OPERATIONS – SEAFARER CERTIFICATION

STANDARD OF TRAINING & ASSESSMENT

Use of RADAR and ARPA to maintain Safety of Navigation at the Management Level

STCW Code Section A-II/2
Use of RADAR and ARPA to maintain safety of navigation at the Management Level

Applicable international standards

1. This standard has been developed to meet the requirements for the use of RADAR and ARPA to maintain the safety of navigation at the Management Level, as contained in Section A-II/2 of the STCW Code.

2. This training is required (as complementary to Masters and Chief Mates) for persons who wish to apply for a level 3 assessment towards a Certificate of Competency (referred to in STCW Sections A-II/2) at SAMSA.

Standard of competence (Objectives of the Training)

3. The objectives and outcomes of the training should be that candidates can fulfil the following functions;

   3.1. Coordinate search and rescue operations

   3.2. Establish watchkeeping arrangements and procedures

   3.3. Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making

Pre-requisites for entry into the course

4. Candidates, before accepted into this course, shall

   4.1. Have met the academic requirements for Masters and Chief Mates, and

   4.2. have 12 months of watchkeeping seagoing service as an Officer in charge of a Navigational Watch.

Education, Training & Assessment of candidates

5. The education and training of the seafarer must follow a systematic and logical sequence with respect to the minimum subject matter which is to be covered. The subject
matter can be found in column 2 of the table “Specification of minimum standard of competence for Use of RADAR and ARPA to maintain safety of navigation at the Management Level”. The training shall, as a minimum, be a combination of lecturing, practical exercises and examples, and may also include audio visual aids.

6. To be considered successful in this course, the candidate shall have demonstrated their competence in accordance with column 3 of the Specification of minimum standard of competence for Use of RADAR and ARPA to maintain safety of navigation at the Management Level table. The assessment of competence shall consist of both a written assessment of theory, and a practical demonstration of competence. These assessments methods may be divided into the following:

6.1. Formative assessment – this is assessment designed to feed into further learning and is very important for the learning process. A range of formal, non-formal, and informal formative assessment procedures are used to focus teaching and learning to improve candidate’s success. Formative assessment may be used as part of a formal (final) assessment on this course.

6.2. Practical Assessment – this may be described as an assessment made by the assessor when observing the manipulation of objects to determine the competency of a candidate on a specific skill. Institution are required to include checklist for each KUP where practical assessment is required.

6.3. Summative assessment – this is conducted at the end of sections of learning or whole learning programmes, to evaluate learning related to a particular qualification, part-qualification, or professional designation. Summative assessment of learning usually has as its aim the evaluation and/or the certification of learning that has already taken place, and the extent to which this learning has been successful. There must be a formal Summative Assessment at the end of the course. During the accreditation processes, an institution shall submit a minimum of three Summative Assessments tests.

7. Each person conducting the training and/or assessment for this course shall, in a three year accreditation cycle, develop at least two simulator exercise covering the use of the RADAR for the avoidance of collision and/or close quarters situations. Such exercises shall:
7.1. Clearly state the objective(s) from a training and assessment perspective, e.g. vessel in sight of one another and out of sight.

7.2. Have clear criterion as to the ideal set of actions an officer should take to avoid collision and/or a close quarters situation.

7.3. Assess the candidate’s skills in using the RADAR and ARPA and their associated settings and modes.

**Duration of the course**

8. Training in the use of RADAR and ARPA to maintain safety of navigation at the Management Level shall be conducted over no less than 5 (five) days of theoretical and practical training.

9. Where the course is part of the accreditation, the institution shall ensure that there is at least 20 notional hours on the simulators

**Maximum number candidates per course**

10. The number of candidates shall be determined by the provision of RADAR and ARPA simulation stations for each candidate. If simulation stations are suitable and large enough, two candidates may be accommodated at each station during training, however not during individual practical assessments. The course shall have no more than 20 candidates.

**Persons Conducting the Training and Assessment**

11. For this course to be accredited, the institution must have lectures with the following minimum qualifications and experience:

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<tr>
<th>Qualifications</th>
<th>Experience</th>
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<td>Chief Mate (STCW II/2)</td>
<td>6 months watchkeeping whilst holding a Chief Mate CoC</td>
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12. Alternate or equivalent qualifications may be accepted in lieu of the above with the concurrence of the relevant Senior Examiner, and Chief Examiner
**Institution’s library**

13. The Institution shall have, in addition to the course content, the latest editions of following reference material in hard copy or electronic format - where reference material is electronic, means shall be provided for all candidates to access such material:


**Requirements from training institutions**

14. To be accredited for this programme, the institution must be accredited for the “Use of RADAR and ARPA to maintain safety of navigation at the Operational Level” course.

15. When developing or reviewing training material for Masters and Chief Mates, this part of the Training Standards shall be included in the front pages of the training material. The course material shall include a contents page¹.

16. The RADAR and ARPA simulators shall be classified in accordance with the DNVGL-ST-0033 classification system as adopted into QMS-OP-1002.

17. For accreditation, the institution must demonstrate to the examiner that they have the facilities, tools and equipment which enable them to perform all necessary activities for the course, and as a minimum shall have:

   17.1. A designated classroom, hall, boardroom, or area of sufficient capacity where the theoretical and practical simulation elements of the course will be presented. These areas shall be compliant with local requirements for health and safety, fire safety, and maximum capacity.

¹ The IMO Model Course 1.08 may be used in the formulation of the course. Where the institution has followed the Model Course, such presentation shall be assess to meet both the requirements set in this STA as well as the appropriate model course. Course duration shall be equal to that on the model course plus the additional time necessary to cover additional requirement as added to the competence tables.
17.2. When making use of audio-visual material and media, the appropriate equipment should be available, including an overhead projector (or similar) for demonstration, instruction and replay of simulation exercises.

17.3. Simulator workstations with monitors of at least 21 inches in size

17.4. The following amenities;

17.4.1. Separate ablution facilities for male and female candidates

17.4.2. An appropriate rest area.

18. When submitting an application for accreditation, the following must be supplied as a minimum:

18.1. Proof that facilitators/instructors and assessors meet the requirements as defined below.

18.2. Copies of any training material given to or used by candidates attending the course meeting the requirements of this standard. Where texts books are used, copies shall be provided to SAMSA for accreditation and references to the competence table be made.

18.3. A timetable showing time spent, and a lesson plan on each section of the training to demonstrate all the subject matter covered, meeting the minimum duration of the course as already stipulated above. The timetable should also stipulate how each section of the training shall be presented, i.e. lecture with slide presentation, educational video, practical demonstration, etc.

18.4. Copies of slide presentations, list of videos and practical demonstrations are to be available for perusal by the relevant SAMSA Examiner accrediting the training.

18.5. A matrix or document cross referencing subject matter required to be covered by this STA.

19. All documents presented as required by this section shall form part of the Quality Management System (QMS) of the institution. Changes and amendments shall be
appropriately recorded, electronic media to include date stamps. All changes/updates and amendment’s must be submitted to SAMSA when made.

**Savings and Transitional arrangements**


21. Lecturers who have been previously approved for this course but do not meet the above requirements, may be permitted to carry on presenting the course, provided that there is an upskill plan in place - which shall be presented to SAMSA during the next re-accreditation and approved by Senior Examiner Deck.

22. Existing accreditations shall continue to be valid for the period of the accreditation – however, institutions are required to ensure that they take such steps as deemed necessary to become fully compliant with the revised requirements on or before 30 September 2022.

23. Any ad hoc audit of institutions affected which takes place after the initial six month period, may also include a verification that the institution is taking such steps as required to comply with this STA.
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<tr>
<td>Competence</td>
<td>Knowledge, understanding and proficiency</td>
<td>Methods for demonstrating competence</td>
<td>Criteria for evaluating competence</td>
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<tr>
<td>1. Coordinate search and rescue operations</td>
<td>1.1. A thorough knowledge of and ability to apply the procedures contained in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</td>
<td>Examination and assessment of evidence obtained from one or more of the following:</td>
<td>The plan for coordinating search and rescue operations is in accordance with international guidelines and standards</td>
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<td>2. Establish watchkeeping arrangements and procedures</td>
<td>2.1. Thorough knowledge of content, application and intent of the International Regulations for Preventing Collisions at Sea, 1972, as amended</td>
<td>Examination and assessment of evidence obtained from one or more of the following:</td>
<td>Radiocommunications are established and correct communication procedures are followed at all stages of the search and rescue operations</td>
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<td>3. Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making</td>
<td>3.1. An appreciation of system errors and thorough understanding of the operational aspects of navigational systems</td>
<td>Examination and assessment of evidence obtained from approved ARPA simulator and one or more of the following:</td>
<td>Watchkeeping arrangements and procedures are established and maintained in compliance with international regulations and guidelines so as to ensure the safety of navigation, protection of the marine environment and safety of the ship and persons on board</td>
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<td></td>
<td>3.2. Blind pilotage planning</td>
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<td>Information obtained from navigation equipment and systems is correctly interpreted and analysed, taking into account the limitations of the equipment and prevailing circumstances and conditions</td>
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<td>3.3. Evaluation of navigational information derived from all sources, including RADAR and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the ship</td>
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<td>Action taken to avoid a close encounter or collision with another vessel is in accordance with the International Regulations for Preventing Collisions at Sea, 1972, as amended</td>
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<td>3.4. The interrelationship and optimum use of all navigational data available for conducting navigation</td>
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