is 100% free from asbestos.

Information about which other companies that are allowed to or given the responsibility for designing, and/or manufacturing and/or assembling the product shall be attached the application for TA. Any changes or additions with respect to other companies involved must be continuously reported.

3.2 Quotation

A quotation for TA may be obtained on request. The quotation will normally include information about:

— scope of work
— documentation to be submitted for assessment
— certificate to be issued by DNV
— conditions for retention and renewal of the certificate
— estimated delivery time of the TA certificate
— fees and conditions of payment
— validity of quotation.

3.3 Design assessment of documentation

In order to carry out the design assessment, different kind of information and documentation need to be submitted to the DNV local office. Since there is a considerable variation of product designs, the needed documentation will also vary considerably.

The needed and required information and documentation for specific products are listed in the standards forming the basis for the type approval, see 2.2.

Normally, the documentation required by the standard will as relevant comprise, but not be limited to, the following kind of documentation:

— application for TA
— main drawings of product / system (or other equivalent documentation)
— instruction manuals (if any)
— design calculations (if any)
— documentation of reliability by calculation and / or in service experience (if required)
— information regarding the manufacturer's type designation marking (or other marking) of the product for unambiguous identification of the product with TAC
— reference to technical specifications, etc., which are to be the basis for the TA

— specification of materials applied
— operating characteristics
— type testing programme
— type testing report
— proposed field of application and operational limitations
— functional description
— report from initial assessment (for *DNV TA*)
— report from approval of the Production Quality Assurance (PQA) (for *EU RO MR TA*).

When documentation is submitted in paper format, normally two copies of the documentation shall be submitted to DNV. No documentation will be returned to the company applying for TA.The documentation that forms the basis for the TA must be easily available for DNV surveyors at the TA applicant's premises.

English language shall be used in the documentation.

When the design assessment is carried out, a design assessment document will be issued by DNV stating compliance with the requirements for the relevant product design.

3.4 Type testing

The main objective of a type testing is to verify the ability of a material, product or system to meet special requirements that cannot be verified by analyses and calculations with reasonable reliability.

The type testing shall be carried out on specimens or products representative of the production. This means that the samples or products are to be made in conformity with approved documentation and by using tools, methods and processes of the normal production.

The type testing can be carried out at the TA applicant's premises when he has suitable facilities available to undertake the testing as required. The testing shall be carried out and witnessed by a DNV surveyor as required and described in the DNV Rules (for *DNV TA*) and the DNV Publications named "Type Approval Programmes for EU recognised organisation Mutual Recognition (MR)" (for *EU RO MR TA*).

A type testing programme shall be worked out by the TA applicant, sent to the DNV local office and agreed upon prior to the commencement of the testing.

The test programme shall among others include information on which tests that shall be carried out in the presence of the DNV surveyor. Further, the test programme shall define the acceptance criteria for the testing.

Upon completion of the testing, the TA applicant shall issue a test report of the results including the conclusion of the testing. The report shall be sent to the DNV local office for endorsement. The type testing report is considered to be part of the TA documentation.

Type testing may be carried out by independent laboratories recognized for the kind of type testing that is required for the products in question. DNV may base its acceptance on the test reports issued by the recognized laboratory confirming compliance with the requirements.

3.5 Initial assessment

When a *DNV TA* is applied for, an initial assessment will normally have to be carried out by DNV in order to confirm that the TA applicant has a quality system in operation ensuring consistent production of the products for which the TA is requested. The initial assessment may in certain cases be omitted if the products are frequently certified by DNV, periodical audits are carried out by DNV or if the TA applicant is certified to ISO 9001 or equivalent by an accredited body.

However, if other companies are allowed to or given the responsibility for the manufacturing or assembling of the product, the initial assessment at the TA applicant cannot be omitted.

A report will be made after the initial assessment, and this report shall be part of the TA documentation.

3.6 Approval of the Production Quality Assurance (PQA) scheme

When an *EU RO MR TA* is applied for, an approval of the applicant's PQA scheme shall be carried out. The approval will include:

— a review of the PQA documentation
— an assessment of the implementation of the PQA scheme.

The PQA documentation shall include:

— relevant product information
— listing and information of manufacturing/production sites other than the TA applicant site
— documentation of the quality management system and its certification.

The purpose of the review of the PQA documentation is to determine whether the described PQA scheme gives reasonable confidence that the concerned products can be consistently produced in compliance with the type of product covered by the design assessment documentation.

The purpose of the assessment of the PQA scheme, is to determine whether it is implemented and operated as described. Assessment of implementation shall be done at the TA applicant's premises and at manufacturing/ production sites other than the TA applicant's site.

When the review and assessment have been finished, a PQA approval report will be made and sent to the TA applicant.

3.7 Type Approval Certificate (TAC)

A TAC will be issued and sent to the TA applicant when compliance with the requirements to the product is confirmed. The certificate will be in electronic format and digitally signed.

The digitally signed electronic TAC is the original of the certificate, and any paper version of the certificate is a copy.

A DNV TAC will be given a validity of 2 or 4 years depending on type of material, product or system.

An EU RO MR TAC will be given a validity of max 5 years.

The expiry date will be either 30th of June or 31st of December.

All valid TAC will be listed on DNV Exchange on the Internet, see http://exchange.dnv.com/tari/.

In order to enable identification and traceability between the product and the TAC, the product or its packing shall be marked with the company's name, trade mark and the same type designations as given in the TAC.

Note:
The difference between a DNV Type Approval Certificate and a NV Product Certificate should be observed.

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A *DNV Type Approval Certificate* states that the *design* of a product type is in conformity with specified requirements. The certificate is valid for a certain period of time.

A *NV Product Certificate* states that a *manufactured product* is in conformity with specified (design and production) requirements. A product certificate is issued for a manufactured product and is stating conformity with the specified requirements at the time of issue.

4 Periodical Assessments for Retention of the Type Approval Certificate

A condition for retention of the TAC in its validity period, is that periodical assessments are successfully carried out at the TA applicant's premises.

The scope and frequency of the periodical assessments are different for *DNV TA* and *EU RO MR TA*.

DNV TA:

The objective of the periodical assessment is to verify that the conditions for the TA are not altered since the TAC was issued.

The main scope of the periodical assessment will normally include:

— verification of the TA applicant's production and quality system w.r.t. ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
— review of the TA documentation and that this is still used as basis for the production
— review of possible changes to the design, the material and the performance of the product
— verification of the product marking.

Periodical assessments will be carried out every second year. When possible, this assessment may be harmonised with normal surveys for product certification and / or other surveys and audits carried out.

Unscheduled assessments for retention of the certificate may be carried out when there is reason to believe that the TA applicant has not adhered to the obligations stipulated in the TAC.

In cases where the type approved product is manufactured at other companies periodical assessments shall be carried out randomly at these companies. All companies shall be assessed at least once in the period of validity of the TAC.

A short assessment report will be made and submitted to the company when the periodical assessment has been carried out.

EU RO MR TA:

The purpose of the periodical assessment is to verify that the TA applicant maintain and duly fulfils the obligations arising out of the approved PQA scheme.

The main scope of the periodical assessment will be:

— review of the PQA scheme documentation
— review of the Design assessment documentation in order to verify that this is still basis for the production and if there are any changes to design, materials and performance of the products
— review of quality records
— inspection/assessment to verify that manufacturing and assembling of the products are in line with the PQA documentation
— verification of inspection and testing of the products
— verification of storage and handling of sub-suppliers
— verification of how quality and consistent production are ensured at manufacturing/production sites other than the TA applicant site
— verification of product marking and identification
— witness additional testing as required by the technical requirements.

The TA applicant shall apply for periodical assessments annually.

Unscheduled periodical assessments may be carried out when there are reasons to believe that the TA applicant has not adhered to the obligations stipulated in the TAC.

In those cases the type approved product is manufactured at companies other than the TA applicant, periodical assessments shall be carried out randomly at these companies. All companies shall be assessed at least once in the period of validity of the TAC.

An assessment report shall be made and submitted to the TA applicant when the periodical assessment has been carried out.

5 Renewal of Type Approval Certificate

Approximately 3 months prior to the expiry date of the TAC, a reminder letter for renewal of the TA will be sent to the company holding the TAC. This letter will include information about:

— which TACs that are due for renewal
— estimated fee for the renewal (provided there are no changes to the product and / or the certificate)
— information about necessary periodical assessments
— application for renewal of the TAC.

When the TA applicant has decided to request a renewal of the certificate, an application for renewal shall be submitted to the DNV local office.

If there are any changes to the product design, the design documentation and / or the TAC, information about this and revised documentation shall be enclosed the application sent to the DNV local office.

When the application for renewal is received, a periodical assessment for renewal of the certificate will be carried out and constitute some of the basis for the renewal, see Sec.4.

The renewal of the TA will be based on the current requirements of the standard being the basis for the TA.

When all steps in the renewal process have been completed satisfactorily, a new TAC will be issued and sent to the TA applicant.

The listing of the type approved products on the Internet will be updated when the new / updated TAC has been issued, see 3.7.

6 Suspension and Withdrawal of Type Approval Certificates

If DNV finds it justified, a TAC may be suspended or withdrawn at any time.

The decision to suspend or withdraw a TAC is made by DNV.

Suspension or withdrawal of a certificate may take effect immediately or after a specified period of time. In special cases the withdrawal of a certificate may be made with retroactive effect.

When a TAC is suspended or withdrawn, DNV will:

— notify the holder of the certificate in writing
— make the information publicly available.

In the case of suspension, a time window will be given for corrective actions to be carried out in order to have the certificate reinstated. If relevant corrected actions are not carried out, the certificate may be withdrawn. If a TAC is suspended or withdrawn, this will have no retroactive influence on the fee initially charged for the TA.

7 Fees

Upon receipt of the application for TA, DNV will inform the applicant about the fee to be charged for the TA. Agreement on the fee and terms of payment is to be reached between DNV and the applicant before work can be started.

A fee will be charged separately for the initial and periodical assessments carried out.

Appendix A
List of Products that can be Accepted on the Basis of an EU RO MR Type Approval Only

— Circuit Breakers
— Contactors
— Display monitors, Video screens, Terminals
— Electric Driven Motors < 20 kW
— Fuses
— LV Enclosures & Boxes
— LV Transformers
— Mechanical Joints
— Resin Chocks
— Sensors
— Switches.