GUIDE LINES

FOR

MARITIME TRAINING INSTITUTES

APPROVED BY

THE DIRECTOR OF MERCHANT SHIPPING

MINISTRY OF PORTS AND AVIATION

COLOMBO

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GUIDE LINES FOR CONDUCTING MARITIME TRAINING PROGRAMS BY MARITIME TRAINING INSTITUTES APPROVED BY THE DIRECTOR OF MERCHANT SHIPPING

Scope

This guide line give requirements for maritime institutes offering maritime education in compliance with STCW95. The objective should ensure that maritime education being offered is properly designed, contains clear objectives as to results, is carried out by qualified and trained instructors and is evaluated and improved in line with market demands, experience and national and international mandatory rules and regulations.

The maritime institutes must include quality objectives in addition to those covered by this guide lines. The certification body who issue Quality Certificate must use this guide lines to verify that the arrangements needed for the achievement of such objectives are implemented and maintained. Maritime institutes should comply with additional national and international mandatory requirements not indicated on this document.

These guide lines should be part of the procedure of the institutes and are applicable to all maritime institutes.
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Implementation of guide lines and /or additional requirements needed to comply with the quality objectives should be performed by the certifying body. Certifying body must verify compliance between the documented management system and the implemented management system. Periodical audits should be carried out annually

Minimum Requirements for a Training Activity

All training activities provided according to this guide lines should be developed, planned, operated and evaluated by analyzing the interrelation of the following educational elements:

- purpose
- objectives
- methods/learning process
- contents
- general conditions
- evaluation.

Policy and objectives

The maritime institute's top management should ensure that it:

– is appropriate to the purpose of the maritime institute

– 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 organization
– is reviewed for continuing suitability.

A review of the policy may be part of management review.

The maritime institute's management should ensure that quality objectives are established and that the objectives are measurable and consistent with the quality policy.

Measurable objectives may be, but not limited to:
– level of students satisfaction
– passing scores (exams)
– benchmarking against other academies
– actual time spent compared to time schedules.

The maritime institute's management should ensure that customer requirements are determined and met with the aim of enhancing customer satisfaction. .

This may be determined through questionnaires to students and ship managers, meeting with authorities etc.

The maritime institute's management should ensure that planning of the quality management system is performed in order to:

– identify the needed processes
– determine the sequence and interaction of these processes
– ensure that operation and control of the processes are effective
– ensure availability of necessary resources
– monitor, measure and analyze the different process
– ensure continuous improvements of the process
– maintain the integrity of the management system when modifications are planned and implemented.

Typical output of planning might be the quality manual, documented procedures, instructions, flow-charts etc. Planning of resources might include:
– who shall perform the verification
– who shall perform the work
– identification of training needs
– assure that appropriate equipment is available.

Responsibility

The responsibility, authority and the interrelation of all personnel who manage perform and verify work affecting the quality of the maritime institute's activities shall be defined, particularly for personnel with the responsibility for:

– initiating action to prevent the occurrence of non-conformities
– identifying and recording deficiencies related to training
– initiating, recommending or providing solutions through designated channels
– verifying the implementation of solutions
– controlling the process until the deficiency has been corrected.

The maritime institute should determine and provide resources needed to:

– implement and maintain the quality management system and continually improve its effectiveness
– enhance customer satisfaction by meeting their requirements.

Management representative

The Management representative is responsible for:

– ensuring that processes needed for the quality management system are established, implemented and maintained

– reporting on the performance of the management system to the company's management for review and as a basis for improvement of the management system
– ensuring the promotion of awareness of customer requirements throughout the organisation.

The management should review the management system at de- fined intervals to ensure its:

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

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

– considerations for up-dating the management system in relation to changes in current and new regulations, market demands, etc.
– internal and external audit reports
– recommendations for improvement
– feedback from students, ship managers and authorities and other interested parties

– process performance and conformity of training
– status of preventive and corrective actions
– Follow-up actions from previous management reviews.

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

– improvement of the effectiveness of the quality system and its processes
– improvement of teaching, curriculum, equipment and facilities related to students and statutory requirements
– resource needs.

Records of reviews should be maintained.

Records of management review should include, but is not limited to:

– who performed the review

– date of review
– what was reviewed
– result of the review
– action points
– assignments of action points
– status of previous actions
– conclusion

The maritime institute should continually improve the effective- ness of the quality system through the use of quality policy and objectives, audit results, data analyses, corrective and preventive actions arid management review.

The maritime institute should establish procedures for reporting and dealing with non-conformities and unintended events. Records should be maintained.

The documented procedure might include, but it is not limited to:
– How to report
– Who should report
– What information to include in the report
– Follow up
– Closing
– Statistical use

The maritime institute should initiate action to eliminate the cause of non-conformities in order to prevent recurrence. A documented procedure should be established for:

– review of non-conformities and complaints

– investigation to find the root cause
– evaluate actions to prevent recurrence
– determine and implement needed action

- records of action taken
- review of corrective action taken.

The maritime institute should initiate actions to eliminate the cause of potential non-conformities in order to prevent their occurrence. A documented procedure should be established for:

- determine potential non-conformities and causes
- evaluate actions to prevent occurrence of non-conformities
- determine and implement needed action -records of action taken
- Review of preventive action taken.

The maritime institutes should report non conformities found to this administration immediately.

The maritime institute should establish routines for handling students not performing as required.
Actions to assist the student should be taken at an early stage during the study.

The maritime institute should establish routines for re-sitting in case a student fail to pass the examination.
The maritime institute should establish routines for how to deal with non-conforming education and teaching.
As a minimum measures should betaken to assure learning objectives have been met.

Quality manual

The maritime institute should establish, document and maintain a management system as a means of ensuring that students achieve knowledge, skills and attitudes incompliance with educational objectives.

A quality manual should be prepared covering and including those issues having a bearing on all matters for the provision of the services offered, including back-up and administrative services. The quality manual shall include or make reference to procedures affecting the overall quality and outline the structure of the documentation used in the management system. The following should be included:

- documented procedures consistent with the requirements of this standard as well as the maritime academy's stated objectives and policies.
- a description on how to effectively implement the management system and its documented procedures
- a description of interaction between the processes of the management system.

If the maritime institute decides to outsource any of these processes, it shall ensure control of these processes with proper procedures. Any deviation should be approved by the administration

The maritime institute's management should ensure that appropriate communication channels are established within the organisation and that communication regarding the effectiveness of the management system takes place.

Examples might be:
−   notice boards
−   web-sites
−   meetings. briefings. orientations
−   internal magazines
−   suggestion forms.

Document and data control procedures

The maritime institute should establish and maintain documented procedures to control all documents and data related to the, requirements of this standard.

The documents and data should be reviewed and approved for adequacy by authorized personnel prior to issue. A master list or equivalent document control procedure identifying the cur- rent revision status of documents shall be established and be readily available to preclude the use of invalid and/or obsolete documents or data. The control is as a minimum to ensure that:

−   pertinent issues 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 perform the original review and approval, unless specifically designated otherwise.
−   up-to-date documents are available as necessary to meet requirements
−   educational programmes are delivered consistently.
−   documents of external origin are identified and their distribution controlled.
−   documents remain legible and readily identifiable.

Arrangements should also include:

−   clear identification of which information is controlled -clear responsibility for its upkeep
−   relevant versions of applicable documents are available at ...point of use.

Controlled documents may be:
−   quality manuals

- course manuals
- timetables
- training records
- examination/assessment procedures/documents
- programme information
- regulations and requirements which are implied that shall be met
- relevant legislation
- examining regulations and syllabi
- contracts.

Records

Records should be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Records shall remain legible, readily identifiable and retrievable.

The maritime institute should establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

When relevant, electronic backup procedures shall be established.

Examples of records could be:
- reports from external validating bodies
- reports from external examiners -awards to trainees
- approved specialist lectures or advisers -internal audit records
- management review records -evaluation results -non-conformities
- student registers
- staff register
- personnel archives
- course work and examination answer archive.

The maritime institute should establish procedures for maintaining trainee records. These documented procedures should ensure the accuracy and confidentiality of these records at all times.

Example of student information to be maintained might be:
- prior learning experience
- previous experience and qualifications
- any information pertinent to a trainee's progress
- personal details.

Procedures should be established for maintaining personnel records.

Details may include:
– qualifications
– recruitment
– any courses/training attended.

Retention times for quality records are to be established and regulatory requirement should be considered. Records may be kept in any media or format (electronically, hardcopies etc.)

Purchasing process

The maritime institute should ensure that purchased product conforms to specified purchased requirements. The type and extent of control applied to the supplier and the purchased product should be dependent upon the effect of the purchased product on the education provided. All items should be typed approved ones similar to items used on board ships.

Examples of products might be:
– learning materials (in soft and hard copy forms)
– sub-contracted training
– sub-contracted tutors, lectures, training organizations

– training equipment.

The maritime institute should evaluate and select suppliers based on their ability to supply product in accordance with the maritime academy's requirements. Criteria for selection, evaluation and re-evaluation should be established.

Records of evaluation and re-evaluation of suppliers should be maintained.

Purchasing information shall describe the product to be purchased, including where appropriate:

– approval requirements
– requirements for qualification of personnel
– requirements for management system.

Adequacy of the requirements should be considered before sup- pliers are contacted.

The maritime institute should establish the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.

Identification

The maritime institute should establish procedures for identifying programmes and programme elements during all stages of development, delivery and updating.

This might be solved by ordinary document control. i.e. heading with name or number of course, pagination, version etc.

The maritime institute should establish suitable means to ensure traceability of student's education from time of application to the examination.

This might be:
−   list of trainers
−   who performed the assessment
−   who provided the training/education
−   date of examination.

Internal Audits

The maritime institute should carry out internal audits to verify the implementation of the management system and to deter- mine its effectiveness. This will include confirming that the courses or programmes of learning are achieving their agreed or stated objectives or being corrected when not reaching these objectives.

The audit shall be carried out by qualified personnel.

The auditors shall, as far as possible, not be directly involved in the area being audited.

An audit plan should cover the following points:

−   specific areas/courses/programm.es to be audited

−   qualifications of personnel carrying out the audit
−   the basis for carrying out the audit (e.g. organizational changes, new course calendars, new instructors, changes in and updating of mandatory rules and regulations)
−   procedures for reporting non-conformities, conclusions and recommendations.
−   audit schedule.

Staff Training

The maritime institute should :

– determine the necessary competence for personnel performing work affecting the quality of training and education
– provide training or take other actions to satisfy these 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.

– Records of training to be maintained.

Training needs might be identified through appraisal interviews Actions taken might be verified through evaluation of instructors.

Planning

The maritime institute should plan and control the development of educational/training programmes.

The maritime institute should manage the interfaces between the different groups involved in the development to ensure effective communication and clear assignment of responsibility.

Examples of stages in development:

– project plan
– establish input requirements
– curriculum plans
– course plans and descriptions
– teaching and learning material
– handouts
– evaluation material
– assessment material
– verification
– test run *I* validation
– completion and documentation.

Inputs relating to educational training programme requirements should be determined and records maintained.

Inputs should include:

– functional and performance requirements

− applicable statutory and regulatory requirements
− information derived from previous similar programmes -other requirements essential for development -qualification of developers.

These inputs should be reviewed for adequacy. Requirements should be relevant, clear and not in conflict with each other.

Examples of functional and performance requirements might be:

− "STCW-95 Competence tables

− "IMO Model Courses
- Course "Guide lines" given by the administration.

The education training programmes should be provided in a form that enables verification against the design and development requirements and shall be approved prior to release.

Development of education/training programmes should:

− meet input requirements
− provide appropriate information for purchasing
− specify safety issues related to training programme.

Review

At suitable stages, reviews of development should be performed in accordance with established procedure to:

− evaluate if the result meets the requirements
− identify any problems and propose necessary actions.

Records of the results, reviews and any necessary actions should be maintained.

A development review should be analytic. Critical questions should be asked, to assure that the training programme is built up in a logical and reasonable way. Verification procedures might be defined as part of the review.

A development review might be carried out for, but is not limited to:

− curriculum
− presentations
− time tables
− handouts
− projects.

Development Verification and Validation

Verification shall be performed in accordance with established procedures to ensure that the outputs have met the input requirements. Records of the result of the verification and any necessary actions shall be maintained.

The purpose of the verification of development is to confirm that the requirements have been fulfilled.

This might be, but is not limited to:

– reviewing learning material prior to issue
– comparing the new course with a similar proven course.

Test courses should be performed as validation before the operational phase to see that all requirements for intended use are met.

The maritime institute should determine the extent of test in consultation with administration.

Records of the results of validation and any necessary actions shall be maintained.
For larger programmes, an extract of critical elements in the training programme might be evaluated instead of the complete programme.

The first actual run of the training programme should in this case be used as a validation. Adjustments in the training programme might be necessary during the course.

All changes and modifications shall be identified, documented, reviewed and approved before their implementation.

Operation

The maritime institute should ensure that individual admission of students takes place according to documented procedures. The intake should ensure that the students satisfy health, knowledge, skills and other credentials or requirements for admission. Individual admission data should be verified and recorded.

When determining method and extent of admission control, the control carried out by the supplier (in this case the student's prior educational institution) shall be taken into account, together with proof of documented previous education.

The maritime institute should prepare documented procedure with determine:

– the approach to planning and application of teaching and guidance activities including use of teaching principles, methods and teaching / training equipments in classrooms and laboratories.

- Criteria or professional performance

- Appropriate facility, equipment and technology to ensure that the teaching process maintains the specified standard

- Necessary competence among instructors and trainers

- Attendance to healthy, environment and safety, especially relating to statutory regulations, including a secure and developing learning environment throughout the educational system.

The maritime institute should prepare procedures for monitoring student's progression within areas of knowledge, skills and attitude.

The result of the monitoring should be reported to the maritime academy's management and students.

The maritime institute should determine where attitude should be measured.

Examples might be, but is not limited to:

- simulator training (bridge control)
- advanced f\re fighting (leadership)

The maritime institute should:

- continually control and test the teaching activities and measure learning results in accordance with documented procedures

- not permit any students to take any form of final tests (examination or equivalent) before all course work; obligatory essays etc. have been approved according to relevant procedures for control and testing.

When applicable, procedures should be established to ensure proper use of training equipment and facilities.

Such equipment could be
- machinery systems -bridge systems
- systems for loading/discharging -fire/safety equipment. -computers
- instruments
- lathe machines
- welding/cutting equipment class rooms -projectors.

Procedures should be established to ensure that:

- equipment and systems are operated in a safe and efficient manner
- equipment and systems are operated and maintained ac- cording to makers instructions
- operators(students or instructors) of such systems use relevant PPE (Personal protective equipment)
- work conditions are according to rules and regulations
- measuring devices which influence safety, health or environment are calibrated periodically.

Devices needed to be calibrated might be, but is not limited to:

- manometers on compressors
- oxygen meters
- gas detectors
- Records of maintenances and calibration to be kept.

Materials that pope safety, health or environmental hazards should be identified and procedure established for sate handling, use, storage and disposal.

Such materials could be:

- foam

- powder

- diesel-lubrication oils

- tools

- chemicals

- welding rods

Control and evaluation

The maritime institute should plan and implement the monitoring, measurement, analysis and improvement process needed to:

- demonstrate conformity of the teaching and learning according to specified standards
- ensure conformity of the quality management system
- continually improve the effectiveness of the management system.

This should include determination of applicable methods, including statistical techniques and the extent of their use.

The maritime institute should ensure that training and education is delivered according to customer requirements.

This could be performed by, but is not limited to:
– any complaints
– direct communication with students
– questionnaires/evaluations
– reports from authorities.

The maritime institute should apply suitable methods for monitoring and, where applicable, measurement of the quality management system process.

This could be, but is not limited to:
– evaluation forms from students
– evaluation forms from teachers
– passing scores from exams
– internal / external audits
– competence of teachers
– progress in line with time schedules.

The maritime institute should determine, collect and analyze data in order to demonstrate effective implementation of the management system and evaluate where continuous improvement can be made.

The analyze should contain information about:

– customers satisfaction
– conformity of requirement
– trends of processes and opportunities for preventive actions
– suppliers.

This could be, but is not limited to:
– evaluations
– external audits
– internal audits
– input from group of experts media
– examination results.

These might be valuable inputs to management review.

Examination

Documented procedures for final assessment, testing and examination should be established.

The maritime institute should make records and retain these as proof that the learning results of students are tested and controlled. These records should clearly indicate whether the students have passed the test or examination in accordance with relevant study criteria.

Complaints

The maritime institute should establish effective arrangements for handling complaints. Responsibility for reviewing, handling and follow-up of complaints shall be defined.