

STANDARD

DNVGL-ST-0032

Edition December 2018

Certification bodies and examination centres of persons

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FOREWORD

DNV GL standards contain requirements, principles and acceptance criteria for objects, personnel, organisations and/or operations.

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CHANGES – CURRENT

This document supersedes the January 2015 edition of DNVGL-ST-0032.

Changes in this document are highlighted in red colour. However, if the changes involve a whole chapter, section or subsection, normally only the title will be in red colour.

Changes December 2018

<i>Topic</i>	<i>Reference</i>	<i>Description</i>
Roles and responsibilities. Certification principles.	Title of the document	The name of the standard was changed from DNVGL-ST-0032 <i>Test centre for certification of personnel</i> to DNVGL-ST-0032 <i>Certification Bodies and Examination Centres of Persons</i> .
	All	All of the document has undergone a complete overhaul. Even though portions of the old standard were used it was not possible to use the existing document as a foundation.
	Sec.1 [1.5.6]	For certification bodies making use of a network of examination centres a sample-size was introduced for annual audits.
	Sec.2	A new section <i>General management system requirements</i> were added to the standard. This eliminates the expectation for an organisation to have a certified management system in place before certification against this standard is possible.
	Sec.3	The roles of the party responsible for managing a competence certification scheme (certification body) and the party responsible for performing examinations on behalf of a Certification Body were split, facilitating certification of a certification body making use of a network of external examination centres.
App.B	The content of previous Appendici B and C was moved to the applicable sections. Previous Appendix D was renumbered to a new Appendix B, with a new sample certificate.	

Editorial corrections

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

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SECTION 1 GENERAL

1.1 Objective

The standard aims to assure that certification of competence for specific target groups is done in accordance with recognised, well-regarded and consistent standards, rules, specifications as well as assessment/examination methods, with the aim of limiting operational risk and increasing trust in the value of certificates, by determining that certified persons are competent.

1.2 Scope

Certification against this standard can be performed for two different roles involved in certification of persons, namely the certification body (CB) and the examination centre (EC).

The scope for certification includes a review of the management system, scheme management processes of one or more schemes, implementation of the defined scheme(s) and conducting examinations at examination centres.

1.3 Application

This standard can be applied to certification schemes of both a compulsory and a non-compulsory nature. It follows the main principles as defined in ISO/IEC 17024:2012 *Conformity assessment - General requirements for bodies operating certification of persons* and builds on the following critical elements:

- impartiality and integrity
- use of constantly updated, transparent methods
- use of accepted procedures and instructions based on society, industry and/or authority approval
- use of highly-qualified and experienced experts and
- use of (inter)nationally recognised standards, guidelines and specifications.

Sec.2 *General management system requirements* apply to both roles.

Sec.3 *The certification body* sketches the role of the CB, responsible for implementing and maintaining a certification scheme and for issuing and registration of certificates of competence.

Sec.4 *The examination centre* sketches the role of the EC acting on behalf of a CB, responsible for organising certification examinations or assessments, forming the foundation for the certification decision by the CB.

A CB may operate its own EC, in which case **Sec.2**, **Sec.3** and **Sec.4** apply.

A CB may also enter into agreements with independent ECs.

1.4 Definitions

Terms and definitions used in this document are listed in [Table 1-1](#).

Table 1-1 Terms and definitions

<i>Term</i>	<i>Definition</i>
assessment	process used for review of systems, documents and the competence of individuals. It is a generic term for testing, auditing and examining, including the conclusion
certification body	organisation responsible for implementing and maintaining a certification scheme and for issuance and registration of certificates of competence
certificate of competence	document, awarded to individuals in compliance with a standard of competence that indicates justifiable trust in the named person's competence to fulfil a specific function

<i>Term</i>	<i>Definition</i>
certification personnel	employees of the certification body with the responsibility to review the process of certification and authorised to decide whether a certificate shall be issued to a person or not
certification scheme	a systematic, transparent and well maintained approach to examine and certify individuals seeking to demonstrate their competence in a defined field of operation
certification system	a system which governs and assesses competence of specific categories of persons, related to specific occupational or functional skills
certified persons	those whose competence has been certified, or certificate holders
competence	ability to apply knowledge and skills and demonstrate appropriate attitudes and behaviour to achieve an intended result in a given context
competence requirements	the minimum requirements in the areas of knowledge, understanding, skills, attitude and or method which a candidate shall possess in view of his professional position. The competence requirements are open to public scrutiny
examination	mechanism which measures a candidate's competence by one or more means, such as written, oral, practical and through observations, as defined in the certification scheme
examination agreement	detailed agreement between a certification body and an examination centre to which examination activities have been delegated in the context of certification of persons
examination centre	an entity performing impartial assessments of competence as part of a certification scheme, either under supervision or as integral part of a certification body
examination regulations	the standard regulations to which the examination centre(s) and candidates shall conform
examiner	person competent to conduct and score an examination, requiring professional judgment
fairness	equal opportunity for success provided to each candidate in the certification process
impartiality	presence of objectivity
interested parties	natural persons, legal entities, companies, groups of companies, industry(ies), authority(ies), social partners, institutes, etc. who need specific services based on defined areas of competence executed by the certified person
invigilator	person in charge of the organisation of and supervision over an examination, for which no professional judgment is expected
pilot	the first time a new or revised examination is conducted for the purpose of determining adequacy and feasibility of the examination as developed
reliability	indicator of the extent to which examination scores are consistent in different examination locations, instances and by different examiners
risk factor	variable associated with an increased risk of damage to life, property and environment in relation to the level of competence demonstrated by personnel
scheme owner	organisation responsible for developing and maintaining a certification scheme
standard of competence	a document reflecting the required competencies and assessment criteria for a specific task or function

<i>Term</i>	<i>Definition</i>
test matrix	an overview of the division of questions or assignments on competence elements and performance criteria which also indicates the pass or fail mark. It also reflects relative weight either through a factor or number of assignments/questions
test protocol	document used by the examiner or invigilator during an examination containing a description of the examination process
test specifications	specification or subdivision of competence requirements. In more detail it describes both the subjects in which the candidate shall be examined and the nature of the examination
validity	evidence that the assessment measures what it intends to measure as defined by the certification scheme

1.5 Certification

1.5.1 General

CBs and ECs involved in certification of competence based on DNV GL standards or recommended practices shall be certified by DNV GL. If the CB and (contracted) ECs conform to the requirements of this standard, DNV GL can certify the organisations for their demonstrated ability to develop, prepare, execute and/or conduct the examinations and/or manage the certification scheme.

Organisations which comply with all requirements of this standard may be certified as both a certification body and an examination centre. Organisations only complying with the defined scope for examination centre can only be certified as a contracted party to a certification body.

The certification includes:

- assessment of the documentation of the management system
- assessment of the documentation related to the certification scheme(s)
- implementation audit
- annual periodical audits for retention of the certificate
- renewal audits.

1.5.2 Assessment of the management system documentation

1.5.2.1 Certification body

An assessment of the documentation related to managing the certification activities and of the applicable certification scheme(s), including validated examinations, shall be performed to verify compliance with the applicable requirements in this standard and additional national or international requirements. Corrective actions shall be taken to possible non-conformities. See [Sec.3](#) for specific details.

1.5.2.2 Examination centre

An assessment of the documentation related to conducting examinations on behalf of a CB shall be performed, including the contractual agreements with the CB to perform approved examinations against a defined certification scheme. Corrective actions shall be taken to possible non-conformities. See [Sec.4](#) for specific details.

1.5.3 Initial audit

An initial audit shall be performed to verify compliance between the documented management system and certification systematics as defined in the applicable standard.

Possible non-conformities will be reported in writing to the CB's or EC's management. Corrective actions shall be taken to possible non-conformities.

Each EC shall initially be audited. At least one pilot examination shall be witnessed at each examination centre used by the CB.

1.5.4 Periodical audit

Periodical audits of the CB shall be carried out annually for retention of the certificate.

For periodical audits of a network of examination centres a sample approach is used. See [1.5.6 Sampling of examination centres](#).

Periodical audits should be satisfactorily completed in the three month period either side of the certificate anniversary date.

Non-conformities shall be reported in writing to the CB's or EC's management. Corrective actions shall be taken to identified non-conformities within agreed timeframe.

1.5.5 Renewal audits

Renewal audits shall always take place in the three months before the expiry date of the certificate. Non-conformities shall be sufficiently addressed before the expiry date of the certificate.

1.5.6 Sampling of Examination Centres

If a CB operates a network of more ECs, each annual audit will include one or more ECs, while an examination is in progress. It shall be ensured that, in addition to the initial audit, each EC is audited at least once during the validity period of the certificate.

The sampling of ECs is illustrated in [Table 1-2](#).

Table 1-2 Sampling of examination Centres

<i>Network of examination centres</i>	<i>Initial audit / renewal audit</i>	<i>Annual audits</i>
1 - 3	ALL	1
4 - 6	ALL	2
7 and more	ALL	3

1.5.7 Validity certificate

The certificate has a validity of five years. Validity of the certificate is subject to the organization complying with the requirements for periodical annual audits. The certificate may be renewed following the satisfactory completion of a renewal audit. The organization is responsible for timely requesting annual and renewal audits.

1.5.8 Use of logo

Once the CB and EC(s) as defined in the scope of certification have been certified, certificates issued to persons by the CB may bear the appropriate DNV GL logo, illustrating compliance with this standard. The logo, with instructions for use, will be provided by DNV GL.



1.6 Confidentiality

Every person bound by this standard who has access to or comes into possession of data of a confidential nature, or data which could reasonably be deemed to be of a confidential nature, is obliged to observe the confidentiality thereof. This shall not apply if a person covered by the terms thereof is obliged to divulge data by legal regulation.

SECTION 2 GENERAL MANAGEMENT SYSTEM REQUIREMENTS

2.1 Management responsibility

2.1.1 Management commitment

Top management shall demonstrate accountability, leadership and commitment with respect to the quality management system, communicate the importance of its effective implementation and promote improvement. Top management shall take an active and leading role and understand its own duties in relation to the quality management system.

2.1.2 Policy

Top management shall establish a quality policy and ensure that it:

- is appropriate to the purpose of the certification activities
- includes a commitment to comply with requirements and continually improve the effectiveness of the management system
- provides a framework for establishing and reviewing quality objectives
- is communicated and understood within the organisation
- is reviewed for continuing adequacy.

2.1.3 Quality objectives

Top management shall ensure that quality objectives are established, communicated and updated, in alignment with the strategy and context of the organisation and measurable and consistent with the quality policy.

The arrangements needed for the achievement of these objectives shall be planned, implemented and monitored.

Guidance note:

Examples of measurable objectives:

- quality of performed examinations
- examiner performance
- equipment performance
- level of candidate satisfaction
- bench marking against other examination centres in the network
- design of new examinations
- validity of examination questions and scenarios.

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2.1.4 Responsibility and authority

The organisation shall ensure that scheme requirements are determined and met with the aim of enhancing validity of the outcomes of examinations, and thus certificates.

The organisation shall identify and document interested parties/stakeholders (e.g. authorities, customers, developers, suppliers, industry associations), including their expectations and concerns.

The organisation shall identify legal, ethical, regulatory and approval requirements that apply to the operations and act in accordance with these.

The organisation shall define and document the tasks, responsibility, authority and the interrelation of all personnel who manage, perform and verify work affecting the quality of the organisation's activities, particularly for personnel with the responsibility for:

- resource management
- initiating action to prevent the occurrence of non-conformities
- identifying and recording deficiencies related to examination and certification of persons
- initiating, recommending or providing solutions through designated channels
- verifying the implementation of solutions
- controlling the processes.

The organisation shall identify associated risks and external factors which may influence the quality of the examinations and certification activities and take measures to mitigate and manage them. This shall include risks related to the organisation and operational environment and risks related to specific examinations.

The organisation shall determine and maintain the competence and resources necessary to meet current needs and anticipate changes as a result of changes in certification schemes and competence expectations.

Guidance note:

Organisations may need to comply with additional (local) requirements, not specifically mentioned in this standard. (e.g. occupational health and safety, environment).

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2.1.5 Management system

The organisation shall implement and maintain a documented management system as a means to ensure that the performance of the organisation and examination and/or certification activities conform to specified requirements and are transparent. The organisation shall ensure that ample resources are available and effort is put into the management system to:

- identify the processes required
- determine the sequence and interaction of these processes
- ensure that operation and control of the processes are effective
- ensure availability of necessary resources/equipment for development, performance and maintenance of examinations
- identify internal competence development needs
- monitor, measure and analyse the different processes
- maintain the integrity of the management system when modifications are planned and implemented
- ensure continuous improvement of the processes
- communicate quality and safety related updates and information.

Any branch office to which the certification applies shall be included in the scope of the quality management system.

2.1.6 Management representation

Top management shall either appoint a member in the organisation or establish a functioning structure in which responsibilities and authority are assigned for:

- monitoring that processes needed for the management system are established, implemented and maintained
- reporting on the performance of the management system to the management for review and as a basis for improvement of the management system
- increasing awareness of certification requirements throughout the organisation.

2.1.7 Management review

Top management shall review the management system at defined intervals to ensure its:

- continuing suitability
- adequacy
- effectiveness in satisfying the requirements of this standard
- effectiveness in satisfying the management's policy and objectives
- assessment of opportunities for improvement.

Management reviews shall be performed at least annually and documented information maintained. Reviews shall consist of well-structured and comprehensive evaluations which include, but are not limited to:

- considerations for updating the management system in relation to internal and external changes
- internal and external audit reports
- recommendations for improvement
- feedback from candidates, customers, authorities and other interested parties/stakeholders
- process performance and conformity of examinations, including non-conforming candidates
- status of preventive and corrective actions and effectiveness
- follow-up actions from previous management reviews
- incidents, accidents and near-misses
- performance of external service providers
- adequacy of resources/equipment
- effectiveness of actions to address risks.

Output from the management review shall include decisions and actions related to:

- improvement of the effectiveness of the management system and its processes
- improvement of certification and examination activities and ongoing alignment with statutory and scheme-related requirements
- reducing risks related to health, safety and environment
- resource needs.

2.1.8 Internal audits

The organisation shall perform internal audits to monitor the correct implementation of the management system and determine its effectiveness. The audits and follow-up actions shall be documented and records kept. Audit frequency shall be established ensuring that internal audits are at least performed annually.

An audit plan or schedule shall be established and include all areas of the management system and organisation. It shall cover the following items:

- specific areas/examinations to be audited in a defined timeframe
- available internal auditors
- reported non-conformities, conclusions and recommendations.

The qualifications of personnel performing internal audits shall be defined. Audits shall be carried out by qualified internal auditors who shall not be directly involved in/responsible for the area being audited.

Internal audits shall verify if certification activities are achieving the agreed or stated objectives, are delivered as agreed and are being adequately maintained.

The results of the audits shall be brought to the attention of the manager responsible for the area audited. Responsible management shall take timely corrective action on the deficiencies found during the audit.

2.1.9 Non-conformities, unintentional events and complaints

The organisation shall establish documented procedures for reporting and dealing with non-conformities and unintentional events. The organisation shall plan and implement a monitoring, measurement, analysis and improvement process to ensure conformity of the quality management system with defined standard(s).

The organisation shall initiate actions to eliminate the cause of potential non-conformities in order to prevent their occurrence (preventive actions). A documented procedure shall be established to:

- determine potential non-conformities and root causes
- evaluate actions to prevent occurrence of non-conformities
- determine and implement action required
- record action taken
- review preventive action taken.

The organisation shall initiate action to eliminate the root cause of non-conformities in order to prevent recurrence (corrective actions). A documented procedure shall be established to:

- review non-conformities
- investigate the root cause
- evaluate actions to prevent recurrence
- determine and implement action required
- record action taken
- review corrective action taken.

The organisation shall establish effective arrangements for handling complaints. Responsibility for reviewing, handling and follow-up of complaints shall be defined. Documented information shall be kept, status and results shall be reviewed regularly and used as input for the management review.

2.1.10 Communication

Top management shall ensure that appropriate communication channels are established and that communication regarding the implementation, changes and effectiveness of the management system takes place.

Guidance note:

Examples of communication channels are:

- notice boards
- intranet
- emails
- meetings, briefings, orientations
- internal magazines
- suggestion forms.

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2.2 Process control

2.2.1 Processes

Processes, including support processes affecting the overall quality of the certification activities, shall be mapped. Documented information demonstrating process control shall be kept. The following shall be described:

- required documented procedures and routines as defined in this standard

- how the management system is implemented and maintained
- the interrelationship between the processes within the organisation
- how and to what extent the organisation assesses and mitigates risks
- how outsourced processes are controlled (e.g. outsourced examinations, equipment, externally hired examiners and invigilators).

2.2.2 Managing changes

The organisation shall have a documented routine in place to manage changes to the organisation, processes and operations in a way that the quality and safety of the services are not negatively affected.

2.3 Documented information

2.3.1 Document and data control procedures

The organisation shall establish and maintain a documented procedure to control all documents and data related to the requirements of this standard. The structure of the documentation used in the management system shall be outlined.

The organisation shall have a process in place to ensure that only approved documentation and certification materials are used for certification processes and examinations.

The documents and data shall be reviewed and approved for adequacy by authorised personnel prior to release. A master list or equivalent document control procedure identifying the current revision status of documents shall be established and be readily available to prevent the use of invalid and/or obsolete documents or data. The control shall ensure that:

- correct versions of appropriate documents/data are available at all relevant locations
- invalid and/or obsolete documents/data are promptly removed from all points of issue or use, or otherwise assured against unintended use
- changes to documents and data shall be reviewed and approved by the same functions that performed the original review and approval, unless specifically designated otherwise
- changes are emphasized and communicated
- up-to-date documents are available as necessary to meet requirements
- correct examinations are conducted consistently
- documents of external origin are identified and their distribution controlled
- documents remain legible, readily identifiable and retrievable.

Arrangements shall also include:

- clear identification of which information is controlled
- clear responsibility for its maintenance.

Guidance note:

Controlled documents may be:

- quality documentation
- certification standard
- examination item/question databases
- scenarios used for examinations
- examination/assessment procedures and documents
- practical examinations
- regulations and requirements to be met
- relevant legislation
- certificate templates
- contracts.

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2.3.2 Records and filing

Records shall be kept and maintained to provide evidence of conformity to requirements and of the effective functioning of the management system. Records shall remain legible, readily identifiable and retrievable.

The organisation shall establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention time and disposal of records, including certification records of persons. Procedures for data protection shall be established.

Guidance note:

Examples of records:

- reports from external validating bodies
- contract review records
- design review records
- non-conformities
- internal audit records
- management review records
- examination review records
- internal communication records
- records demonstrating process control
- approved examiners or invigilators.

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2.3.3 Maintaining accreditations

The organisation shall demonstrate the ability to monitor and maintain other received accreditations, certifications and permits and take timely measures to ensure continuity.

Guidance note:

Examples: approvals from flag states or industry organisations, permits to operate, etc.

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2.4 Evaluation of suppliers

2.4.1 General

If the organisation decides to outsource any of its processes, the organisation remains responsible at all times and shall continue to demonstrate control over these outsourced processes. The stipulations of the company's quality management system shall also apply to external parties performing activities on behalf of the organisation.

The organisation shall evaluate and select suppliers based on their ability to supply products or services in accordance with its requirements. Criteria for selection, evaluation and re-evaluation shall be established. Records of evaluation and re-evaluation of product and service suppliers shall be maintained.

This also applies to externally hired examiners, further described under [2.7.4].

2.4.2 Purchasing products and services

The organisation shall ensure that acquired products and services conform to specified requirements. The type and extent of control applied to the supplier/service provider and the purchased product or service may vary based on its criticality.

Guidance note:

Examples of products might be:

- examination material
- sub-contracted examiners, invigilators
- external examination centres
- equipment
- maintenance.

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As part of the purchasing process, purchasing information shall clearly describe the product or service to be acquired, including where appropriate:

- technical specifications
- certification and approval requirements
- requirements for qualification of personnel
- management system requirements.

Adequacy of the specifications and requirements shall be considered before suppliers are contacted.

2.5 Identification and traceability

2.5.1 General

The organisation shall establish a documented routine for development, conducting and maintenance of her products. The organisation shall establish suitable means to ensure traceability of a candidate's performance related to the certification.

Guidance note:

Examples:

- list of candidates
- outcomes of the examination
- who performed the examination
- date of examination.

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2.6 Staff competency and training

2.6.1 Knowledge management

The organisation shall identify and maintain the knowledge that is required for its operations and continual improvement of its processes. It shall assess risks related to the loss of knowledge and have a process in place to ensure transfer of knowledge to ensure continuity of products and services.

Guidance note:

Required knowledge, understanding and skills are specific to an organisation. These can be acquired through formal and informal learning as well as experience and must be used and shared to ensure consistent and continued delivery of its products. organisational knowledge can be developed, secured and maintained through e.g.:

- training
- experience
- lessons learned
- collected and shared knowledge and experience
- improvements in processes and products
- own intellectual property
- industry standards
- academic education and sources
- conferences
- input from the industry (customers, suppliers, industry organisations).

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2.6.2 Staff performance

The organisation shall:

- define the necessary competence for personnel performing work affecting the quality of examination and certification
- determine training needs of internal staff and externally hired resources
- take actions to satisfy these competence development needs
- evaluate the effectiveness of action taken
- ensure that personnel are aware of the importance of their work and how they contribute to the quality objectives.

Guidance note:

Conducting examinations may be identified through observation. Effectiveness of actions taken can be verified through evaluation of candidates and examiners. The standards [DNVGL-ST-0024 Competence of maritime teaching professionals](#) and [DNVGL-ST-0025 Competence of maritime simulator instructors](#) also specify competencies for examiners/assessors.

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2.6.3 Staff development

The organisation shall have a mechanism in place to ensure that knowledge, understanding and skills of examiners continue to be in line with scheme requirements, market expectations and regulatory and technological developments. In addition to content expertise, assessor related competence development is a requirement for staff involved in examinations.

Examiners shall have completed a learning programme in assessing. Records of received training or education shall be maintained.

2.6.4 Non conforming examination

The organisation shall establish documented routines for identifying and handling non-conforming behaviour or performance of both internal staff and externally hired resources, influencing the quality of an exam.

SECTION 3 THE CERTIFICATION BODY

3.1 Scheme management

3.1.1 Responsibility

The CB has overall responsibility for operating a certification scheme. It manages all aspects and ensures that the requirements of the certification scheme are met.

The ownership of the certification scheme(s) used as the foundation for the certification process must be clearly indicated. If the CB is responsible for developing and maintaining the certification scheme (as a scheme owner) their responsibilities are defined throughout 3.1.2 to 3.1.5. If the CB is not the scheme owner, the CB should verify that her certification activities continue to meet the requirements of the scheme and the expectations of the scheme owner.

Guidance note:

This could be the case if a flag state or authority chooses to develop its own scheme but requests a certification body to certify the persons.

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3.1.2 Use of expertise

The CB shall seek expertise to define content of the certification scheme, necessary changes and to validate examination questions, scenarios and practical examinations.

3.1.3 Standard of competence

A standard of competence shall be the foundation for a certification scheme and contain at least the following topics:

- title
- scope
- description of target group
- competence requirements with regard to knowledge, skills, experience and/or attitude or any combination
- other certification criteria (e.g. seetime, license, medical, etc.)

Guidance note:

In addition to the industry, DNV GL has published a collection of standards and recommended practices which enables certification of competence in accordance with defined standards.

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3.1.4 Pass/fail criteria

In the certification scheme pass/fail criteria shall be defined. A candidate shall score at least 70% in theoretical tests and successfully complete all critical practical elements. Specific competence standards may contain their own grading criteria/test matrix. If nothing is defined in the standard or if the defined pass/fail criteria are less than 70% the DNV GL criteria mentioned above will prevail. Relative weight should be taken into account, where critical errors are weighed differently than non-critical errors.

3.1.5 Measurability of competence

Competencies to be measured shall be well defined in a measurable format. [Table 3.1](#) and [Table 3.2](#) provide insight in levels of cognition and action verbs to be expected when defining or verifying the appropriate cognitive levels, should an existing standard be lacking or provide insufficient detail.

Table 3-1 Levels of cognition

<i>Cognitive level</i>	<i>Description</i>
Level 1: Knowledge (K)	To remember or to reproduce on basis of appropriate, previously learned information.
Level 2: Understanding (U)	To give meaning to new situations and or new material by recollection and using necessary present information. To give evidence of insight in certain activities.
Level 3: Application (A)	To use previously acquired information in new and concrete situations to solve problems that have single or best answers.
Level 4: Integration (I)	To separate information into their component parts, to examine such information to develop divergent conclusions by identifying motives or causes, making inferences, and or finding evidence to support generalizations. To creatively apply prior knowledge and skills to produce a new or original whole. To judge the value of material based on personal values or opinions, resulting in an end product, with a given purpose, without real right or wrong answers.

Table 3-2 Professional behaviour verbs

<i>Cognitive level</i>	<i>Relevant action verbs</i>
Level 1: Knowledge (K)	choose, cite, describe, distinguish, find, give example, group, identify, indicate, know, label, list, listen, locate, match, memorise, name, outline, quote, read, recall, recognise, record, recite, relate, repeat, reproduce, retrieve, review, select, show, sort, state, underline, write
Level 2: Understanding (U)	account for, annotate, associate, classify, compare, define, describe, discuss, estimate, exemplify, explain, give examples of, give main idea, identify, infer, interpret, observe, outline, paraphrase, recognise, reorganise, report, restate, retell, research, review, summarise, translate
Level 3: Application (A)	adapt, apply, arrange, calculate, carry out, change, collect, compute, conclude, construct, demonstrate, dramatise, draw, exhibit, execute, extract, illustrate, implement, include, instruct, interpret, interview, make, manipulate, obtain, operate, paint, practice, prepare, sequence, show, sketch, solve, translate, use
Level 4: Integration (I)	analyse, appraise, argue, arrange, assess, attribute, calculate, categorise, check, choose, combine, compare, contrast, criticise, critique, debate, decide, deconstruct, deduce, defend, design, detect, determine, develop, diagram, differentiate, discriminate, dissect, distinguish, evaluate, examine, experiment, find, formulate, group, hypothesise, infer, investigate, integrate, interpret, inspect, inquire, judge, justify, measure, monitor, order, organise, outline, plan, predict, prioritise, probe, question, rank, rate, recommend, reject, relate, research, revise, score, separate, select, sequence, sift, structure, survey, tell why, test, validate, value

3.2 Approval and monitoring of examination centres by certification body

The CB shall have a documented approval process in place for external ECs. The CB shall, for each certification scheme, define approval criteria for external ECs.

The CB shall determine the examination process and format and monitor the implementation by the EC, ensuring the examinations are conducted in accordance with the defined regulations for examinations, see [App. A Regulations for examinations](#) for guidance.

The CB shall assess if the facilities, equipment (e.g. approved simulators) used by a EC are suitable for the assessments to be conducted and if the EC is certified as an examination centre against according to this document.

The CB shall annually audit their examination centres (per scheme) to confirm if the ECs operate in accordance with its instructions and perform the assessments as intended.

The CB shall verify the impartiality of the EC and ensure that the party performing the assessment has not been involved in the training of the candidate and does not have a direct relationship with the candidate. This relates to both the EC as to the individual assessor.

The CB making use of an external EC shall formalise the cooperation in an agreement. The agreement shall contain the expectations towards the ECs on process level and the level of delegation of activities from the CB to the EC. It should be emphasized that the EC is an extension of the CB at the time of the assessments and that defined procedures should be adhered to.

The regulations for examinations shall be part of the agreement between the CB and their ECs (see [App.A](#)). The examination regulations for specific examinations shall be endorsed by the CB and reviewed by DNV GL as part of the audit. The examination regulations should annually be reviewed by the CB to ensure that its content is still up-to-date and relevant.

The CB or contracted certification personnel witness pilot examinations and regular examinations.

Records of the above activities shall be kept.

3.3 Examination protocol

For each examination, an examination protocol shall be developed and approved by the CB for the purpose of registration and marking/grading of results.

The examiners shall use the protocol for registration and marking/grading of the results and sign them.

The CB shall use the signed protocols for assessing the results and reviewing the marking/grading of the examiners. Their findings shall be the basis for the certification decision.

The acceptability of the examiner/participant ratio for practical assessments shall be approved by the CB. If not defined the EC may suggest a ratio, considering the complexity and nature of the assessment, span of control of the assessor, safety considerations and the availability of hardware and other resources.

Test matrices which are based on the relevant standards of competence shall be available for the examinations. Each practicum/scenario shall have pass/fail criteria and pre-set points or penalty points.

3.4 Approval and performance of examiners, invigilators and others certification personnel

The CB shall have a documented approval process for examiners and other certification personnel.

The CB shall assess the suitability of examiners and if they operate in accordance with its instructions and document these activities.

The CB shall formalise the relationship with examiners and invigilators in an agreement. The agreement should contain the expectations towards the individual, emphasize the importance of impartiality between candidates and examiners and emphasize that the persons perform the work on behalf of the CB, adhering to defined procedures.

The CB shall have an overview of examiners and invigilators and keep resumes and agreements.

Examiners used for practical examinations or judging tasks performed by candidates shall be approved by the CB and shall:

- have an appropriate level of knowledge and understanding of the competence subject of the examinations
- be employed in the relevant field of work
- be qualified in the task for which the examination is being conducted
- have received appropriate guidance in examination methods and practice

- have gained practical examination experience (on the particular equipment or type of simulator when conducting examination involving the use of simulators) enabling him/her to make a sound assessment of a candidate
- be independent from the examination candidate(s) and from the training cycles of the candidate.

Invigilators do not require content expertise related to subject matter being assessed. They manage the theoretical examination process and monitor the exams in accordance with examination instructions to be provided by the CB.

Scoring multiple choice examinations does not require specific content expertise, provided a scoring tool is provided.

Scoring open ended/essay questions and practical examinations require content expertise (examiners).

3.5 Validity and reliability of examinations, questions and scenarios

The CB shall:

- determine the method of assessment based on the level of cognition and skills to be demonstrated
- manage the process of developing and validating sufficient questions, scenarios and assessments for examination purposes to enable three unique assessments for a given standard
- maintain the certification scheme and associated questions, scenarios and assessments - ensure assessments are valid and measure what they intend to measure
- verify if scores are valid and reliable (consistent across different examinations, locations and examiners).

3.6 Certification decision

The certification decision shall be made by the CB. Upon receiving assessment results from the EC and verification of full compliance with the applicable standard the CB shall make a certification decision. Verification of compliance may include meeting requirements regarding training, seetime, examination, medical status, licenses, etc.

3.7 Objections and appeals regarding certification decision

Objections may be raised by candidates against the result of an examination and certification decision within 14 days of publication of said result. Objection must be raised in writing with supporting arguments by the candidate and submitted to the CB. The objection or appeal must be dated, named and signed by the candidate. The CB shall acknowledge receipt within 14 days in writing. Decisions shall be conferred in writing to the candidate and communicated within 30 days of receipt of the objection or appeal. This period may once be extended by one month. If that is the case, the candidate shall be informed in writing prior to the expiry of the original deadline.

3.8 Certificates

3.8.1 Responsibility

The CB is responsible for issuing certificates of competence. If external ECs are authorised to issue certificates, the CB determines the process of certificate generation, reporting and data transfer to be adhered to. The CB shall provide the appropriate format to the ECs.

3.8.2 Certificate format

The same certificate format shall be used for all certificates issued under a specific scheme and contain:

- the name, picture and date of birth of the certified person
- a unique, traceable identification number/code

- the name of the CB
- reference to the certification scheme, standard or other relevant documents including exact version number, revision date or date of issue
- the scope of certification (e.g. level, notations, modes of operation)
- the effective date of certification and date of expiry (see [App.B Sample certificate](#))
- the signature of the head of the CB or an individual duly authorised
- the DNV GL certification mark for the CB (not required).

3.8.3 Validity period of certificates of competence

Certification of persons provides value through public confidence and trust. Public confidence relies on a valid impartial assessment of competence reconfirmed at defined intervals. A certificate of competence shall therefore have a fixed period of validity and validity conditions. The validity period of the certificates of competence shall not exceed five (5) years.

3.8.4 Validity conditions of certificates of competence

The CB shall ensure that the certificate holder accepts the validity conditions of the certificate prior to the examination taking place.

The CB defines the certificate holders responsibility to carry out tasks as specified in the standard of competence and provides evidence when requested.

3.8.5 Recertification requirements

Towards the end of the validity period of a certificate of competence, it is the certificate holder's responsibility to initiate recertification, if desired, well ahead of the expiry date. The certificate holder shall be re-tested or evaluated to determine whether he/she is still sufficiently competent in the relevant discipline and meets further re-certification requirements. Recertification shall be performed against the competence standard as applicable at the time of the examination.

3.8.6 Suspension and withdrawal of certificates of competence

The CB shall have documented procedures in place for the suspension and withdrawal of certificates.

If the CB decides to suspend or withdraw a certificate of competence, the CB shall inform the certificate holder in writing, stating the measures which shall be taken in order to rescind the suspension or withdrawal.

A certificate of competence awarded may be suspended for the following reasons:

- the failure to resolve or insufficient resolution of shortcomings
- incorrect use of the certificate, such as misleading publication or usage
- failure to (insufficiently) inform the CB of matters which have a bearing on the certification process
- non-compliance by the certificate holder in relation to the relevant validity conditions.

A certificate of competence may be withdrawn for the following reasons:

- misuse of a certificate, such as falsification
- serious shortcomings that are not corrected by the certificate holder within a time limit set by the CB
- inadequate measures taken by the certificate holder in remedying shortcomings ascertained by the CB
- death of the certificate holder.

Suspensions or withdrawals shall be open for inspection by DNV GL and be removed from the register of valid certificates. The status in the records and online DNV GL database shall be changed.

3.9 Recordkeeping

3.9.1 Traceability

The CB ensures that issued, expired and withdrawn certificates are registered and traceable and shall keep a register enabling verification of validity of certificates. By entering combinations of the following information concerning the holders of certificates, etc. the register shall respond with information regarding whether the certificate is valid or not:

- certificate number
- name, date of birth
- standard of competence
- date of examination
- name of examination centre.

3.9.2 Duration

The CB shall keep the examination results and documentation which formed the basis for the certification decision on file during the validity period of the certificate of competence plus five years, or longer if required by national requirements. Evidence of reviewing the performance of ECs and certification personnel shall also be retained.

3.9.3 DNV GL database

Details of certificates that are based on DNV GL standards and recommended practices shall be uploaded to the DNV GL certificate database, allowing online verification of all certificates issued globally. The CB shall subscribe to the DNV GL database and realise digital uploading of certification data. Technical details will be provided by DNV GL.

3.9.4 Data protection

The CB shall manage personal data in a way that the interest of persons are protected and local and international data protection legislation are met. The CB ensures that the use of the data is limited to issuing records and recording certification. The CB ensures that persons are made aware of how their personal data is handled and shared and that this is approved by each individual. The CB shall contractually impose this obligation on their examination centre(s).

SECTION 4 THE EXAMINATION CENTRE

4.1 Impartiality

An EC shall be managed independently from any party responsible for or involved in training and/or preparing candidates for the assessment.

4.2 Process control

An EC being part of, or acting on behalf of a CB, is required to demonstrate its ability to manage and perform consistent, approved assessments at least once a year.

The EC shall use procedures, instructions and personnel approved by the CB in preparing, executing and processing examinations.

The EC shall have adequate reporting routines in place for the communication with the CB.

4.3 Assessments

An EC shall ensure an undisturbed assessment in accordance with the applicable and approved procedures.

An EC shall use the appropriate methods of assessment based on the requirements of the standard and instructions from the CB.

An EC shall be able to conduct 3 unique assessments containing previously unused questions and exercises, approved by the CB and ensure that persons being re-examined are presented with a different version than the previous time.

Examinations conducted by the approved EC shall be invigilated by the CB or an approved representative. A representative of the CB shall be physically present during examinations leading to a certificate. Examiners approved by the CB shall conduct the examinations leading to a certificate.

4.4 Use of simulators

The International Convention on Standards of Training, Certification and Watchkeeping (STCW) requires the approval of simulators used for mandatory simulator-based training and assessment of competence.

Simulators used for certification to meet DNV GL standards or recommended practices shall be certified in accordance with [DNVGL-ST-0033](#) *Maritime simulator systems*.

The EC shall have competent simulator operators available, if simulators are used for assessing candidates.

4.5 Records & period of retention


The EC shall keep examination results on file throughout the validity period of the certificate of competence plus five years. Records related to attempts which have not resulted in a certificate of competence are to be retained for a minimum of six months. If the complaints-procedure allows for a longer period to file a complaint, records are to be retained throughout that period.

4.6 Handling of complaints

The EC shall have procedures in place to handle complaints related to the execution of the assessment (e.g. disturbances, inadequate material, attitude of staff, etc.).

Objections and appeals related to the certification decision and content of the examination shall be addressed to the CB, see [2.7](#) *Objections and appeals* regarding certification decision.

Candidates may file a complaint regarding the organisation and proceedings of the examination to the EC no later than two weeks after an examination. Complaints to the EC may be made verbally or in writing. Verbal



complaints can be made to any EC employee who shall ensure the complaint is dealt with in accordance with the defined procedure.

A candidate may submit a written complaint containing supporting arguments. The complaint shall be dated and signed by the complainant and comprise at least the name and address of the complainant and the date, examination and description of the occurrence to which the complaint is addressed.

The EC shall acknowledge receipt of the complaint within 14 days and the complaint shall be dealt with in writing within 30 days. Decisions regarding the complaint will be conferred in writing by the EC to the candidate within the same timeframe. The period of 30 days may be extended once by the same period. The applicant shall be notified of the extension in writing prior to the expiry of the initial period.

If a complaint is made to the EC, the EC shall notify the CB of the complaint.

The complaint file and status of complaints shall be open for inspection by the CB.

APPENDIX A REGULATIONS FOR EXAMINATIONS

A.1 Conditions for admission of candidates

This appendix contains the minimum of what shall be stipulated in the examination regulations by the CB and applies to the assessments performed by approved ECs.

A.1.1 Application and registration

Candidates shall apply for (re)certification with the EC. The candidate is required to provide the scope of certification and requested personal data necessary to register for certification (to be determined and controlled by the CB).

A candidate who has applied and registered in a correct and valid manner shall receive notification prior to the examination about the conditions and time and place where the examination shall be held. The CB shall be informed by the EC when an examination shall be held.

A.1.2 Attendance

The candidate has to be present well before commencement of the examination, in accordance with the instructions provided by the EC. The EC shall define how to handle late arrivals, in agreement with the CB.

A.1.3 Procedures on absence

A candidate, who cannot attend an examination because of extenuating circumstances, shall be granted the opportunity to take an examination at another point in time. Examples of extenuating circumstances are the candidate falling ill, illness of a close family member or other circumstances as determined by the EC.

The candidate may be required to lodge an appeal in writing with regard to this article and submit this to the EC, together supporting documents. On notification of a candidate's absence, the EC is required to inform the candidate of any applicable requirement.

A.1.4 Candidate's identity

Before commencement of the examination, the candidate is required to present a valid and original proof of identity (passport, European identity card or driving licence with a photograph and English text). Other forms of proof such as credit cards, company passes and similar shall not be accepted. Candidates who cannot identify themselves in the manner prescribed shall not be given access to an examination.

A.1.5 Candidate's acceptance of conditions

The certification assessment shall not be started until the candidate has accepted the agreement, the validity conditions and the test requirements of the relevant standard of competence. The agreement shall be drawn up by the CB.

A.2 Examinations and examination centres

A.2.1 Examination composition

Examinations shall be composed of questions and/or assignments approved by the CB, see [4.3] *Assessments* for further details.

A.2.2 Language

Unless specified otherwise in the standard or recommended practice against which certification is requested, examinations shall be conducted in the English language to ensure that the acquired skillset can be used in an international multi-cultural environment. Upon request, the CB can determine that examinations may be taken in other languages under the following conditions:

- examinations which need to be translated into another language than in which they were initially developed shall be translated by a certified translator and in strict confidentiality
- the translation shall be accompanied by a written statement from the translator attesting to the confidentiality and the identification of the translated document
- only fully compiled examinations may be submitted for translation.

A.2.3 Examiner/Invigilator

The tasks and responsibilities of the examiner/invigilator are to:

- evaluate the suitability of the location and required resources for the examination
- safeguard confidentiality with regard to the examination material
- positively identify the examination candidates and register type of identification and number
- issue and collect the examination papers, resources and results
- provide access to online examinations (if applicable)
- supervise the examination and related organisational working activities
- ensure good conduct during the examination and other matters as laid down in these examination regulations
- ensure candidates give proof of their own competence
- draft the test protocol
- report the examination result to the test centre or in the IT system.

The examiner/invigilator determines what measures shall be taken in the event of a calamity or irregularities, where necessary in consultation with the CB.

A.2.4 Examination papers

The examiner/invigilator distributes and collects the examination papers and answer forms, if any, and ensures unequivocal identification and confidentiality of those documents.

A.3 Requirements for executing examinations

A.3.1 General

In addition to the examination location requirements, the EC has to provide sufficient resources for the candidates and examiners so that the examination may proceed in the correct manner. The minimum requirements to be met when executing an examination are given below. The CB and EC can introduce additional requirements, procedures and instructions.

A.3.2 Examination locations

A.3.2.1 Written examinations

The examination is taken at a location that meets the following minimum criteria:

- a) Each candidate is to be seated at a table having a minimum of 50 cm by 70 cm free working space.
- b) Candidates are to be seated at a minimum of 80 cm from the nearest other candidate.

- c) The location is required to be free from disruptive influences (noise, draught, high or low temperatures and unauthorised access).
- d) The location is required to have sufficient lighting and shall comply with statutory safety regulations.
- e) The location has to meet the requirements as laid down in the work instructions for the examiner.

A.3.2.2 Computer-based tests

If tests are conducted using personal computers or tablets there must be sufficient PCs or tablets available with secure access to online/network tests. It shall not be possible for the candidates to:

- see each other's screens
- use phone, email or web-based communication with other persons
- access search tools that can be used to answer examination questions, unless this is part of the toolset available to the candidate to demonstrate competence.

A.3.2.3 Additional requirements

The following shall also be present:

- instructions, based on the relevant standard of competence
- a copy of the examination regulations
- the relevant standard of competence
- sufficient examination papers / answer-sheets
- test protocols
- attendance list
- clock
- headphones as applicable.

A.3.2.4 Practical examinations

Equipment and resources needed to demonstrate competence in practice may vary per standard. If not captured in the applicable standard or recommended practice the CB defines the equipment required for practical examinations. (e.g. simulator specifications). In case of certification in accordance with a DNV GL standard or recommended practice, DNV GL shall approve of the site and equipment used for the assessment.

A.3.3 Conduct during theoretical examinations

Other than for the purpose of sharing organisational or emergency information related to the examinations or assessments, contact during an examination is not permitted, either mutually between candidates or between the candidate and the invigilator/examiner.

Smoking is forbidden in the examination venue.

Communication equipment that is not related to the examination (telephones, Mp3-players, personal tablets, in ear headphones, etc.) shall be turned off completely and stowed away.

The candidate may not leave the examination venue during the examination without the invigilator/examiners' consent. If the candidate aims to re-enter the examination venue following a brief interruption (e.g. restroom) he/she shall be escorted (without leaving the room unattended) to ensure no exchange of information will take place. No personal electronic devices may be used during this interruption, unless approved by the examiner.

Unless defined otherwise by the CB/EC, when a candidate has completed the examination before the official closing time, the candidate may leave the examination venue no earlier than 20 minutes after the examination has commenced. Candidates who finish early shall under no circumstance be allowed to leave the examination venue until the deadline for admitting latecomers to the examination has expired.

Unless defined otherwise by the CB/EC latecomers shall not be admitted 20 minutes after commencement of the examination.

A.3.4 Measures to prevent fraud or irregularities

A candidate who wrongfully participates in an examination or who is involved in fraudulent actions which relate to the examination either prior to, during or after the examination, may be sanctioned according to the judgement of the examiner/CB.

The sanctions are:

- a) The candidate is excluded from further participation in the examination/re-examination.
- b) The candidate shall be considered as not having taken part in the examination. The examination work shall not be assessed and no result shall be published.
- c) The candidate's result shall be revoked and any certificates issued shall be declared null and void.

On the discovery of fraud, attempted fraud or irregularities, the examiner shall make a written statement in record of evidence and submit this to the CB.

A.3.5 Announcement of the examination result

The achieved examination result shall be confirmed and communicated by the CB. If the candidate is successful, the EC can be instructed to issue the certificate of competence on behalf of the CB.

A.3.6 Re-examination

The CB shall define criteria for re-assessment in cases where candidates fail an examination (e.g. interval, maximum, pre-requisites). If candidates are eligible for re-examination they can re-apply to take part in an examination. A re-examination fee shall be determined by the EC.

The EC shall ensure that different examination questions or scenarios are used than during a previous assessment.

APPENDIX B SAMPLE CERTIFICATE

B.1 Sample certificate

Below a sample certificate is shown, used for certification of dynamic positioning operators against the [DNVGL-ST-0023](#) *Competence of dynamic positioning operators*.

It is important that a certificate displays the exact scope of certification. Real certificates would display the notation code as well and contain a possibility to verify validity. In the case of certification against a DNV GL standard a QR-code is used, linked to a DNV GL database.



Figure B-1 Sample certificate



CHANGES – HISTORIC

January 2015 edition edition

Main changes

- General
 - The standard has been updated to comply with the DNV GL merger and the current guidelines for DNV GL service documents.

About DNV GL

DNV GL is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.

SAFER, SMARTER, GREENER