



ERROR DETECTION AND USE OF ADVANCED RADAR TECHNIQUES IN RESTRICTED WATERS

ER-012-014-ENG

Objectives:	<p>The course is designed to provide navigation officers and pilots with state-of-the-art guidance in the rapid detection of radar errors, assessment of radar limitations, and correction of faulty radar settings.</p> <p>This training is suitable for anyone who uses radar in restricted waters.</p>
Duration:	14 hours (2 days)
Schedule:	<p>Begins at 8:30 a.m.</p> <p><i>This schedule can be modified to accommodate the group's needs or constraints.</i></p>
Participants:	4 to 5 participants
Prerequisite:	N/A
Teaching strategies used:	A hands-on approach with theoretical explanations, demonstrations by the instructor followed by exercises on the navigation simulator.
Training activities:	Theory followed by simulation exercises.
Certification:	Issuance of a training certificate.



Error Detection and Use of Advanced Radar Techniques in Restricted Waters

Course Outline

DAY 1

Welcoming tour of the full mission bridge simulator and general facilities.

Introduction and description of the training schedule, distribution of teaching materials, and presentation of the course plan.

Brief description of the wheelhouse provided by the instructor. Familiarization exercise with the bridge and navigation instruments.

-
- Quick review of radar features, characteristics, IMO standards, errors, and limits.
 - Review of course alterations using the fixed rate of turn method (ROT), including automatic pilot and its various possible settings (ROT and fixed radius).
 - Simulator exercises to apply and understand the principles of the methods learned.
 - Demonstration of how to interpret errors when a radar is overloaded with information.
 - Review of parallel index techniques and limitations.
 - Beam width:
 - Demonstration and explanation of the distortion created by the beam width.
 - Different ways of measuring the beam width.
 - Relevant exercises using the simulator.

Review.



Error Detection and Use of Advanced Radar Techniques in Restricted Waters

Course Outline

DAY 2

Review of day one.

- Distance errors:
 - Demonstration and explanation of causes and effects of these errors.
 - Different ways to detect and measure them.
 - Relevant exercises using the simulator.
- Gyrocompass errors and their impact on the parallel index technique.
 - Relevant exercises using the simulator.
- Alignment errors between the gyro and the heading on the radar; their impact on the parallel index technique.
 - Relevant exercises using the simulator.
- Heading marker errors and their impact on the parallel index technique.
 - Relevant exercises using the simulator.
- Introduction to the “GAME”, combined errors.
 - Relevant exercises using the simulator.
- The Total Error Technique
 - Relevant exercises using the simulator
- Discussions and demonstrations of the interaction between radar, AIS, and electronic chart. Possible interpretation errors discussed and demonstrated. Use of radar overlay to find the errors.
 - Demonstration with the simulator.
- Various exercises in the simulator to assess the new acquired knowledge and techniques.

Review and distribution of certificates.

Training assessment.