

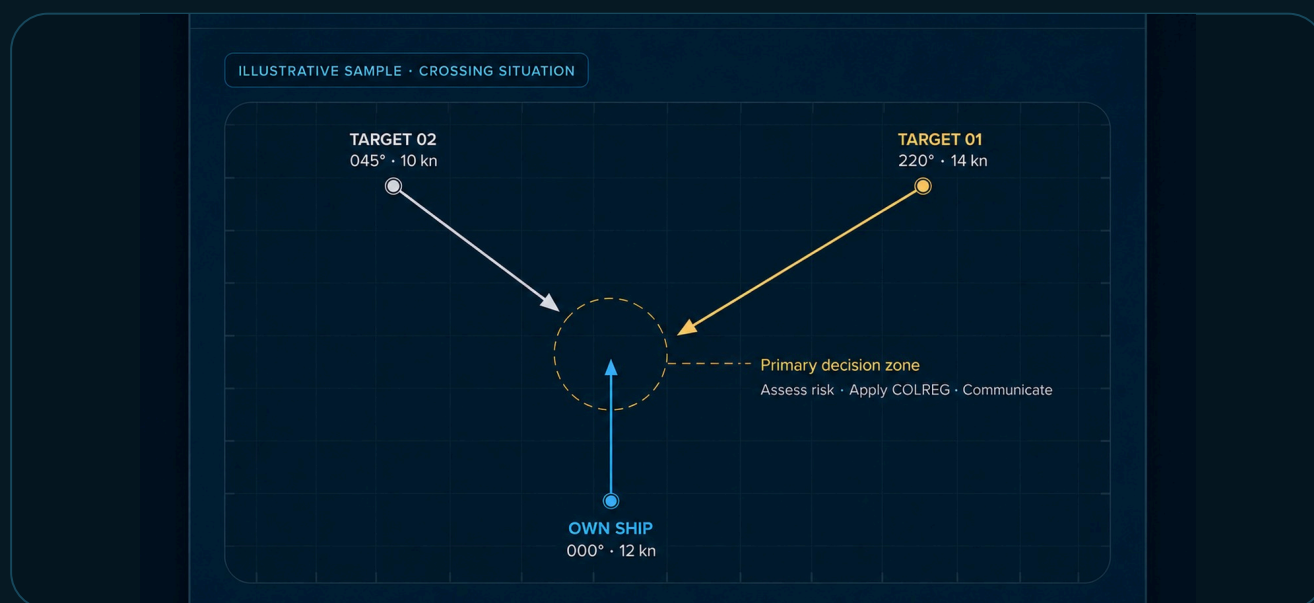


SCENARIO 001

The Clear Crossing

COLREG - Crossing & Risk of Collision

A complete instructor-ready sample showing how FIWI Maritime structures scenario setup, student briefing, assessment and debriefing.



OWN SHIP

000° · 12 kn

TARGET

270° · 14 kn

TRAINING FOCUS

Rule 15 / 16

Training-content sample only. Not an official IMO publication and not an operational navigation procedure.

Built for instructor-led simulator training.

This free sample is part of FIWI Maritime's **Simulation Scenario Packs**. It is designed for an instructor to build and run in a bridge simulator - not as a self-paced e-learning course. The content is platform-neutral so it can be implemented in the simulator environment the training provider already uses.

TRAINING FORMAT**Bridge simulator · Instructor-led****PRIMARY LEVEL****OOW / Deck officer training****INTENDED USERS****Training centres · Academies · Fleet training****DELIVERY****Platform-neutral digital pack**

WHAT THE PACK CONTAINS

01

Student briefing

Clear task, operating context and expected evidence without revealing an instructor-preferred solution.

02

Scenario build sheet

Courses, speeds, relative geometry, environment and validation targets for implementation.

03

Instructor run guide

What to observe, when to let the situation develop and what not to coach during the exercise.

04

Assessment rubric

Observable criteria for risk recognition, rule application, timeliness, effectiveness and monitoring.

05

Debrief guide

Questions that explore what happened, why the decision was made and how the outcome was verified.

06

Regulatory framework

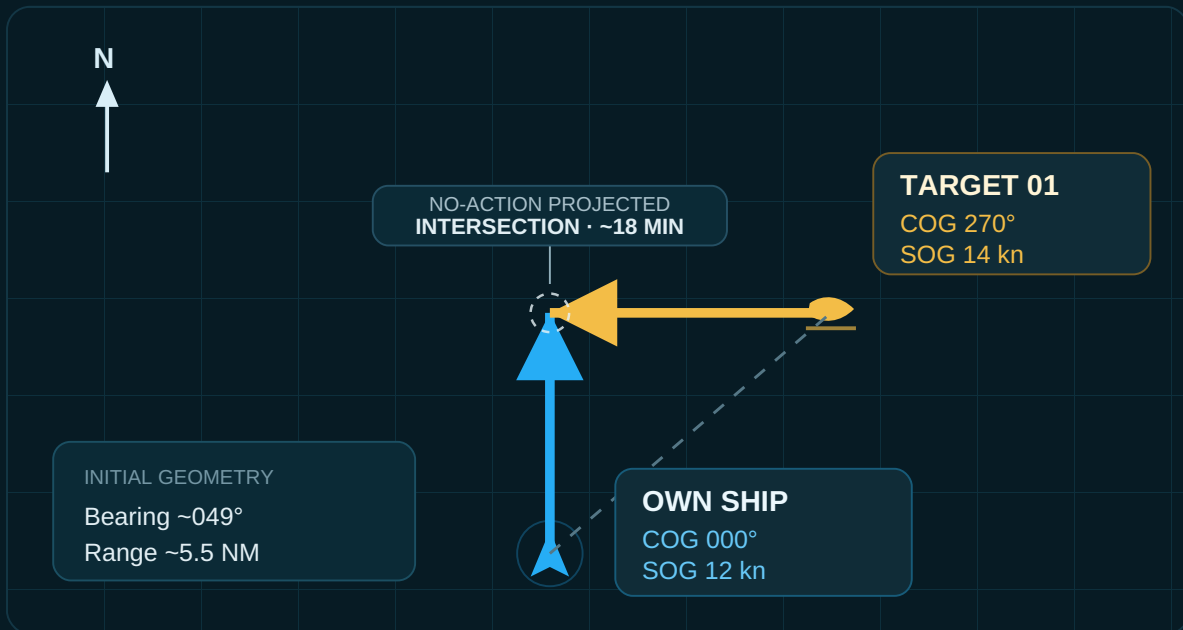
Relevant COLREG references with a clear distinction between training guidance and official rule text.

Design principle: FIWI scenarios assess decision quality, not memorisation of one pre-programmed manoeuvre. The candidate must create a safe, understandable outcome and verify that it works.

A deliberately clean crossing problem.

Two power-driven vessels are in sight of one another in open water. Without avoiding action, their projected tracks reach the same intersection after approximately 18 minutes.

NORTH-UP GEOMETRY SCHEMATIC · NOT A RADAR DISPLAY · 18-MIN PROJECTED TRACKS



INITIAL RANGE

~ 5.5 NM

DESIGN TCPA

~ 18 min

NO-ACTION CPA

≤ 0.2 NM

Vector check: both vectors use the same 18-minute projection. Own ship: 12 kn = 3.6 NM. Target 01: 14 kn = 4.2 NM. The target vector is therefore 16.7% longer.

Scenario 001 - The Clear Crossing

YOUR SITUATION

You are officer of the watch on a power-driven vessel making 000° at 12 kn in open water. Visibility is good. A power-driven vessel is crossing from your starboard side. Maintain a safe navigational watch and manage the situation in accordance with the applicable collision regulations and normal bridge procedures.

Initial information

- Own ship: COG 000°, SOG 12 kn.
- Daylight, good visibility, slight sea.
- Open water with no traffic-separation or narrow-channel complication.
- Radar/ARPA and visual lookout available as configured by the training centre.
- AIS may be available, but it is not a substitute for collision-risk assessment.

Your task

- Build and maintain an accurate picture of the developing situation.
- Determine whether risk of collision exists.
- Identify your vessel's responsibilities.
- Take safe and effective action when required.
- Monitor the result until the vessels are finally past and clear.

No single course alteration is prescribed in this brief. You are expected to select an action appropriate to the circumstances, make the intention apparent and verify that the passing situation becomes safe.

EVIDENCE THE INSTRUCTOR WILL LOOK FOR

LOOKOUT

RISK ASSESSMENT

COLREG APPLICATION

TIMELY ACTION

SAFE PASSING

MONITORING

Build sheet and validation target

PARAMETER	RECOMMENDED SETUP
Own ship	Generic power-driven merchant vessel. Initial COG 000°, SOG 12 kn. Use a normal manoeuvring model appropriate to the course.
Target 01	Power-driven vessel. Initial COG 270°, SOG 14 kn. Maintain course and speed unless the instructor must intervene for simulator safety.
Initial geometry	Target on starboard bow at relative bearing about 049°, range about 5.5 NM.
No-action target	Pre-run the exercise so CPA is 0.0-0.2 NM and TCPA is approximately 17-19 minutes at scenario release.
Environment	Daylight. Visibility ≥ 10 NM. Wind ≤ 10 kn. Sea state slight. Current nil or negligible.
Traffic	No other traffic relevant to collision avoidance. No narrow channel, TSS or local-rule complication.
Equipment	Configure visual view, radar/ARPA and normal bridge instruments appropriate to the training objective. AIS optional.

Learning objectives

- Recognise a crossing situation with risk of collision.
- Apply the give-way responsibility correctly.
- Take action early enough and clearly enough to be readily apparent.
- Verify the effect of the action and maintain safe passing.

Before every run

- Confirm the no-action geometry on the actual simulator model.
- Define facility-specific abort/intervention limits.
- Check sensor configuration and target acquisition behaviour.
- Reset all hidden instructor cues and previous runs.

Important: vessel manoeuvring characteristics differ between simulators and ship models. Use the geometry target - not a fixed latitude/longitude pair - as the implementation reference.

Let the candidate create the solution.

The scenario should be allowed to develop without coaching. The target holds course and speed. The instructor observes how the candidate builds the picture, decides, acts and verifies the result.

PHASE 1 Recognise

Does the candidate establish a proper lookout, acquire the target and use more than one source of information where available?

PHASE 2 Decide

Can the candidate explain that risk exists, identify the crossing relationship and recognise own ship as give-way vessel?

PHASE 3 Act

Is the action early, positive and substantial enough to produce an unmistakable safe passing plan rather than a marginal change?

PHASE 4 Verify

Does the candidate re-check CPA/TCPA, visual bearing trend and the overall traffic picture until finally past and clear?

Instructor should avoid

- Prompting the applicable rule before the candidate states it.
- Suggesting a specific heading or CPA as the only acceptable answer.
- Using VHF contact as a substitute for collision-avoidance action.
- Ending the exercise immediately after helm movement; monitoring is part of the objective.

Optional observation prompts

- What information changed the candidate's confidence that risk existed?
- Was the chosen action readily apparent to the other vessel?
- Did the candidate avoid creating a new close-quarters problem?
- Was the effect checked after the manoeuvre?

Intervention: the training centre should define an instructor safety boundary before the run. If that boundary is reached, preserve safety first, then use the intervention itself as debrief evidence.

Observable behaviour, not a hidden answer key.

Use the rubric as a practical evidence framework. A training centre may map the criteria to its own approved syllabus, competence system or simulator assessment method.

CRITERION	0 - NOT DEMONSTRATED	1 - DEVELOPING	2 - COMPETENT
1. Lookout & data quality	Target picture incomplete or based on one unreliable indication.	Target acquired, but information is not consistently cross-checked.	Maintains a reliable picture using appropriate available means.
2. Risk assessment	Fails to recognise collision risk or relies on unsupported assumption.	Recognises concern but assessment is late or uncertain.	Identifies risk in good time and explains the evidence used.
3. Rule application	Misidentifies responsibility.	Identifies give-way role but reasoning is incomplete.	Correctly identifies crossing responsibilities and applies them coherently.
4. Timeliness & clarity	Action is late, ambiguous or absent.	Action improves the situation but is hesitant or marginal.	Action is early enough, positive and readily apparent.
5. Passing outcome	Creates or retains an unsafe close-quarters situation.	Safe outcome achieved with limited margin or poor planning.	Creates a clear, controlled and safe passing arrangement.
6. Monitoring	Assumes the manoeuvre worked without verification.	Checks intermittently but misses part of the developing picture.	Continuously verifies the result until finally past and clear.

EXAMPLE SCORING

/12

Suggested internal threshold: 10/12, with no score of 0 in criteria 2-5. The training centre remains responsible for its own pass standard.

EVIDENCE TO RECORD

Time/geometry at decision, action selected, CPA/TCPA before and after, verbal reasoning, communication and any instructor intervention.

Turn the manoeuvre into learning.

The debrief should reconstruct the candidate's decision process before evaluating the outcome. Start with the candidate's own picture, then move to objective evidence from the run.

1 Build the picture

- When did you first consider the target a collision risk?
- Which indications were most important?
- Was any information given too much or too little weight?

2 Apply the rules

- Which COLREG responsibilities governed the encounter?
- What did being the give-way vessel require you to achieve?
- How did the crossing geometry affect your options?

3 Examine the action

- Why did you choose that action and timing?
- Was your intention obvious to the other vessel?
- Did the action avoid crossing ahead where circumstances allowed?

4 Verify the result

- What changed in CPA/TCPA and visual bearing after the manoeuvre?
- When were you satisfied the vessels were finally past and clear?
- What would make you act differently next time?

Useful replay points: first reliable risk indication; moment responsibility was identified; start of avoiding action; minimum passing point; course/speed restoration.

INSTRUCTOR CLOSE-OUT

One thing done well: _____

One behaviour to strengthen: _____

Action for next scenario: _____

COLREG references for this exercise

This sample uses rule summaries only. Instructors should use the current official text adopted by their administration or the current IMO COLREG publication when teaching or assessing regulatory wording.

Rules 5-8

Proper lookout, safe speed, assessment of collision risk and effective action to avoid collision form the general decision-making foundation.

Rule 11

The specific steering and sailing rules in this section apply to vessels in sight of one another.

Rule 15

In a crossing situation involving two power-driven vessels, the vessel with the other on her starboard side keeps out of the way and should, where circumstances allow, avoid crossing ahead.

Rule 16

The give-way vessel takes early and substantial action to keep well clear.

Rule 17

The stand-on vessel's responsibilities remain relevant to the overall encounter and to later escalation if the give-way vessel does not act appropriately.

STCW context

The exercise can support competence development in safe navigational watchkeeping and collision-avoidance decision making. Centres should map it to their own approved syllabus and assessment scheme.

Not an official interpretation. FIWI Maritime provides training content. The organisation delivering the training remains responsible for regulatory currency, instructor competence, simulator validation and its formal assessment standard.

AUTHORITATIVE REFERENCE

International Maritime Organization (IMO): Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1972, as amended. IMO's public COLREG overview identifies Rules 5-8 and 11-19 and their subject matter.

Reference page: www.imo.org/en/ourwork/safety/pages/preventing-collisions.aspx

COLREG - Crossing & Risk of Collision

The full pack expands this sample into eight progressive scenarios, from clean rule recognition to multi-target decision making and bridge-team workload.

01 The Clear Crossing

Give-way vessel · early and substantial action.

02 Maintain and Monitor

Stand-on vessel · observe correct action without over-controlling.

03 Too Little, Too Late

Marginal action · recognise when a manoeuvre is not substantial enough.

04 The Give-Way Vessel Does Nothing

Rule 17 progression · delayed action by the other vessel.

05 Which Target Matters?

Multiple contacts · identify the real collision risk.

06 Give Way to One, Stand On to Another

Competing responsibilities · one coherent safe plan.

07 The Convenient Route Is the Wrong Route

Operational pressure · safety before track convenience.

08 Crossing Situation: Capstone

Multiple targets, communication and workload.

READY-MADE TRAINING CONTENT

Buy one pack. Build a bundle. Adapt when needed.

Each simulation pack includes eight instructor-led simulator scenarios with build sheets, student briefs, instructor guidance, assessment material and debrief prompts.

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Developed in Norway. Built for maritime training centres, academies, fleet operators and simulator/technology providers.