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NMC Policy Letter 03-02
January 14, 2002

From: Commanding Officer, U.S. Coast Guard National Maritime Center
To: Distribution

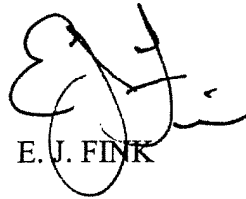
Subj: ACCEPTANCE OF RADAR OBSERVER (UNLIMITED) COURSES TO SATISFY REQUIREMENTS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION, AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED (STCW)

Ref: (a) STCW Code, Table A-II/1
(b) STCW Code, Table A-II/2
(c) STCW Code, Table A-II/3
(d) Title 46, Code of Federal Regulations (46 CFR), Section 10.305(c)(1)

1. PURPOSE. This policy letter provides guidance about the STCW requirements that candidates for the certifications specified in references (a) through (c) be trained and assessed in the operation of Radar.
2. ACTION. Commanding officers of units with marine safety responsibilities should bring this policy letter to the attention of the maritime industry with interests in marine personnel issues and to institutions that offer U. S. Coast Guard approved training. This policy letter will be distributed by electronic means only. It is available on the World Wide Web at <http://www.uscg.mil/STCW/m-policy.htm>.
3. BACKGROUND. The 1995 amendments to the STCW require that candidates for a certificate for Officer in Charge of a Navigational Watch, Chief Mate, or Master be trained and assessed in the use of Radar.
4. DISCUSSION.
 - a. Only Radar Observer (Unlimited) courses complying with the requirements of reference (d) will be considered for STCW acceptance. In order to be accepted as meeting STCW requirements, the course must include the practical demonstrations of competence that are specified in enclosure (1), or their equivalent.
 - b. In order to be accepted as meeting STCW requirements, a course must use equipment and simulators that comply with Section A-I/12 of the STCW Code and that are capable of fully supporting the assessments identified in enclosure (1).

Subj: ACCEPTANCE OF RADAR OBSERVER (UNLIMITED) COURSES TO SATISFY REQUIREMENTS OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION, AND WATCHKEEPING FOR SEAFARERS, 1978, AS AMENDED (STCW)

- c. Schools with currently approved Radar Observer courses who wish to have their courses accepted as meeting the STCW requirements should submit a written request to the National Maritime Center that includes a description of how the STCW competencies will be assessed.
- d. The Coast Guard will accept courses given prior to the date of this policy letter that met the requirements set forth above. To be acceptable, a course must have been evaluated and found to meet STCW requirements by the Coast Guard, or an approved QSS organization on behalf of the Coast Guard. Schools that offered such courses should request acceptance of the courses from the National Maritime Center.



E. J. FINK

Encl: (1) Radar Competency Control Sheets

Distribution: Commandant (G-MSO)
All District Commanders (m)
All COs, MSOs
All Activity Commanders
All RECs
All Schools w. approved Radar Observer courses

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1A

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Ability to operate and to interpret and analyze information obtained from radar, including: Performance -- setting up and maintaining displays

TASK: Set up and maintain radar display

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards.

PERFORMANCE BEHAVIOR: Set up and maintain the radar display.

PERFORMANCE STANDARD:

Within three minutes, after the power was turned on:

1. The set was switched from standby to transmit;
2. The appropriate scale was selected;
3. The gain control was adjusted so that targets and sea return appeared;
4. The tune control was adjusted (if the unit is not self tuning);
5. The brilliance control was adjusted;
6. The sea clutter and rain clutter controls were adjusted to suppress the rain and sea clutter without losing targets;
7. The north up stabilized relative motion was selected.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1B

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Ability to operate and to interpret and analyze information obtained from radar, including: Performance -- setting up and maintaining displays

TASK: Switch display modes

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards.

PERFORMANCE BEHAVIOR: Switch the display from north up stabilized relative motion to true motion to head up, and state how to recognize the mode displayed.

PERFORMANCE STANDARD:

Within 15 seconds:

1. The display is switched from north up stabilized relative motion to true motion;
2. The display is switched from true motion to head up; and,
3. The candidate pointed to the location on the display of the information that indicates the mode displayed.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1C

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Ability to operate and to interpret and analyze information obtained from radar, including: Performance -- detection of misrepresentation of information, false echoes, sea return, etc., racons and SARTs

TASK: Identify false echoes, sea return, racons and SARTs

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards.

PERFORMANCE BEHAVIOR: Identify false echoes, sea return, a racon and SART.

PERFORMANCE STANDARD:

The following were recognized and correctly identified:

1. False echoes:
 - a. indirect or false echoes;
 - b. side lobe effects;
 - c. multiple echoes;
 - d. second trace echoes;
 - e. electronic interference; and,
 - f. spoking;
2. Sea return;
3. Racons; and,
4. SARTs.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1D

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Ability to operate and to interpret and analyze information obtained from radar, including: Use -- range and bearing, course and speed of other ships; time and distance of crossing, meeting, and overtaking ships

TASK: Determine range and bearing

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, with land and aids to navigation in range.

PERFORMANCE BEHAVIOR: Determine the range and bearing to an object.

PERFORMANCE STANDARD:

1. The candidate determined the range and bearing to an object selected by the assessor within 30 seconds.
2. The candidate's determination was within ± 0.1 nm of the assessor's solution or $\pm 1\%$ of the range scale in use.
3. The candidate's determination of the bearing was within $\pm 1^\circ$ of the assessor's solution.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1E

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Identification of critical echoes; detecting course and speed changes of to other ships; effective changes of own ship's course and speed

TASK: Determine risk of collision

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale, with at least 5 vessels on the display.

PERFORMANCE BEHAVIOR: Determine if risk of collision or danger of collision exists with all approaching vessels.

PERFORMANCE STANDARD:

The candidate identified:

1. All approaching vessels whose bearing did not change appreciably; and
2. All vessels that had a CPA of less than 3 miles; and
3. All determinations were made within 8 minutes of determining the initial range and bearing of each vessel.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1F

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Identification of critical echoes; detecting course and speed changes of to other ships; effective changes of own ship's course and speed

TASK: Determine DRM, SRM, CPA, and TCPA

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale.

PERFORMANCE BEHAVIOR: Determine:

1. The range and bearing to 3 other ships (meeting, crossing, and overtaking);
2. The DRM and SRM of all other ships; and
3. The CPA and TCPA of all vessels on the 12 mile scale with less than a 3 mile CPA.

PERFORMANCE STANDARD:

1. The range and bearing solution is completed within 30 seconds and is within the previously stated tolerances.
2. The DRM solution is completed within 6 minutes and is within $\pm 5^\circ$ of the assessor's solution.
3. The SRM solution is completed within 7 minutes of initial range and bearing and is within ± 2 knot.
4. The CPA solution is completed within 7 minutes and is within ± 0.5 miles.
5. The TCPA solution is completed within 8 minutes and is within ± 3 minutes.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1G

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Identification of critical echoes; detecting course and speed changes of to other ships; effective changes of own ship's course and speed

TASK: Detect speed and course changes of other ships

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale, in the stabilized relative motion north up mode, and with meeting of crossing targets.

PERFORMANCE BEHAVIOR: Detect speed and course changes of other ships, which result in a change in the direction or speed of relative motion.

PERFORMANCE STANDARD:

Other ships' speed changes of at least 5 knots and/or course changes of at least 10° were detected within 10 rotations of the sweep (30 seconds) from the time the candidate began his or her systematic observation of the display.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1H

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Identification of critical echoes; detecting course and speed changes of to other ships; effective changes of own ship's course and speed; and, application of International Regulations for Preventing Collisions at Sea

TASK: Change course to control target DRM

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale in north up stabilized relative motion mode, with a ship on the starboard bow with a CPA of 0.5.

PERFORMANCE BEHAVIOR: Control the target vessels DRM by changing own ship's course in accordance with the COLREGS.

PERFORMANCE STANDARD:

1. Determined the new course to steer to achieve a 2 mile CPA;
2. Executed a turn to starboard; and
3. Achieved a CPA of not less than 1.8 nm or more than 2.2 nm.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1I

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- Identification of critical echoes; detecting course and speed changes of to other ships; effective changes of own ship's course and speed; and, application of International Regulations for Preventing Collisions at Sea

TASK: Change speed to control target DRM

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale in the north up stabilized relative motion mode, with a vessel on the beam with a CPA of less than 0.5 NM ahead.

PERFORMANCE BEHAVIOR: Control the target vessels DRM by changing own ship's speed in accordance with the COLREGS.

PERFORMANCE STANDARD:

1. Determined the new speed to achieve a 2 mile CPA;
2. Executed a speed reduction; and
3. Achieved a CPA of not less than 1.8nm or more than 2.2 nm.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1J

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- plotting techniques and relative and true motion concepts

TASK: Determine true course and speed of target vessels

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale in the relative motion north up mode, using any graphically correct method.

PERFORMANCE BEHAVIOR: Determine the true course and speed of three target vessels.

PERFORMANCE STANDARD:

1. Constructed a relative motion triangle on either a reflection plotter, a maneuvering board, or a transfer plotting sheet; and
2. Solved for the target vessel's true course and speed within 8 minutes.
3. The candidate's true course solution is within $\pm 5^\circ$ and the true speed solution is within ± 5 knots.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/1 Specification of Minimum Standard of Competence
OFFICER IN CHARGE OF A NAVIGATIONAL WATCH**

Control Sheet

ASSESSMENT NO. OICNW-3-1K

FUNCTION: Navigation at the Operational Level

COMPETENCE: Use of radar and ARPA to maintain the safety of navigation

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: *Radar Navigation* -- parallel indexing

TASK: Parallel indexing

PERFORMANCE CONDITION: On an operational radar or radar simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, set on the 12 mile scale in relative motion north up mode, with aids to navigation and a coastline displayed on the display.

PERFORMANCE BEHAVIOR: Use a parallel index line to monitor and maintain the vessel on track.

PERFORMANCE STANDARD:

1. Constructed a parallel index line through the edge of the known hazard to navigation or land mass; and,
2. Monitored the vessel's movement in relation to the parallel index line or an electronic display of the distance off the index line to determine if the vessel moved toward the hazard or landmass.
3. The vessel must not drift more than 10 % of the set distance toward the parallel index line.

Assessor

License No.

Date

Position

Vessel or Course

**TABLE A-II/2 Specification of Minimum Standard of Competence
Masters and Chief Mates on Ships of 500 Gross Tonnage or More (ITC)**

Control Sheet

ASSESSMENT NO. M-5-1B

FUNCTION: Navigation at the Management Level

COMPETENCE: Maintain safe navigation through the use of radar and ARPA and modern navigation systems to assist command decision-making

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: An appreciation of system errors and thorough understanding of the operational aspects of modern navigational systems, including radar and ARPA.

TASK: Determine Target Data

PERFORMANCE CONDITION: On a radar/ARPA simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, with 6 targets displayed on the 12 mile range scale, 3 of which have CPA's of less than 2 nm.

PERFORMANCE BEHAVIOR: Determine the direction and speed of relative motion, true course and speed, CPA and time to CPA for each target with a CPA of less than 2 nm.

PERFORMANCE STANDARD:

1. The student obtained the DRM solutions within 2 minutes of the start time and all solutions were within $\pm 3^\circ$ of the assessor's solution;
2. The student obtained the SRM solutions within 3 minutes of the start time and all solutions were within ± 2 knots of the assessor's solution;
3. The student obtained the CPA solutions within 4 minutes and all solutions were within ± 0.5 nm of the assessor's solution; and,
4. The student obtained the TCPA solutions within 5 minutes and all solutions were within ± 2 minutes of the assessor's solution.
5. The student obtained the true course and speed of the 3 ships with CPA's of less than 2 nm within 6 minutes and all solutions were within ± 2 kts and $\pm 3^\circ$ of the assessor's solution.

Candidate

SSN

Assessor

Position

Vessel or Course

License No.

Date

**TABLE A-II/2 Specification of Minimum Standard of Competence
Masters and Chief Mates on Ships of 500 Gross Tonnage or More (ITC)**

Control Sheet

ASSESSMENT NO. M-5-1C

FUNCTION: Navigation at the Management Level

COMPETENCE: Maintain safe navigation through the use of radar and ARPA and modern navigation systems to assist command decision-making

KNOWLEDGE, UNDERSTANDING & PROFICIENCY: An appreciation of system errors and thorough understanding of the operational aspects of modern navigational systems, including radar and ARPA.

TASK: Parallel Indexing

PERFORMANCE CONDITION: On a radar/ARPA simulator that meets the standards of 33 CFR 164.38 and other applicable national and international performance standards, with multiple targets displayed on the 12 mile range scale, in congested coastal waters, while transiting a traffic separation scheme, in the presence of current, and with at least one course change of not less than 30°.

PERFORMANCE BEHAVIOR: Plan and execute a passage through the area of transit, using parallel index lines to monitor the ship's position.

PERFORMANCE STANDARD:

The candidate:

1. Constructs a parallel index line between the 2 nav marks and through the seaward edge of the known hazard to navigation or land mass;
2. Positions the VRM at a distance named by the assessor from the edge of the parallel index line;
3. Monitors the vessel's movement to determine if the edge of the VRM moves inside the parallel index line; and,
4. Obtains a VRM that does not drift more than 10 % of the VRM distance inside the parallel index line.
5. Observed all the requirements of COLREGS Rule 10.

Candidate	SSN
Assessor	Position
Vessel or Course	License No. Date