

SHIPPING OFFICER TRAINING

CVN 79 (USS JOHN F. KENNEDY)



CREATED BY: OS1(SW) DOBERENZ



PURPOSE OF THE SHIPPING OFFICER

SURFACE CONTACT PICTURE • MANEUVERING RECOMMENDATIONS • COLLISION AVOIDANCE

ASSESS • PRIORITIZE • REPORT • RECOMMEND

- Maintain an accurate and timely surface contact picture.
- Provide maneuvering recommendations to the OOD/CONN based on Rules of the Road.
- Ensure safe navigation during all evolutions by reporting "Course XXX clear/foul for shipping."
- Serve as the bridge's primary advisor for collision avoidance and traffic assessment.





IMPORTANCE OF THE ROLE DURING CRITICAL EVOLUTIONS

SEA & ANCHOR • RESTRICTED WATERS • MODNAV • TSS • HIGH-DENSITY TRAFFIC

ASSESS • PRIORITIZE • COORDINATE • REPORT • RECOMMEND

- **Sea & Anchor:** High-density traffic, tug operations, restricted maneuvering, anchorage approach.
- **Restricted Waters:** Increased fix frequency, tight channels, close CPA management.
- **MODNAV:** Enhanced navigation detail; Shipping Officer required per Navigation Bill.
- **Traffic Separation Schemes (TSS):** Lane discipline, crossing rules, overtaking management.
- **High-Density Traffic:** Commercial shipping, fishing fleets, pilot vessels, CBD vessels.

1



SEA & ANCHOR



2



RESTRICTED WATERS



3



MODNAV



4



TRAFFIC SEPARATION SCHEMES (TSS)



5



HIGH-DENSITY TRAFFIC





INTEGRATION WITH JFKINST GUIDANCE

NAVIGATION BILL • CO'S STANDING ORDERS • SEA & ANCHOR BILL • PQS 320

UNDERSTAND • APPLY • COMMUNICATE • INTEGRATE

SECTION 1: JFKINST GUIDANCE



JFKINST 3530.1 – Navigation Bill:

- Defines Shipping Officer as required during MODNAV, TSS, and Restricted Waters.
- Specifies communication circuits and reporting requirements.



JFKINST 3120.1 – CO's Standing Orders:

- Mandates strict adherence to Rules of the Road.
- Requires forceful backup and timely reporting to the CO.



JFKINST 1153.1 – Sea & Anchor Bill:

- Outlines responsibilities during anchoring, mooring, and getting underway.
- Provides specific communication and safety requirements.

SECTION 2: PQS 320 OVERVIEW

- | | |
|-------------------------------|--|
| • Contact reporting | • Rules of the Road application |
| • CPA/BCR determination | • Integration with Bridge and CONP teams |
| • Maneuvering recommendations | • Safe-for-navigation reporting |
| • Radar and AIS usage | • Scenario-based decision-making |





TRAINING OBJECTIVES

SCOPE • RULES OF THE ROAD • CONTACT PICTURE • REPORTING • EVOLUTIONS • PQS 320

UNDERSTAND • APPLY • BUILD • REPORT • EXECUTE • QUALIFY



1. Understand the full scope of Shipping Officer duties on CVN 79.



2. Apply Rules of the Road confidently and correctly.



3. Build and maintain a complete contact picture using all available sensors.



4. Provide clear, timely, and accurate reports to the OOD, CONN, and CO.



5. Execute responsibilities during Sea & Anchor, Restricted Waters, MODNAV, and TSS evolutions.



6. Demonstrate proficiency required for PQS 320 qualification.



CLEAR VISION. RIGHT ACTION. SAFE NAVIGATION.





ROLES & RESPONSIBILITIES

JFK SPECIFIC CORE DUTIES

ASSESS • PRIORITIZE • REPORT • RECOMMEND



MAINTAIN SITUATIONAL AWARENESS

Maintain a complete and accurate surface contact picture.



PROVIDE TIMELY RECOMMENDATIONS

Provide timely maneuvering recommendations based on Rules of the Road and CO's Standing Orders.



REPORT ACCURATELY

Report "Course XXX clear for shipping" or "Course XXX foul due to shipping, recommend XXX."



MAINTAIN COMMUNICATION

Ensure continuous contact updates until the Bridge has both visual and radar confirmation.



SUPPORT THE TEAM

Support the OOD, CONN, NAVEVAL, Piloting Officer, and CDCWO during all evolutions.



MERCHANT SHIP

BRG 045
RNG 6.2 NM
CPA 1.8 NM
TCPA 18 min
SPD 14.2 kn
HDG 090

NAVAL VESSEL

BRG 110
RNG 3.4 NM
CPA 0.6 NM
TCPA 12 min
SPD 18.0 kn
HDG 270

SMALL CRAFT

BRG 315
RNG 2.1 NM
CPA 0.9 NM
TCPA 08 min
SPD 28.0 kn
HDG 045

RECOMMENDATION

Course 270 for 10 minutes,
then resume Course 000.

WE WORK TOGETHER

 OOD

 CONN

 NAVEVAL

 PILOTING
OFFICER

 CDCWO



CLEAR VISION. RIGHT ACTION. SAFE NAVIGATION.





ROLES & RESPONSIBILITIES (JFK SPECIFIC)

COMMAND RELATIONSHIPS • REPORTING CHAIN • CONP INTEGRATION • DECISION SUPPORT

UNDERSTAND • COMMUNICATE • COORDINATE • REPORT

COMMAND RELATIONSHIPS (JFKINST 3120.1 & 3530.1)



CO Expectations:

- Immediate reporting of hazards, risk of collision, or uncertainty.
- Strict adherence to Rules of the Road and forceful backup.



XO Authority:

- XO's orders carry the same weight as the CO's; may direct OOD and navigation team.



Navigator (Gator) as SWO:

- Senior Watch Officer; responsible for safe navigation and training.
- Provides course/speed recommendations the OOD must follow unless unsafe.



NAVEVAL Role:

- Evaluates ship's position, fix accuracy, and navigation safety.



CONN & OOD Relationship:

- CONN maneuvers the ship; OOD supervises and retains ultimate responsibility.



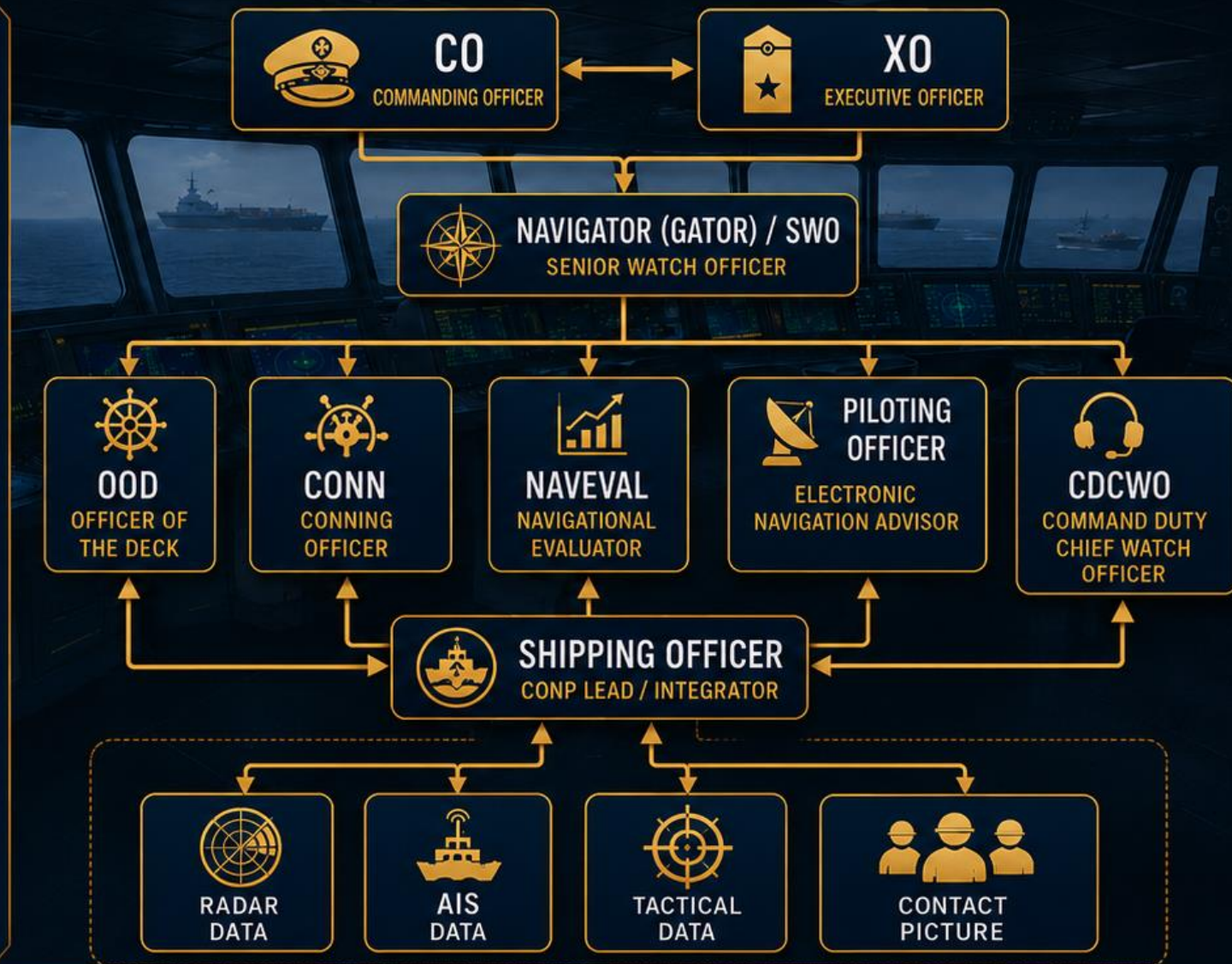
CDCWO & Piloting Officer Integration:

- CDCWO provides tactical and surface contact information.
- Piloting Officer ensures electronic navigation accuracy and advises Shipping Officer.



CONP Team Structure:

- Shipping Officer works within CONP to integrate radar, AIS, and tactical data into maneuvering recommendations.



CLEAR REPORTING. FORCEFUL BACKUP. SAFE NAVIGATION.





ROLES & RESPONSIBILITIES (JFK SPECIFIC)

WATCHSTANDING PHILOSOPHY

ASSESS • PRIORITIZE • REPORT • RECOMMEND



1. FORCEFUL BACKUP:

- Speak up immediately when safety, RoR compliance, or situational awareness is at risk.



2. REQUIRED REPORTS:

- CPA/BCR changes, new contacts, risk of collision, safe for navigation reports.



3. WHEN TO CALL THE CAPTAIN:

- Any situation involving risk of collision, loss of situational awareness, or deviation from Standing Orders.



4. PBED (PLAN, BRIEF, EXECUTE, DEBRIEF):

- Standard process for all evolutions; Shipping Officer contributes during planning and debriefing.



SPEAK UP. STAY AWARE. DRIVE SAFE NAVIGATION.





NAVIGATION TEAM INTEGRATION



BRIDGE TEAM



1. OOD

- Overall responsibility for safe navigation and ship control.



2. JOOD / CONN

- Executes helm and engine orders; maneuvers the ship under OOD supervision.



3. QMOW

- Maintains navigation plot, logs fixes, monitors equipment.



4. BEARING RECORDER & BEARING TAKERS

- Provide visual bearings for fixes during restricted waters.



5. LOOKOUTS

- Maintain visual awareness of contacts, hazards, and navigation aids.



6. HELM SAFETY OFFICER

- Ensures helm/lee helm commands are executed correctly and safely.



CONP TEAM



1. CONP SUPERVISOR

- Oversees tactical and navigation data flow; supports OOD and CDCWO.



2. PILOTING OFFICER

- Ensures electronic navigation accuracy; advises NAVEVAL and Shipping Officer.



3. SHIPPING OFFICER

- Builds contact picture, provides maneuvering recommendations, reports course clear/foul.



4. RADAR OPERATORS

- Provide accurate ranges/bearings to navigation aids and contacts.



5. NAVIGATION RECORDER

- Maintains CONP navigation log aligned with Standard Bearing Book.



6. VMS DISPLAY OPERATOR

- Inputs fixes into ECDIS N; ensures correct sensor priority and fix quality.



COMMUNICATION CIRCUITS

(JFKINST 3530.1, TABLE 2-2)



1. JW CIRCUIT

- Bearing Recorder, Bearing Takers, Fathometer Operator, CONP Recorder.



2. JL CIRCUIT

- Lookouts, Bridge JL Talker, Shipping Radar Scope Operator.



3. ICS (BRIDGE / CONP)

- CO, OOD, CONN, Navigator, NAVEVAL, Helm/Lee Helm, Piloting Officer.



4. HYDRA NAV CHANNEL

- Backup comms for navigation team; used during Sea & Anchor and Restricted Waters.



5. JA CIRCUIT (BACKUP)

- Secondary sound powered phone circuit for bridge/CONP coordination.



ONE TEAM. CLEAR COMMUNICATION. SAFE NAVIGATION.





NAVIGATION BRIEF INPUTS

SHIPPING OFFICER DUTIES • PORT OPS MOVEMENTS • BRIDGE TEAM SUPPORT

COLLECT • VERIFY • BRIEF • UPDATE



SHIPPING OFFICER DUTIES

- Maintain the surface contact picture.
- Provide relevant information and recommendations to the Bridge Team.
- Establish initial contact using visual and electronic sources, including binoculars, SPS-73, FURUNO, and AIS.
- Continue contact reports to the JOOW until the Bridge has visual and radar confirmation.
- Report every course change as clear or foul for shipping and recommend safe course as required.

PORT OPS / HARBOR MOVEMENT UPDATE

HARBOR TRAFFIC MOVEMENTS

Ship	Type	Time	Inbound/Outbound	From	Destination
USS ABC	DDG	0800	Outbound	Pier	Sea
USS CAB	CVN	1000	Inbound	Sea	Pier
USNS Spacer	T-AO	1200	Outbound	CFID	Sea
ITS Rome	Frigate	1400	Outbound	Pier	Sea



Contact Port Ops before the Navigation Brief.
Verify expected military, commercial, tug, pilot boat,
and special-event movements.



KEY TAKEAWAY: Before the Navigation Brief, build the expected harbor picture, verify movements with Port Ops, and brief the Bridge Team on traffic that may affect safe navigation.



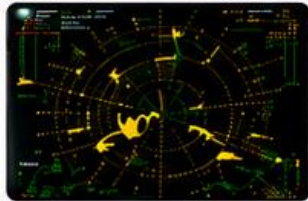
TOOLS & SENSORS

RADAR SYSTEMS • AIS • VISUAL TOOLS • ELECTRONIC NAVIGATION

DETECT • CORRELATE • VERIFY • NAVIGATE



RADAR SYSTEMS



1. SPS 73

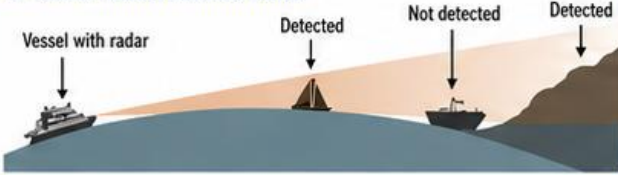
- Primary surface search radar; used for contact detection, tracking, and CPA/BCR analysis.



2. FURUNO

- Commercial navigation radar; excellent for close range detail and clutter reduction.

3. RADAR RANGE/BEARING ERROR



4. RADAR CONTACT MANAGEMENT

- Prioritize threats, monitor trends, correlate radar + AIS + visual inputs.
- Use track history, guard zones, and filters to maintain situational awareness.

5. CPA/BCR DETERMINATION



NEGATIVE BCR = CLOSING

CPA 1.29nm
TCPA 06:06
BCR -1.59nm
BCT 02:53



AIS



1. IDENTIFICATION

- Provides ship name, MMSI, IMO number, type, course, speed, and navigational status.

2. HOW AIS WORKS



- Ships broadcast data via VHF radio.
- Data includes position, speed, course, and heading.
- Information is received by nearby ships and coastal stations.
- Coverage may be extended by satellite AIS.

3. AIS INFORMATION TYPES



- Static info:** ship name, MMSI, IMO number, and dimensions.



- Dynamic info:** position, speed, heading, and navigational status.



- Voyage info:** destination, ETA, and draft.

4. LIMITATIONS



- Limited range, typically about 40–60 nm.
- Data accuracy can vary in busy ports.
- Information can be spoofed or inaccurate.
- AIS depends on valid shipboard inputs and reporting systems.



VISUAL TOOLS



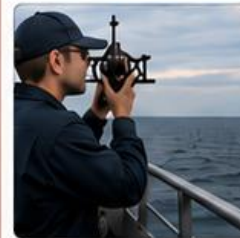
1. BINOCULARS

- Verify contact type, aspect, lights, and day shapes.



2. PELORUS

- Rotatable 360° non-magnetic bearing disk.
- May be stationary or portable.
- Often fitted with sighting vanes / azimuth circle.
- Used to measure relative bearings.



3. VISUAL BEARINGS

- Taken by Bearing Takers on contacts and navigation aids.
- Used for restricted waters, fixes, and situational awareness.

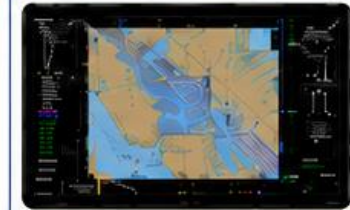


4. DROP BEARINGS (ANCHORING)

- Verify approach to planned anchor drop point.
- Confirm head bearing, drop bearing, and alignment.
- Support accurate "let go the anchor" timing.



ELECTRONIC NAVIGATION



1. ECDIS N

(NAV 2 AS MASTER NODE)

- Primary navigation plot per JFKINST 3530.1; integrates GPS, radar, INS, and DAGR.

GPS FOM
FOM SCALE



2. GPS FOM

- Fix quality assessment; FOM 1–2 excellent, 3–4 good, 5+ poor.

INS STATUS

MODE NAV
POSITION 39°45.678' N
076°21.345' W
SPEED: 15.2 KTS
HDG: 087.3° T

3. INS

- Backup sensor; used when GPS degraded or denied.



4. DAGR

- Manual GPS input source; used for cross-checking fix accuracy.

FIX QUALITY (AOU, FOM)

AOU < 50 yds EXCELLENT
50–100 yds GOOD
> 100 yds POOR

5. FIX QUALITY (AOU, FOM)

- AOU < 50 yds excellent; 50–100 yds good; > 100 yds poor.



RIGHT INFORMATION. RIGHT TIME. SAFE NAVIGATION.





RULES OF THE ROAD

COLLISION AVOIDANCE • NAVIGATION SAFETY • PROFESSIONAL JUDGMENT

UNDERSTAND • APPLY • EXECUTE • LEAD ‡



RULE 5 – LOOKOUT

- Maintain proper lookout by sight, hearing, and all available means.



RULE 6 – SAFE SPEED

- Adjust speed to avoid collision and stop within safe distance.



RULE 7 – RISK OF COLLISION

- Use all available means; CBDR = risk exists.



RULE 8 – ACTION TO AVOID COLLISION

- Early, substantial, and readily apparent maneuvers.



RULE 13 – OVERTAKING

- Vessel overtaking must keep clear.



RULE 14 – HEAD ON

- Both vessels alter course to starboard.



RULE 15 – CROSSING

- Vessel with the other on its **starboard** side keeps clear.



RULE 18 – HIERARCHY

- NUC → RAM → CBD → Fishing → Sailing → Power → Seaplane



RULE 19 – RESTRICTED VISIBILITY

- Avoid turning to port for vessels forward of the beam; sound signals required.



SAFE NAVIGATION IS NO ACCIDENT.

KNOW THE RULES. APPLY THEM EARLY. EXECUTE WITH DISCIPLINE.





RULES OF THE ROAD

LIGHTS, SHAPES & SOUND SIGNALS

IDENTIFY • INTERPRET • PRIORITIZE • REPORT

NAVIGATION LIGHTS (NIGHTTIME IDENTIFICATION)

1. POWER-DRIVEN (Underway)



Masthead light (white)
Stern light (white)

2. SAILING (Under sail)



Red over green
(on mast)
Stern light (white)

3. FISHING

Trawling
(Underway)



Green over white
Stern light (white)

Other Gear
(Underway)



Red over white
Stern light (white)

4. TOWING (<200m)



Two masthead lights (white)
Towing light above
sternlight (white)

5. TOWING (>200m)



Three masthead lights (white)
Towing light above sternlight (white)
Diamond shape (day)

6. NUC (Not Under Command)



Two all-round red lights

7. RAM (Restricted in Ability to Maneuver)



Red-white-red
vertical lights

8. PILOT (Underway)



White over red
(on mast)
Stern light (white)

9. CBD (Constrained by Draft)



Three all-round red lights

10. MINECLEARING (Underway)



One all-round light center,
one on each side (T-shape)

11. LAW ENFORCEMENT (Inland only)



Flashing blue light

12. PUBLIC SAFETY (Inland only)



Alternating red-yellow light

13. SEAPLANE (Afloat)



Masthead light (white)
Stern light (white)

DAY SHAPES (DAYTIME IDENTIFICATION)

SHAPE

MEANING / DESCRIPTION



One Black Ball
Anchored
Suspended from foremast



Two Black Balls
NUC
Vertically aligned



Three Black Balls
Aground
Vertically aligned



Ball-Diamond-Ball
RAM
Vertically aligned



Cone (Apex Up)
Fishing gear > 150m
Points toward gear direction



Cone (Apex Down)
Sailing vessel using engine
Indicates loss of sailing status



Diamond
Towing >200m or
dangerous cargo



(Foremast + Yardarms)
Mineclearing
One ball center,
one each side (T-shape)

Vessel Hierarchy (Right of Way)

1



Overtaken
vessel
(Highest priority)

2



Not under
command

3



Restricted in
ability to
maneuver

4



Constrained
by draft

5



Fishing vessel
(actively
commercial
fishing)

6



Sailing
vessel

7



Power-driven
vessel

8



Seaplanes
(Lowest priority)

MNEMONIC: Only New Reels Catch Fish So Purchase Some

SOUND SIGNALS (QUICK REFERENCE)

MANEUVERING SIGNALS (IN SIGHT)

(International = action / Inland = intention)



1 short blast = Altering course to starboard



2 short blasts = Altering course to port



3 short blasts = Operating astern propulsion



5+ short blasts = Danger / unsure of intentions

RESTRICTED VISIBILITY SIGNALS (FOG)



1 prolonged blast every 2 min

= Power-driven making way



2 prolonged blasts every 2 min

= Power-driven stopped



1 prolonged + 2 short blasts every 2 min

= Sailing or fishing



1 prolonged + 3 short blasts every 2 min

= Towed vessel (manned)



Bell 5 sec every 1 min

= Anchored (<100m)



Bell + gong 5 sec each every 1 min

= Anchored (>100m)



APPLICATION TO JFKINST 3120.1

CO'S STANDING ORDERS

COMPLY • REPORT • PRIORITIZE • BACK UP



CO'S REQUIREMENT TO FOLLOW ROR

- Strict compliance at all times.
- RoR violations must be reported immediately.



REQUIRED REPORTS WHEN RISK EXISTS

- "Risk of collision exists."
- "Course XXX foul due to shipping."
- "Recommend course XXX."



MANEUVERING PRIORITIES

- Maneuver → Navigate → Communicate
- Take action first, then report to the CO.



MANEUVER



Navigate



COMMUNICATE



FORCEFUL BACKUP

- Speak up immediately if RoR compliance or safety is compromised.



FOLLOW THE RULES. REPORT EARLY. BACK UP FORCEFULLY.





REPORTING REQUIREMENTS (JFK SPECIFIC)

STANDARD REPORTS • MANEUVERING RECOMMENDATIONS • ESCALATION PROTOCOL

REPORT • RECOMMEND • ESCALATE • COMMUNICATE



STANDARD REPORTS



INITIAL CONTACT REPORT

- Contact bearing, range, course, speed, CPA/BCR trend, vessel type if known.



CONTINUOUS CONTACT UPDATES

- Maintain updates until Bridge has visual and radar confirmation.



CPA/BCR REPORTS

- Report changes immediately; identify decreasing CPA or worsening BCR.



"COURSE XXX CLEAR FOR SHIPPING"

- Required per JFKINST 3530.1 for every course recommendation.



"COURSE XXX FOUL DUE TO SHIPPING, RECOMMEND XXX"

- Must include recommended safe course based on RoR and contact picture.



MANEUVERING RECOMMENDATIONS



BASED ON RULES OF THE ROAD

- Overtaking, crossing, head on, narrow channel, TSS compliance.



BASED ON TRAFFIC DENSITY

- High density commercial traffic, fishing fleets, pilot vessels, CBD vessels.



BASED ON ANCHORAGE APPROACH

- Head bearings, drop bearings, sternway, tug operations, anchor readiness.



BASED ON TSS RULES

- Lane discipline, joining/leaving lanes, crossing at right angles.



ESCALATION PROTOCOL



WHEN TO NOTIFY THE OOD

- Any CPA/BCR change, new contact, RoR situation, or hazard.



WHEN TO NOTIFY THE GATOR

- Fix uncertainty, navigation hazards, conflicting recommendations, degraded sensors.



WHEN TO NOTIFY THE CO

- Risk of collision, loss of situational awareness, deviation from Standing Orders, or unsafe maneuvering.



WHEN TO USE THE DANGER SIGNAL

- Doubt about another vessel's intentions or immediate risk requiring urgent action.



SEE EARLY

Detect contacts early and report immediately.



COMMUNICATE CLEARLY

Use standard calls and precise language.



★ KEY REMINDER ★

MAINTAIN AWARENESS

Keep situational awareness and update continuously.



FOLLOW THE RULES

Apply the Rules of the Road in every recommendation.



TEAMWORK SAVES LIVES

Good reporting is the foundation of collision avoidance.



REPORT ACCURATELY. RECOMMEND CONFIDENTLY. NAVIGATE SAFELY. JFK TEAM – ONE STANDARD, ONE FIGHT.





SEA & ANCHOR DETAIL

TEAM, COMMS, AND SAFETY

RESTRICTED MANEUVERING • CLEAR COMMUNICATION • SAFE EXECUTION



TEAM COORDINATION



- ★ Shipping Officer, Piloting Officer, CONP Supervisor, Radar Operators, Lookouts, and Helm Safety Officer support restricted maneuvering.



- ★ Shipping Officer maintains the surface contact picture and keeps the Bridge informed of traffic, tugs, and hazards.



- ★ Bridge, CONP, lookouts, and radar operators must stay aligned throughout the evolution.

KEY WATCH STATIONS



SHIPPING
OFFICER



PILOTING
OFFICER



CONP
SUPERVISOR



RADAR
OPERATORS



LOOKOUTS



HELM SAFETY
OFFICER



COMMUNICATION CIRCUITS



- ★ Use assigned sound-powered phones, HYDRA Sea & Anchor channel, and approved backup circuits.



- ★ Verify communication checks before getting underway or entering restricted waters.



- ★ Report tug status, new contacts, CPA/BCR changes, and unsafe conditions immediately.

INFORMATION FLOW



CLEAR • TIMELY • COMPLETE • UNDERSTOOD



SAFETY AWARENESS



- ★ Monitor tug operations, mooring lines, line-of-fire areas, and snapback zones.



- ★ Report personnel not wearing required PPE and correct unsafe topside conditions immediately.



- ★ Forceful backup applies when communication, safety, or situational awareness breaks down.



PPE REQUIRED



MAINTAIN THE CONTACT PICTURE

Know what's around you.



COMMUNICATE EARLY

Share information before conditions change.



MONITOR TUGS & LINES

Watch tensions, movements, and zones.



FORCEFUL BACKUP

Act decisively when standards break down.



SAFETY FIRST

Protect people, equipment, and the mission.



TEAMWORK. COMMUNICATION. DISCIPLINE.

ONE STANDARD, ONE CREW, ONE SAFE SHIP.





ANCHORING PROCEDURES

APPROACH, DROP POINT, AND HOLDING



1 APPROACH TO ANCHORAGE



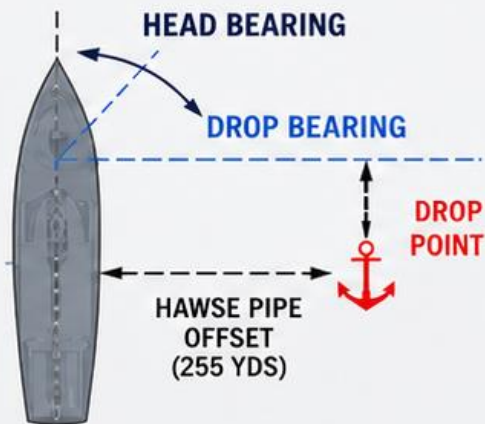
- Monitor approach ranges:

6,000 yds → 3,000 yds → 800 yds → 500 yds → 350 yds → **DROP POINT**

- Track surrounding traffic and report anything that affects the planned approach.
- Support the OOD, CONN, NAVEVAL, and Piloting Officer with contact updates.



2 DROP POINT DETERMINATION



- Drop point is based on planned anchorage position, ship's head bearing, drop bearing, and hawse pipe offset.
- Head and drop bearings help align the ship precisely over the anchorage point.
- Sternway** must be confirmed before letting go the anchor.

3 ANCHOR AWARENESS



WINDLASS:

Powers and controls anchor chain movement.



WILDCAT / GYPSY WHEEL:

Grips the anchor chain as it pays out or heaves in.



BRAKE:

Controls or stops chain movement.



CLUTCH:

Engages or disengages the wildcat from the drive system.



CHAIN MARKINGS:

Show how much chain has been paid out.



WARPING HEAD:

Used for handling lines, not the anchor chain.



AOT BACKUP COMMANDS

Used if normal communication circuits (1JV / HYDRA) are unavailable.

- Provides standardized anchor commands.
- Ensures clear, repeatable instructions.
- Follow AOT procedures as directed.
- Resume normal circuits when available.



KEY TAKEAWAY FOR SHIPPING OFFICER | Maintain situational awareness, monitor traffic and ship movement, and support the Bridge team throughout the anchoring evolution until the anchor is holding.





ENTERING PORT

TUGS, BERTH, TRAFFIC, AND HAZARDS



1



BERTH AND HARBOR AWARENESS

- Understand pier layout, berth assignment, camels, fenders, berthing barges, tide range, and current.
- Identify pier hazards, pilings, small craft, commercial traffic, and navigation aids.
- Maintain awareness of restricted maneuvering limits and planned track.

2



TUG AND LINE OPERATIONS

- Monitor tug positions, tug status, and safe cast-off or make-up.
- Maintain awareness of messenger lines, mooring line movement, and line-handling danger areas.
- Report unsafe tug, line, or traffic situations immediately.

3

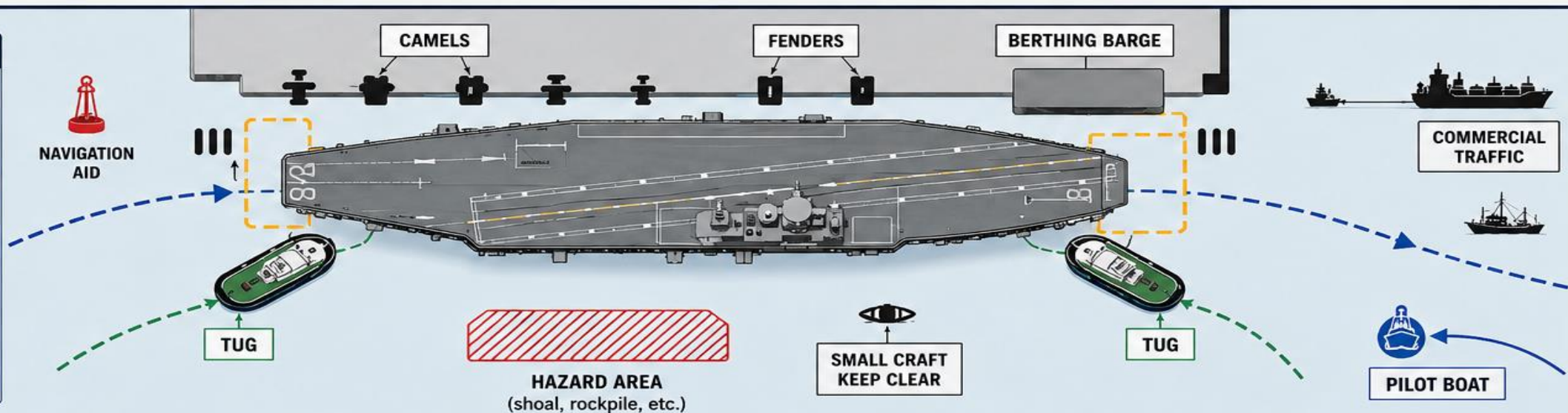


TRAFFIC DENSITY

- Prioritize commercial shipping, fishing vessels, pilot boats, small craft, and CBD/RAM traffic.
- Continue CPA/BCR updates until the Bridge has visual and radar confirmation.
- Provide "course clear/foul for shipping" recommendations as required.

LEGEND

- Planned Track
- Tug Track
- Restricted Maneuvering Area
- Hazard Area
- Navigation Aid
- Pilings
- Small Craft
- Pilot Boat



KEY REMINDER:

Know the berth. Track the tugs. Manage traffic. Report hazards. Keep the Bridge informed.





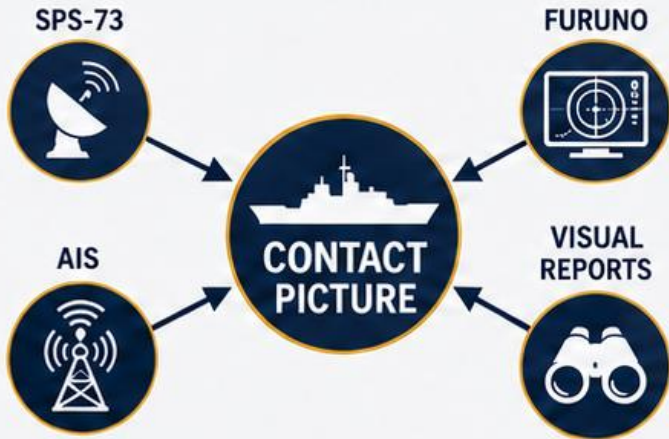
BUILDING THE CONTACT PICTURE

SENSOR FUSION, TRENDS, AND MOVEMENT ASSESSMENT

SURFACE PICTURE DEVELOPMENT • EARLY DETECTION • INFORMED RECOMMENDATIONS

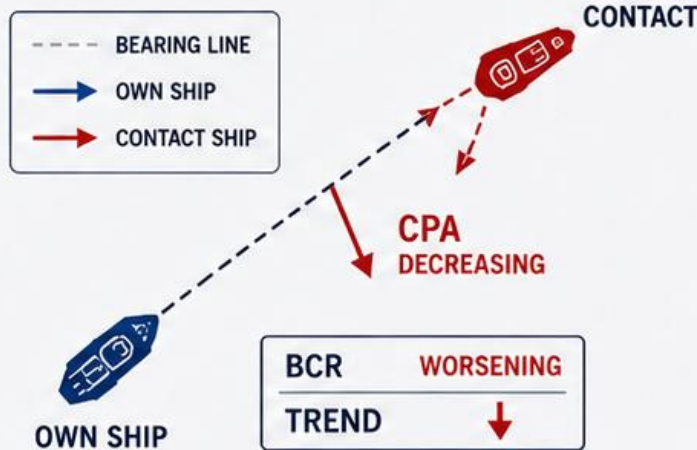
1 RADAR + AIS + VISUAL INTEGRATION

- Combine SPS-73, FURUNO, AIS, and visual reports to build the surface picture.
- Use radar trails, AIS vectors, and visual confirmation to validate contact movement.
- Do not rely on one source when other tools are available.



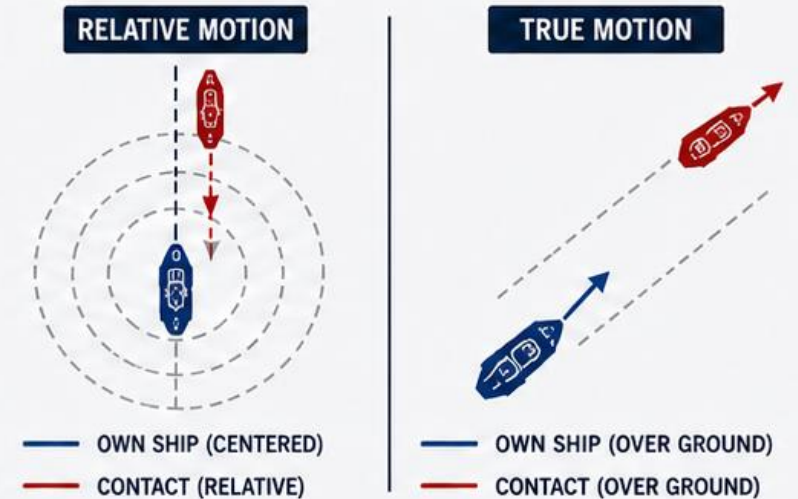
2 CPA / BCR TREND ANALYSIS

- Monitor decreasing CPA, worsening BCR, and changing contact aspect.
- Report changes immediately when a contact becomes a greater concern.
- Use CPA/BCR trends to support maneuvering recommendations.



3 RELATIVE MOTION VS TRUE MOTION

- Use relative motion to assess collision risk.
- Use true motion to understand overall traffic flow and anchorage approach.
- Confirm whether contact movement matches the expected RoR situation.



FUSE ALL SOURCES

Integrate radar, AIS, and visual reports.



WATCH THE TRENDS

Trends tell the story—act on what's changing.



REPORT EARLY

Early reports give the bridge time to act.



COMPARE RM / TM

Use both perspectives to understand the risk.



BUILD THE PICTURE

A complete picture leads to safe decisions.



Goal: Give the OOD and CONN a complete, timely, and accurate surface picture.



MAINTAINING THE CONTACT PICTURE

KEEP IT CURRENT • SCAN • PRIORITIZE • REPORT



1. CONTINUOUS UPDATES

- Maintain contact updates until the Bridge has visual and radar confirmation.
- Update contacts when course, speed, CPA, BCR (when applicable), or aspect changes.
- Keep OOD, CONN, Bridge, and CONP aligned.



2. SCANNING SECTORS

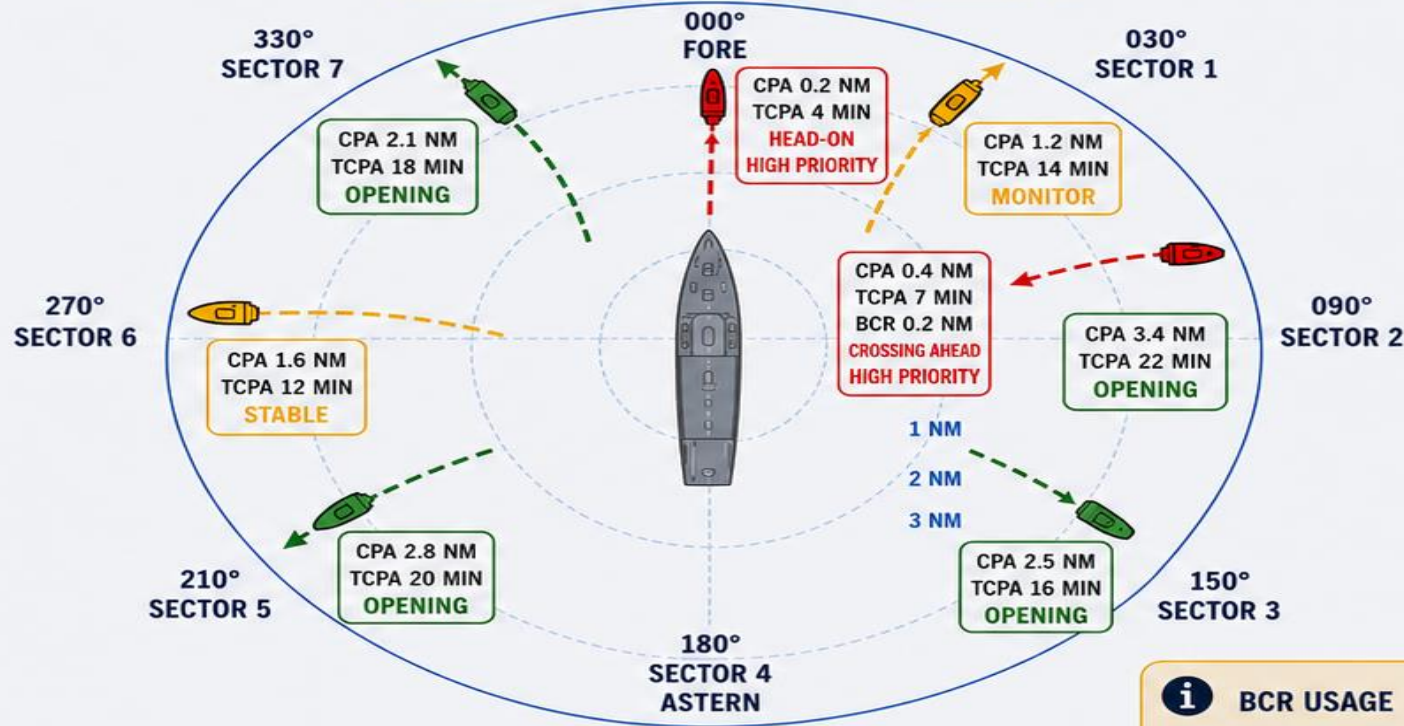
- Divide the horizon into organized sectors.
- Scan systematically to avoid blind spots.
- Cross-check radar, AIS, lookouts, and visual bearings.



3. PRIORITIZING THREATS

- Focus first on contacts with decreasing CPA, worsening BCR, high speed, or limited maneuverability.
- Give extra attention to contacts near the bow, in restricted waters, or near the planned track.
- Report RoR situations early enough to support timely action.

ORGANIZED SECTOR SCAN EXAMPLE



THREAT PRIORITY GUIDE

HIGH PRIORITY

- Decreasing CPA
- Worsening BCR (if crossing/track)
- High speed
- Limited maneuverability

MEDIUM PRIORITY

- Moderate CPA
- Crosses or approaches track
- Monitor trend

LOW PRIORITY

- CPA increasing
- Opening or passing astern
- No effect on planned track

i BCR USAGE

BCR is most useful for contacts that are crossing own ship's bow or planned track. Use it to determine whether the contact will cross ahead or astern.

Do not use BCR for contacts that are clearly opening or passing astern.



KEY TAKEAWAY: Keep the picture current, scan methodically, prioritize threats, and report early.

Timely information enables safe decisions.



SPECIAL CONTACT SITUATIONS

LIGHTS, RULES, AND OPERATIONAL AWARENESS

RECOGNIZE • PRIORITIZE • REPORT • MANEUVER SAFELY

1 CBD VESSELS



- Three all-round red lights.
- Severely restricted by draft and may be unable to deviate from channel or track.

 Give early consideration in channels and restricted waters.

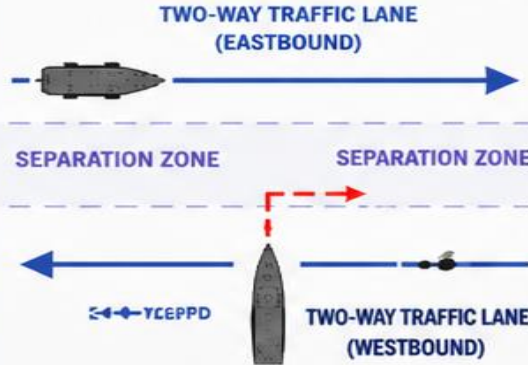
2 RAM VESSELS



- Red-white-red lights.
- Restricted by operations such as dredging, buoys tending, flight operations, or UNREP.

 Expect limited maneuverability and account for working areas.

3 TSS TRAFFIC



- Maintain lane discipline and avoid unnecessary lane crossing.
- Cross traffic lanes as close to right angles as practicable.

 Monitor overtaking, crossing, and lane-entry situations early.

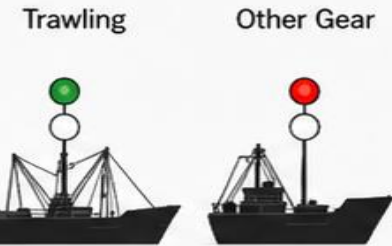
4 PILOT VESSELS



- White over red lights.
- Watch for pilot boat movements near ships, harbor entrances, and transfer areas.

 Pilot craft may maneuver unpredictably during transfers.

5 FISHING FLEETS



- Trawling: green over white.
- Other fishing gear: red over white.
- Fishing gear and unpredictable movement may affect CPA/BCR and maneuvering options.

 Gear may extend beyond the vessel and restrict available maneuvers.

OPERATIONAL PRIORITIES – SHIPPING OFFICER FOCUS



Identify the contact type early.



Apply the correct Rules of the Road.



Adjust recommendations for restricted maneuverability or channel limits.



Report changes in CPA/BCR, aspect, or intentions immediately.



SHIPPING OFFICER FOCUS

- Confirm contact identity and intention.
- Reassess BCR, CPA, and aspect continuously.
- Communicate early with the Bridge.
- Document actions and track decisions.



KEY TAKEAWAY: Know the lights. Understand the restriction. Anticipate the maneuvering limits. Keep the Bridge informed.



SCENARIO 1: OUTBOUND

HIGH-DENSITY TRAFFIC • TUGS • PILOT BOATS • NARROW CHANNEL RULES

ASSESS • PRIORITIZE • REPORT • RECOMMEND

1 SCENARIO SETUP



- Own ship is outbound in a narrow dredged channel.
- There is an inbound commercial vessel in the channel and a crossing vessel on own ship's starboard side.
- Channel limits, buoys, and shallow water restrict maneuvering room.
- Excessive port turn to avoid the crossing vessel may increase risk with the inbound vessel; excessive starboard turn may create risk near G11 / shallow water.
- Mission timing matters: maintain planned track and speed unless safety requires action.

2 SHIPPING OFFICER FOCUS



- Determine which contact is the highest priority first and which are secondary / follow-on risks.
- Consider Rule 9 narrow channel requirements and Rule 15 crossing considerations.
- Determine which vessel is stand-on, give-way, or must not impede, as applicable.
- Evaluate course and speed changes that open CPA without creating immediate risk from the inbound vessel, the crossing vessel, G11, or shallow water.
- Consider tug status, pilot boat movement, and traffic near the planned track.

3 EXPECTED REPORTS / ACTIONS



- Initial report: bearing, range, course, speed, CPA/TCPA, BCR when applicable, and contact type.
- Report whether the recommended course is clear or foul for shipping and recommend a safe course/speed change.
- Notify the OOD immediately if collision risk increases or maneuvering room becomes unsafe.

MISSION CONSTRAINT:
Maintain planned outbound track and timing unless safety requires deviation.

SHOAL AREA
(7-10 FT)

MONITOR 2
SMALL CRAFT / FISHING
CPA 0.40 NM
TCPA 9 MIN
BCR STEADY

HIGH PRIORITY 1
INBOUND COMMERCIAL
CPA 0.18 NM
TCPA 8 MIN
BCR STEADY

HAZARD: G11
Excessive starboard turn may place own ship too close to buoy line and shallow water.

HIGH PRIORITY 2
CROSSING AHEAD
CPA 0.22 NM
TCPA 6 MIN
BCR STEADY

MONITOR 1
PILOT BOAT
CPA 0.35 NM
TCPA 7 MIN
BCR ALTERING

TUG (FWD)
MAKE-UP
IN PROGRESS

TUG (AFT)
CAST-OFF
IN PROGRESS

LEGEND

- PLANNED TRACK
- HIGH-PRIORITY CONTACT
- MONITOR CONTACT
- TUG
- PILOT BOAT
- SMALL CRAFT / FISHING
- RED BUOY (PORT SIDE)
- GREEN BUOY (STBD SIDE)
- SHALLOW WATER / SHOAL

DISCUSSION PROMPT

Which contact is the highest priority first, and what course / speed recommendation avoids collision without creating new risk from the inbound vessel, the crossing vessel, or the G11 / shallow-water hazard? (Consider the Rule 9 / Rule 15 tension.)



KEY TAKEAWAY: Build the picture early, rank the risks, balance traffic against channel limits, and give clear course clear/foul recommendations.



SCENARIO 2: INBOUND

SHIPYARD TRAFFIC • RESTRICTED VISIBILITY POTENTIAL • MOORING OR ANCHORING APPROACH • CLOSE-QUARTERS AWARENESS



CONTACT LEGEND

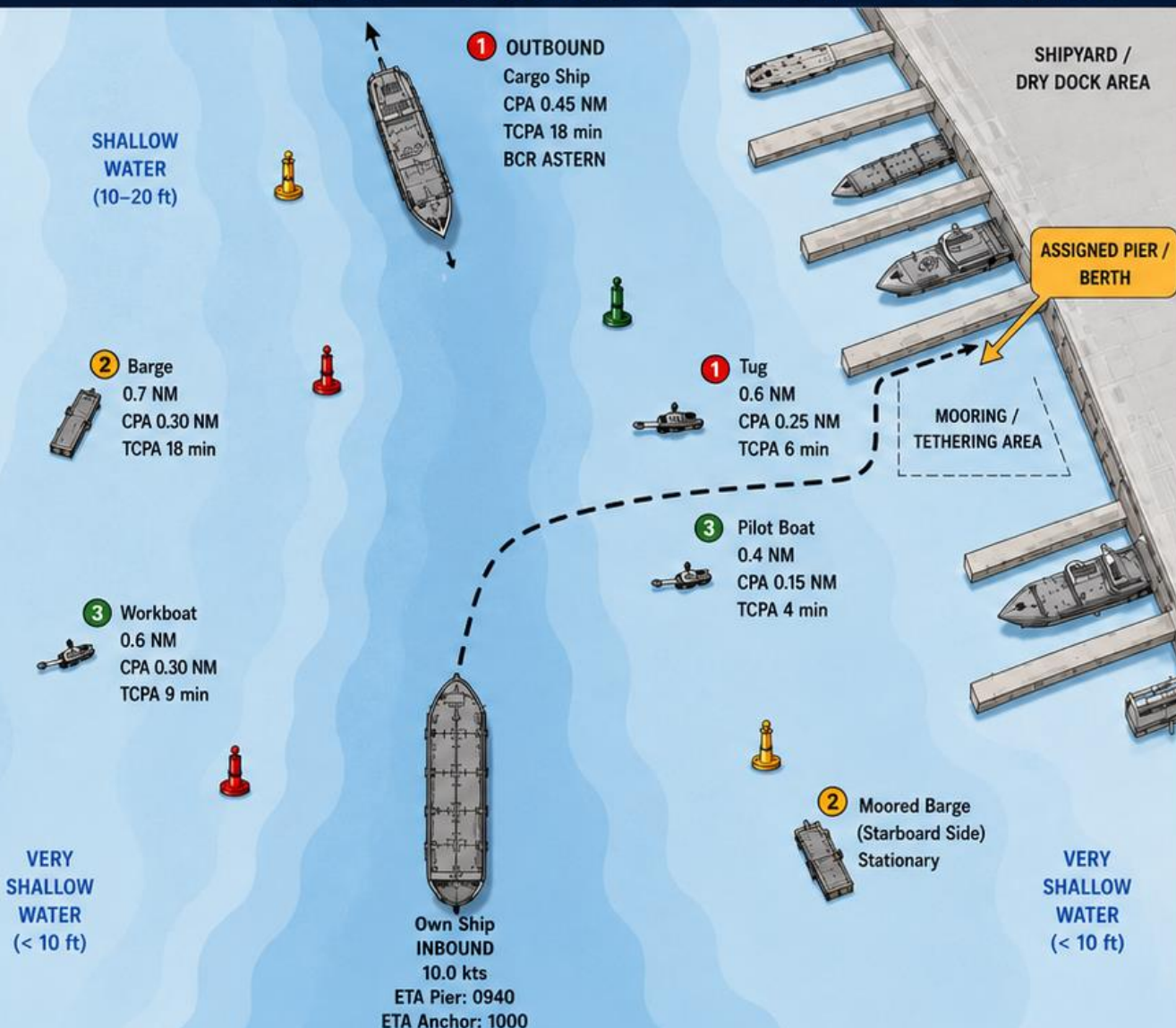
- 1 High Priority
- 2 Medium Priority
- 3 Lower Priority
- Commercial Vessel
- Tug / Workboat
- Barge / Platform
- Pilot Boat / Small Craft
- Planned Track

VISIBILITY (POTENTIAL)

- 1.5–2.0 NM
- Light Haze / Mist
- Isolated Fog Pockets

DEPTHS IN FEET (MLLW)

- Deeper Water (> 40 ft)
- Moderate Depth (20–40 ft)
- Shallow Water (10–20 ft)
- Very Shallow (< 10 ft)



★ SCENARIO SETUP

- You are inbound approaching the shipyard and planned anchorage.
- Shallow water exists well outside the dredged channel.
- Traffic includes yard craft, tugs, work barges, workboats, a moored barge, and a commercial ship outbound.
- Restricted visibility is possible due to haze with isolated fog pockets.
- Pilot on board at 0900. Anchor by 1000.
- Channel is narrow with shipyard and moored vessels on the starboard side. Maintain close-quarters awareness and safe separation.

SHIPPING OFFICER FOCUS

- Identify and prioritize yard craft, tugs, barges, the outbound cargo ship, and workboats.
- Monitor restricted visibility, radar reliance, Rule 19 compliance, and sound signals as required.
- Maintain situational awareness for anchoring approaches: planned anchor area, swing circle, moored traffic, and berth approach.
- Account for shallow water and channel limits outside the dredged channel. Keep to the channel and avoid over-steering.

EXPECTED REPORTS / ACTIONS

- Provide early and frequent reports on high and medium priority contacts, including CPA/TCPA trends and BCR when applicable.
- Recommend safe speed and course to remain in the channel, maintain safe passing distances, and support anchoring or berthing approach.
- Advise when visibility, traffic, or maneuvering constraints require earlier pilot use, tug assist, or speed reduction.
- Maintain constant updates on anchoring / berthing status, including anchor update and channel / shallow-water concerns.

DISCUSSION PROMPT

What are your top 3 risks right now, and how would you mitigate them?



KEY TAKEAWAY: Build the picture early, rank the risks, balance traffic against channel limits, and give clear course/speed recommendations.



SCENARIO 3: TSS TRANSIT

LANE DISCIPLINE • SEPARATION ZONE AWARENESS • SAFE LANE ENTRY • CROSSING TRAFFIC • OVERTAKING CONTACTS

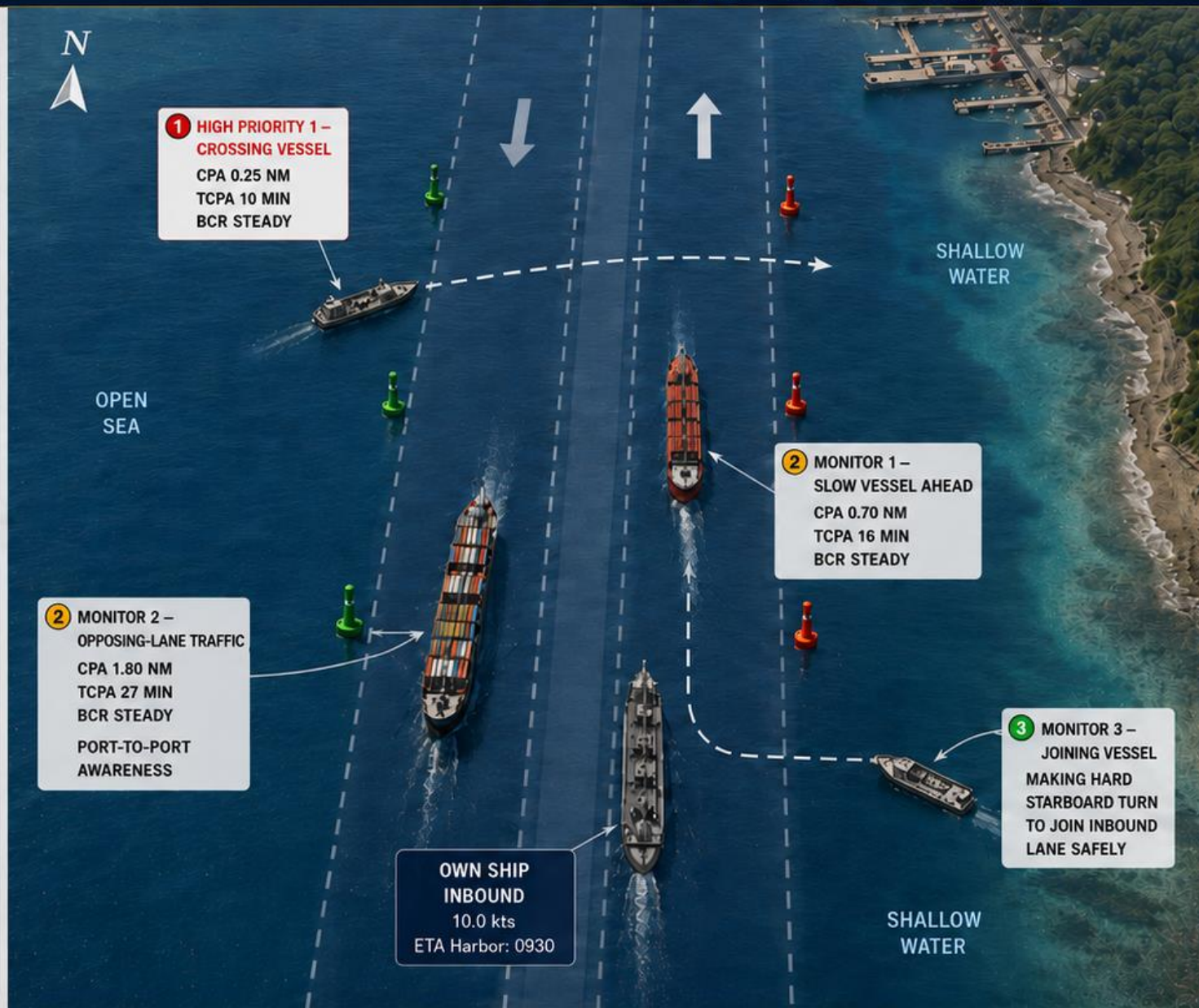
ASSESS • PRIORITIZE • REPORT • RECOMMEND

CONTACT LEGEND

- 1 High Priority
- 2 Monitor
- 3 Lower Priority
- Own Ship
- Crossing Vessel
- Slow Vessel Ahead
- Opposing-Lane Vessel
- Joining Vessel
- Red Buoy (Starboard Side)
- Green Buoy (Port Side)

TSS KEY

- Inbound / Northbound Lane
- Outbound / Southbound Lane
- Separation Zone (Avoid Except as Required)
- Planned Track



★ SCENARIO SETUP

- Own ship is transiting inbound through a coastal TSS toward the harbor approach.
- A slower vessel is ahead in the same lane, creating a potential overtaking situation.
- Opposing-lane traffic is present and requires normal port-to-port awareness.
- Another vessel is joining the inbound lane with a hard starboard turn.
- A crossing vessel is transiting across the scheme and must be monitored for collision risk.
- Remain in the traffic lane, avoid the separation zone, and account for nearby shallow water.

⚓ SHIPPING OFFICER FOCUS

- Maintain lane discipline and keep own ship clear of the separation zone.
- Prioritize the crossing vessel, slow vessel ahead, and any joining traffic affecting safe transit.
- Assess whether overtaking should be delayed based on traffic density and maneuvering room.
- Maintain port-to-port awareness with opposing-lane traffic.
- Consider buoy lines, shallow water, and safe lane boundaries in all recommendations.

📋 EXPECTED REPORTS / ACTIONS

- Report contact bearing, range, course, speed, CPA / TCPA, and BCR when applicable.
- Recommend whether to maintain lane, adjust speed, or delay overtaking.
- Report whether the crossing vessel or joining vessel affects safe lane transit.
- Keep own ship clear of the separation zone and within lane boundaries.
- Notify the OOD immediately if maneuvering room becomes unsafe or traffic density increases risk.

💬 DISCUSSION PROMPT

Which contact is the highest priority right now, and would you maintain speed, slow down, or delay overtaking to remain safely within the lane while accounting for the crossing vessel, joining traffic, opposing-lane traffic, and shallow water?



KEY TAKEAWAY: Stay in the lane, respect the buoy lines, monitor crossing and joining traffic, delay overtaking if needed, and keep recommendations aligned with safe TSS transit.



SCENARIO 4: RESTRICTED VISIBILITY



RADAR-ONLY CONTACTS • RULE 6 SAFE SPEED • RULE 19 RESTRICTED VISIBILITY • SOUND SIGNALS • INCREASED REPORTING FREQUENCY

ASSESS • PRIORITIZE • REPORT • RECOMMEND

CONTACT LEGEND

- 1 High Priority
- 2 Monitor
- 3 Lower Priority
- Own Ship
- Radar-only Contact
- 0 Visually Acquired Contact

VISIBILITY



500 yds – 1.0 NM
Dense Fog / Mist

TRACK KEY

- Planned Track
- Radar Contact Track
- Own Ship Course

RADAR (X-BAND) 6 NM RANGE



1 RADAR CONTACT AHEAD
BRG 015°
RNG 1.3 NM
CRS 200°
SPD 10.5 KTS
CPA 1.2 NM
TCPA 13 MIN
RADAR-ONLY

OWN SHIP
CRS 000°
SPD 9.0 KTS
ETA Next WP: 0740

★ SCENARIO SETUP

- Own ship is transiting in restricted visibility with dense fog ahead.
- Radar indicates a contact ahead; visual acquisition is limited and intermittent.
- Safe navigation requires heavy reliance on radar, AIS, sound signals, and disciplined reporting.
- Mission timing matters, but collision avoidance and safe speed take priority.
- Any uncertainty in contact behavior must be reported immediately.

🚢 SHIPPING OFFICER FOCUS

- Track radar-only contacts and correlate with AIS or visual sightings when possible.
- Apply Rule 6 safe speed and Rule 19 restricted visibility requirements.
- Monitor CPA / TCPA trends and determine whether risk of collision exists.
- Ensure required sound signals are being considered and reported.
- Increase reporting frequency and keep OOD, CONN, Bridge, and CONP aligned.

📋 EXPECTED REPORTS / ACTIONS

- Report contact bearing, range, course, speed, CPA / TCPA, and whether the contact is radar-only or visually acquired.
- Recommend safe speed adjustments and, if required, Rule 19-compliant maneuvering.
- Report any CPA / TCPA deterioration, loss of contact confidence, or uncertainty immediately.
- Recommend early notification to the OOD / CO if collision risk or situational uncertainty increases.

DISCUSSION PROMPT

You have a radar contact ahead in dense fog and only a faint intermittent visual. What is your immediate report, what speed recommendation would you consider, and what would make you escalate the situation?



KEY TAKEAWAY: In restricted visibility, build the picture with radar first, slow to a safe speed, report early, and treat uncertainty as a hazard.



SCENARIO 5: EMERGENCY DEPARTURE FROM ANCHORAGE

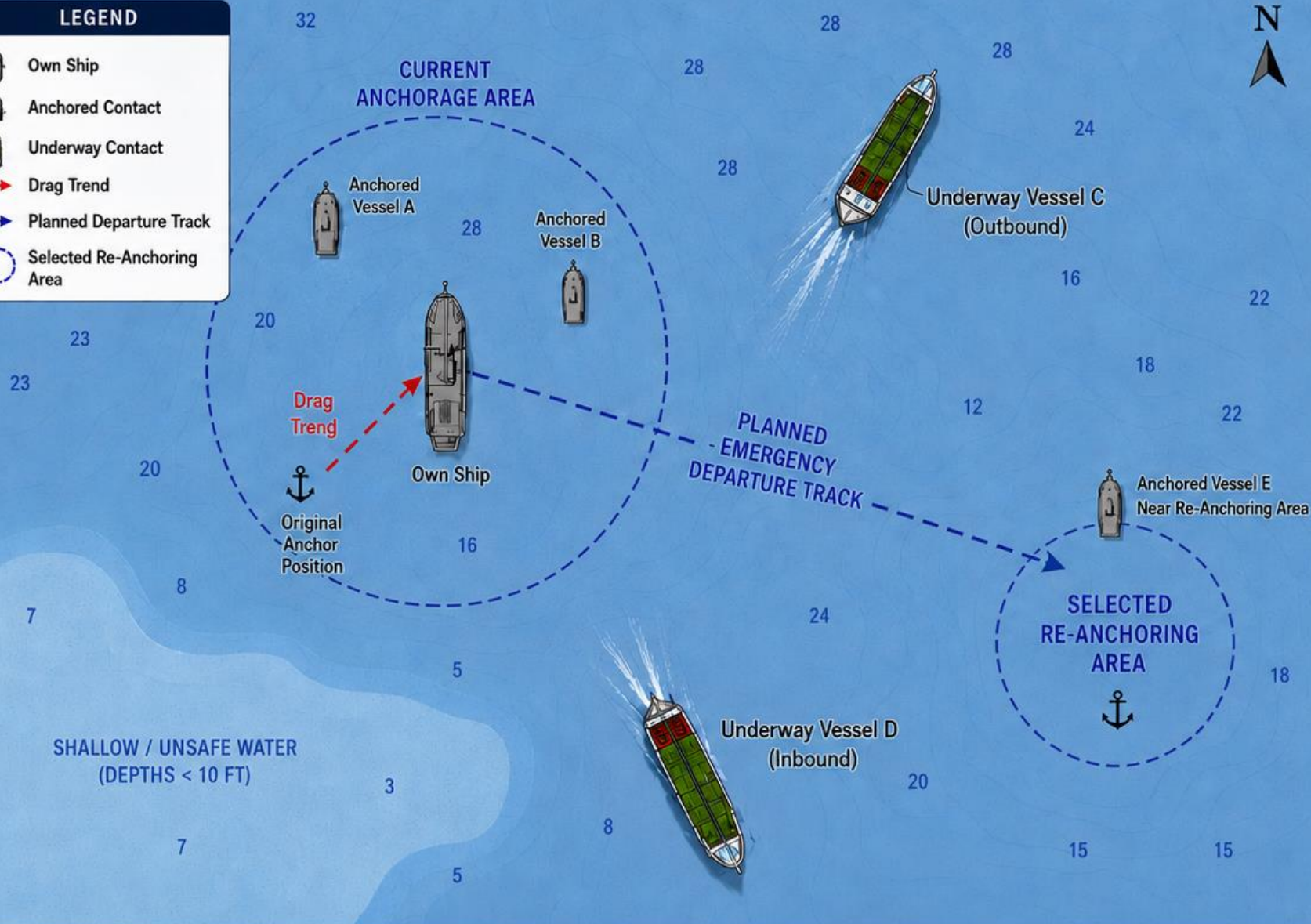
ANCHOR DRAGGING • CLOSE-QUARTERS AWARENESS • TRAFFIC ASSESSMENT • SAFE DEPARTURE

ASSESS • PRIORITIZE • REPORT • RECOMMEND



LEGEND

- Own Ship
- Anchored Contact
- Underway Contact
- Drag Trend
- Planned Departure Track
- Selected Re-Anchoring Area



★ SCENARIO SETUP

- Own ship is anchored in a busy anchorage.
- Bearings, radar, or visual references indicate the ship is dragging anchor.
- Immediate departure is required to avoid fouling another vessel or drifting toward unsafe water.
- The ship must clear the anchorage, then proceed toward a selected re-anchoring area.

🚢 SHIPPING OFFICER FOCUS

- Confirm drag trend using bearings, radar, AIS, and visual references.
- Identify vessels near the current anchorage, along the departure path, and near the selected re-anchoring area.
- Prioritize immediate close-quarters and collision risks.
- Report whether the departure track and re-anchoring area are clear or foul for shipping.

📋 EXPECTED REPORTS / ACTIONS

- 1 Report own ship appears to be dragging anchor.
- 2 Report nearest vessels and hazards around the current anchorage.
- 3 Report traffic affecting the departure path.
- 4 Report contacts near the selected re-anchoring area.
- 5 Continue clear/foul for shipping updates as the ship maneuvers.

DISCUSSION PROMPT

What are your first reports, which contacts are the highest priority, and is the intended departure track or re-anchoring area clear or foul for shipping?



KEY TAKEAWAY: Recognize and confirm anchor drag quickly, clear the anchorage safely, avoid hazards and traffic, and provide continuous clear/foul updates.



REFERENCES

JFKINST GUIDANCE • NAVDORM • PQS • NAVIGATION RULES

VERIFY • APPLY • STANDARDIZE • TRAIN



- 1. COMNAVSURFPAC/COMNAVAIRPAC/
COMNAVAIRLANT/COMNAVSURFLANTINST 3530.4G**
Surface Ship Navigation Department Organization
and Regulations Manual, 28 Oct 2021.



- 2. NAVEDTRA 43492-2N**
Ship's Control and Navigation Personnel
Qualification Standard, Dec 2025.



- 3. JFKINST 3530.1**
PCU John F. Kennedy (CVN 79) Navigation Bill,
6 Nov 2025.



- 4. JFKINST 3120.1**
PCU John F. Kennedy (CVN 79) Commanding
Officer's Standing Orders, 24 Jul 2025.



- 5. JFKINST 1153.1**
PCU John F. Kennedy (CVN 79) Sea and
Anchor Bill, 17 Nov 2025.



- 6. U.S. Coast Guard**
Navigation Rules: International—Inland,
COMDTINST M16672.2D.



KEY REMINDER: Use current references, command guidance, and Navigation Rules
when training, reporting, and making recommendations.