Pilot card

M/V CMA CGM CENTAURUS

Call sign: **2CXY9**

IMO No.: **9410777**

MMSI: **235076681**

Displacement: 168460 mt

Deadweight : 127055 mt

Year built: **2010**

Gross Tonnage: **131332** UMS

Net Tonnage: **59901** UMS

Summer draft: **15.5** m

Containers capacity **11388** TEU

Length 0A: **363.61** m

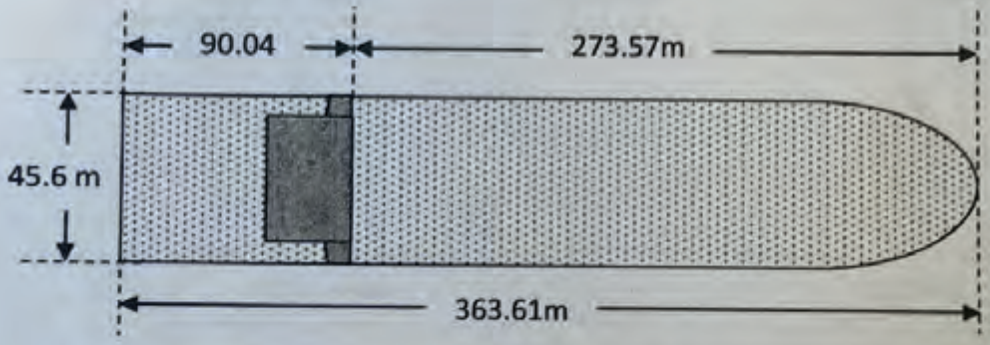
Breadth: **45.6** m

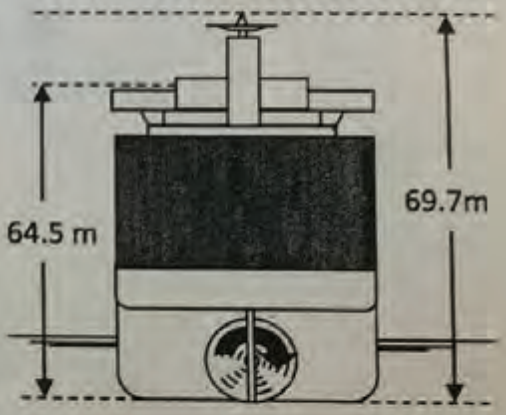
Draught aft: 15.52

fwd: 15.52

Air draft: 54.34

Side wind area: m²





Main engine: Diesel Engine 2 stroke low speed diesel
Propeller: One fixed propeller
Maximum power: **72240** Kw / **96875** HP

Right-hand type

	rpm	speed
Full ahead	**65**	**16.0/17.6**
Half ahead	**50**	**12.2/13.5**
Slow ahead	**35**	**8.5/9.4**
Dead Slow ahead	**22**	**5.2/6.0**
Dead slow astern	**22**	
Slow astern	**35**	
Half astern	**50**	
Full astern	**65**	

Thruster: one bow thruster
Power: **3000** Kw / **4025** HP

Rudder: semi balanced hanging type
Maximum angle: **35** °
Time hard-over to hard-over: **24** sec.

Anchors: weight **17.25** mt
Cables PS: **14** shackles; STD: **14** shackles
1 shackle = 27.5 m

Maximum number of consecutive starts: **15**
Life jacket located at : BRIDEGE STBD SIDE(All other on "A"deck-middle)

Wheelhouse poster

WHEELHOUSE POSTER

according to IMO Res.A.601(15) + USA CFR 33 § 164.35 - 7

Ship's name	CMA CGM CENTAURUS
Call sign	2CXY9
Prepared by	HYUNDAI HEAVY INDUSTRIES CO., LTD.
Date	MARCH 30, 2010

SHIP'S PARTICULARS

Gross tonnage	131332
Net tonnage	59901
Displacement, maximum	171371 t
Deadweight, maximum	131244 t
Block coefficient At summer full load draught	0.6778

Performance may differ from this record due to environmental, hull and loading conditions.

WARNING

The response of the "CMA CGM CENTAURUS" may be different from those listed below if any of the following condaions, upon which the maneuvering information is based, are varied:

(1) Calm weather-wind 10 knots or less, calm sea;
(2) No current;
(3) Water depth keep the vessel's draft or greater;
(4) Clean hull; and
(5) Intermediate drafts or unusual trim.

DRAUGHTS AT WHICH THE MANOEUVRING DATA WERE OBTAINED

	Loaded	Ballast
	ESTIMATED	TRIAL
Forward	15.50 m	4.50 m
Aft	15.50 m	9.00 m

STEERING PARTICULARS

Type of rudder(s)	BECKER - RUDDER
Maximum rudder angle	35 °
Time : from S.15 to P.15 with one power unit	38.75 sec
Time : from P.35 to S.30 with one power unit	23.25 sec
Minimum speed to maintain course, propeller stopped	- kts
Rudder angle for neutral effect	0 ° port

ANCHOR CHAIN

	Number of shackles	Max. rate of heaving (SECshackle)
Port	14	150
Starboard	14	150
Stern	-	-

1 shackle = 27.5m = 15 fathoms

PROPULSION PARTICULARS

Type of engine	HYUNDAI-B&W 12K98ME-C (Mark 7) (NCR : 65,016 KW)
Type of propeller	6-BLADE AEROFOIL SEC. PROPELLER (DIA = 8.980 mm)

	Engine order	RPM setting	Speed (kts) Loaded	Speed (kts) Ballast		Engine order	RPM setting
ahead	Navigation Full	104	25.1	27.15	astern		
	Full	99	16.0	17.6		Full	65
	Half	50	12.2	13.5		Half	50
	Slow	35	8.5	9.4		Slow	35
	Dead slow	22	5.2	6.0		Dead slow	22

Critical revolutions		- rpm
Minimum revolution	21 rpm =	5.0 kts
Time limit astern		5 min 48 sec
Time limit at minimum revolutions		5 min 47 sec
Emergency full ahead to full astern		6 min 11 sec
Stop to full astern		23 sec
Astern power		23 % ahead
Minimum number of consecutive starts		15

DRAUGHT INCREASE (LOADED)

Estimated squat effect

Under keel clearance	Ship's speed	Max. squat
3.10 m	4 kts	0.073 m
	6 kts	0.179 m
	8 kts	0.349 m
7.75 m	4 kts	0.058 m
	6 kts	0.140 m
	8 kts	0.269 m

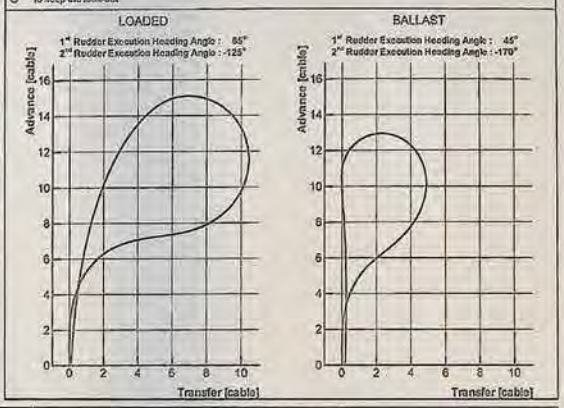
Heel effect

Heel angle	Draught increase
2°	0.60 m
4°	1.59 m
6°	3.20 m
12°	4.85 m
15°	8.54 m

MAN OVERBOARD RESCUE MANOEUVRE

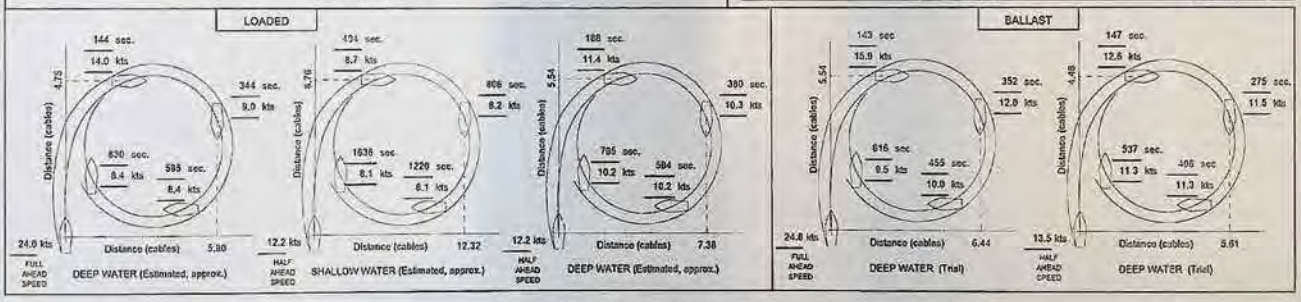
Sequence of actions to be taken

- ⊙ to cast a lifebuoy
- ⊙ to keep the look-out
- ⊙ to give the helm order
- ⊙ to sound the alarm



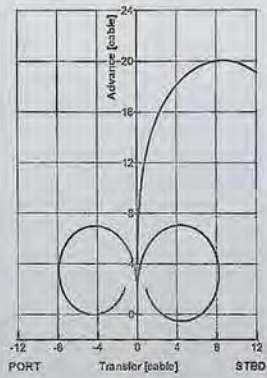
TURNING CIRCLES AT MAXIMUM RUDDER ANGLE

1 cable = 0.1 nautical mile



EMERGENCY MANOEUVRES

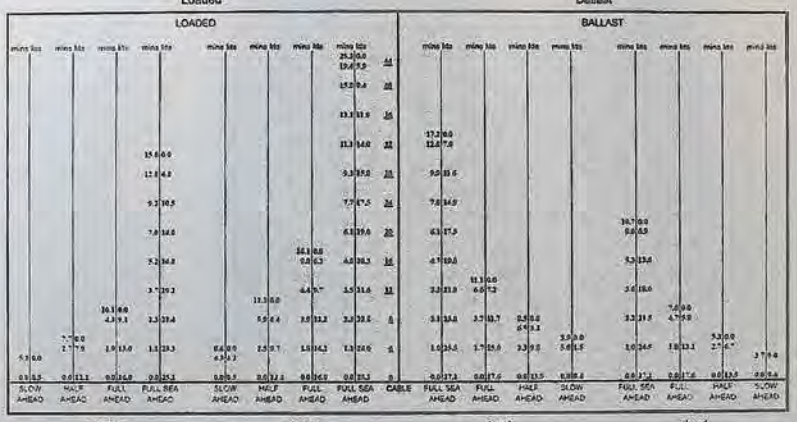
Loaded



from full sea ahead comparison of turning (max. rudder) and full astern stopping ability (rudder amidships)

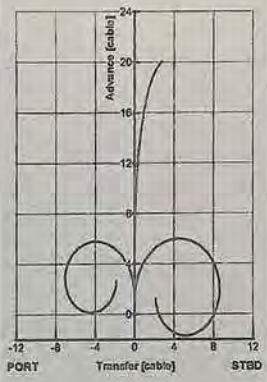
STOPPING CHARATERISTICS

Track-reach (cable)

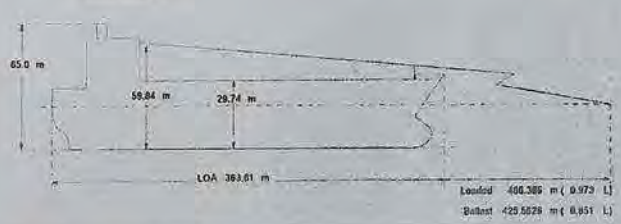


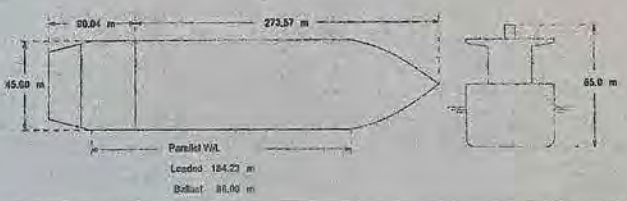
EMERGENCY MANOEUVRES

Ballast

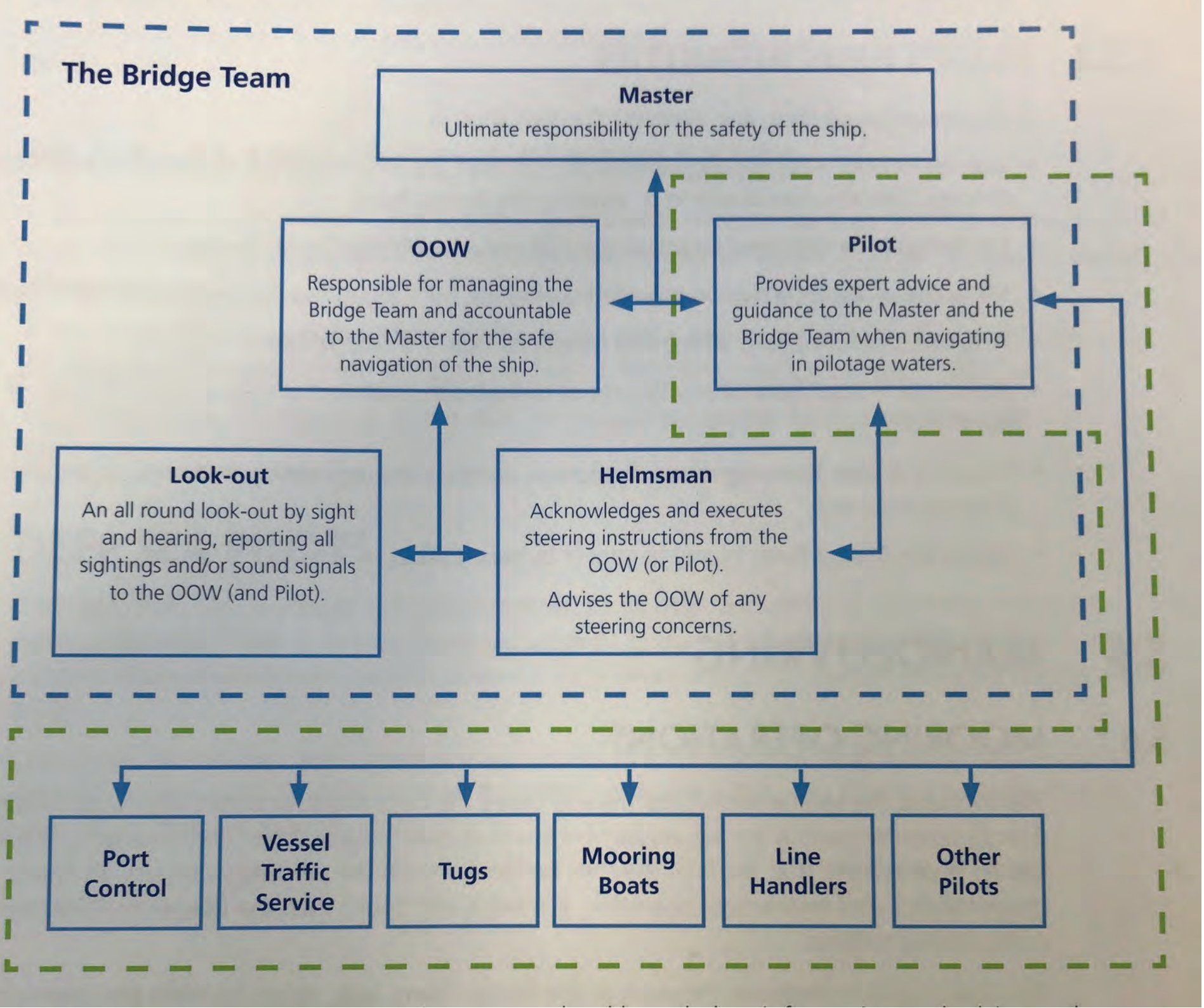


from full sea ahead comparison of turning (max. rudder) and full astern stopping ability (rudder amidships)





Extract from ICS Bridge Procedures Guide


The Bridge Team
Master
Ultimate responsibility for the safety of the ship.
OOW
Responsible for managing the Bridge Team and accountable to the Master for the safe navigation of the ship.
Pilot
Provides expert advice and guidance to the Master and the Bridge Team when navigating in pilotage waters.
Look-out
An all round look-out by sight and hearing, reporting all sightings and/or sound signals to the OOW (and Pilot).
Helmsman
Acknowledges and executes steering instructions from the OOW (or Pilot).
Advises the OOW of any steering concerns.
Port Control
Vessel Traffic Service
Tugs
Mooring Boats
Line Handlers
Other Pilots

MAIIF/IMPA poster

Commit to Safe Navigation

SAFE NAVIGATION IN PILOTAGE WATERS IS A SHARED TASK OF THE BRIDGE TEAM AND THE PILOT

- **SHARE** NAVIGATION INFORMATION
- **RESPECT** EACH OTHER
- **COMMUNICATE** THROUGHOUT THE VOYAGE
- **WORK** TOGETHER
- **STAY** ALERT

Bridge Manual - Pilot management

Pilot management

I. Purpose of the document

The following pilotage procedure is designed to organize the integration of the Pilot in the bridge team, standardize the information exchange and set effective communications rules on the bridge.

II. Scope

Such a procedure will help masters to sail safely in pilotage areas by making the best of the Pilot support. It is also made to provide clear guard lines between the Pilot and the Master's responsibilities and detailed processes to keep each of them in their respective roles.

III. Definitions and abbreviations

Duties: (IMO Resolution A.960)

- Despite the duties and obligations of a pilot, the pilot's presence on board **does not relieve the master or officer in charge of the navigational watch from their duties** and obligations for the safety of the ship.

- The Master, bridge officers and Pilot share a responsibility for **good communications** and **understanding of each other's role** for the safe conduct of the vessel in pilotage waters.

- Masters and bridge officers have a duty to support the pilot and to ensure that **his/her actions are monitored at all times**.

- **SMCP**: Standard Marine Communication Phrases.

- **Coning method:** The person who has the control of the bridge and giving the orders to the bridge team.

IV. Pilot management

1. Preparations for pilotage

The Master and bridge personnel have to :

• Ensure they are adequately rested prior to an act of pilotage, in good physical and mental fitness and not under the influence of drugs or alcohol;

• Know the provisional passage plan developed during the passage briefing (Bridge Card 120) prior to the ship's arrival and based upon the preliminary information supplied by the relevant port or pilotage authority among with published data (e.g. charts, tide tables, light lists, sailing directions and radio lists)

• Prepare suitable equipment and provide sufficient personnel for embarking the pilot in a safe and expedient manner;

• Establish VHF communications with the pilot station to confirm boarding details:
ship's ETA, boarding time, side and height of the pilot ladder, any other relevant information (See Check list)

2. Pilot boarding/disembarking using pilot boat

(For Helicopter boarding/disembarking: see card No Bridge-180)

• **Vessel is ready for pilot boarding when**:
  - Pilot ladder is rigged on the proper side with appropriate personnel and equipment;
  - Designated escort personnel is at boarding station (Cannot be the OOW);
  - Communication with pilot boat has been established;
  - The vessel is at the agreed boarding position;
  - The vessel is at the requested course and speed;

- Specific Port / Pilot request have been fulfilled.

- When the vessel is ready for Pilot boarding the Master/OOW grants the pilot boat authorisation for coming alongside.

- The boarding operation must be closely monitored from the boarding station and from the bridge wing.

- The following information is reported to the bridge:
  - Pilot boat approaching;
  - Pilot boat alongside;
  - Pilot on board/disembarked;
  - Pilot boat away;
  - Pilot boat clear.

- Flag Hotel is hoisted / lowered when pilot is on board/has disembarked.

3. Pilot Briefing

On pilot arrival on the bridge the Master must lead a briefing with the Pilot addressing the following points:

- Bridge team management during the passage:
  - Duties and responsibilities of the Master;
  - Duties of the Pilot;
  - Duties of the OOW;
  - Duties of the OOWA (if applicable);
  - Coning method: OOW with Pilot recommendations under Master supervision / Master with Pilot recommendations / Pilot under Master supervision;
  - Use of English language on the bridge, use of SMCP;
  - Language with external radio stations (Tugs, VTS, Line handlers…). If not English, the Master must make clear with the pilot he will be explained all orders in advance.

- Presentation and Signature of the Pilot Card;

- Unusual ship-handling characteristics, machinery difficulties, navigational equipment problems or crew limitations that could affect the operation, handling or safe manoeuvring of the ship;

- Any impacting Company Regulation (e.g: UKC policy, Port Card Company regulation…)

The Pilot has to provide:

- Local conditions including navigational or traffic constraints;

- Tidal and current information;

- Berthing plan and mooring boat use;

- Proposed use of tugs;

- Expected weather conditions;

- Pilot passage and manoeuvring plan.

After taking this information into account and comparing the pilot's suggested plan with that initially developed on board, the pilot and master should agree an overall final plan early in the passage before the ship is committed. **The Master must not commit his ship to the passage he has not approved.**

Contingency plans should also be made which should be followed in the event of a malfunction or a shipboard emergency, identifying possible abort points and safe grounding areas. These should be discussed and agreed between Pilot and Master.

It must be recalled that communication between Pilot and Master must be continuous. If Master has a doubt regarding action taken by the pilot, he must immediately ask for explanation and confirm that he agrees. Pilot must, when he is going to start an action, in normal transit or in emergency or abnormal situation as it is the case here, explain briefly to Master what is his intention and ask for his agreement.
Master must clearly state to pilot when he takes over the control.
AIS is an additional source of navigational information. It does not replace, but supports, navigational systems such as radar ARPA.
ARPA should always be set on “Target priority” and not on “AIS priority”.
All means available should be used for collision avoidance and, as far as possible, well in advanced.

4. Crew briefing

On completion of the Pilot briefing, the Master takes the first opportunity to let all involved personnel know the final plan and major decisions made with the Pilot : Conning procedure, the changes made to the provisional passage and maneuvering plan,… This may take place on the bridge or on UHF if maneuvering stations are already manned.

The voyage plan is amended accordingly; any inconsistency is reported to the Master immediately.

5. Conduct of Passage in Pilotage Waters

• The Master/OOW/ Bridge team interacts with the pilot through the decided coning method, providing confirmation of his directions and feedback when they have been complied with. It is the OOW responsibility to ensure fluent communication between the Pilot/Master and the rest of the Bridge Team.

• In addition to the Master/Pilot controls, the OOW/OOWA monitors at all times the ship’s speed and position as well as dynamic factors affecting the ship (e.g. weather conditions, manoeuvring responses and density of traffic) and report to the Master/Pilot/OOW/ in accordance with Card BRIDGE-120; He reports her progress and if any doubt arises, as to pilot’s or Master intentions, or departure from the sailing plan – he is to inform / question immediately. **The OOW must not be only an observer. He is full member of Bridge team.**

• The Master and the Pilot being most of the time focused on the ship handling, it is the OOW and the whole bridge team responsibility to check all others aspects of the ship safety and security. (Opposite ship side when the Master in on a wing, long range traffic, communications,…)

• OOW/OOWA confirms on the chart at appropriate intervals the ship’s position and the positions of the navigational aids, alerting the Pilot and the Master to any perceived inconsistencies.

• All Pilot information is challenged with all means available on board (Maritime publications, Chart work,…)

6. Pilot debriefing

• Whenever possible Master will conduct a short debriefing with the Pilot, addressing the actions done during the pilotage passage (bad and good practices) in order to improve the pilotage services for next passage.

7. Pilot non-compliance with this procedure - Master/Pilot disagreement

Pilot certification is a national responsibility. However, IMO A960 resolution makes very clear that Master-Pilot information exchange is essential for efficient pilotage. Pilots should receive initial and continuing training on this matter including: English language, Bridge Resource Management, etc.
Therefore is case of Pilot/Master disagreement, impossibility to find an agreement or communication problem, Masters must report as follow:

1. Report to the local agent in order to liaise with the relevant head organisation pending the case: Pilot Station/ Port Authority/VTS,..
2. If not successful, report to SSE dept Emergency lines and ho.fleet-navcenter
3. Finally, issue a Near Miss for further company action.

8. Pilotage in Panama Canal

Panama Canal regulations give the Pilot specific responsibilities:

"Article 92: The pilot assigned to a vessel shall have control of the navigation and movement of such a vessel. »

This situation limits the Master in his course of actions. In case of an incident/accident, the following actions should be carried out:

- Pilot must be immediately informed and if safe to do operations paused so as to make a full appraisal of the situation.
- All evidence have to be recorded.
- A note of protest to be written in the event of damages found, or if damages are suspected but not readily apparent upon first inspection.

V. Appendices

-Card No Bridge-101 "Pilot preparation check list"
-Card No Bridge-102 "Pilot card and Bollard Pull Scheme"

VI. References

IMO Resolution A 960
International Best Practices for Maritime Pilotage
Dedicated company requirements

VII. Modifications of the document

Description of the Modification	Date	N° Version
Creation	2009-05-14	**1**
IV. Pilot management 1. Preparations for pilotage	2014-02-01	**2**
References corrected	2014-05-01	**3**
Chapters 3. And 5. reviewed	2016-07-01	**4**

VIII. Validation and Approval

Versions of the document	Validation Name and function	Date and Signature	Approval Name and Function	Date and Signature
4	[redacted] **SSE Marine Division Manager**	**2016-07-01** [redacted]	[redacted] **SSE Director,** *as per steering committee members*	**2016-07-01** [redacted]

Bridge Manual - Passage plan

Passage plan

I. Purpose of the document

Safe navigation is based on methodical passage planning resulting from the appraisal, planning execution and monitoring phases. The final plan always remains to the Masters 'responsibility who controls it (redundancy) before providing his validation.

This procedure establishes **all required information resulting from the passage appraisal and planning process, the way to deliver it to the bridge team through passage briefings.**

II. Scope

All CMA Ships vessels.

III. Definitions and abbreviations

Leg: section of the charted track (route) between two way points.

Passage: succession of legs between two ports berth to berth (or Anchorage, eg: Suez Canal). It is divided in three parts: Berth to Pilot Station, Pilot station to Pilot Station, Pilot Station to Berth.

Voyage: succession of passages as defined by the Trade Line.

ENC: electronic navigational chart (vector chart for ECDIS)

IV. Passage plan

The vessel safety during the voyage is based on procedures providing redundancy. This must also be the case for the Passage Planning which must be developed in accordance with the Master's instructions by the Navigation officer. Every Passage Plan has to be checked and validated by the Master.

Any plan alteration/deviation must follow the same process even if time available is short. The officer must highlight all sensitive aspect of the plan alteration (distance from dangers, new UKC…).

The plan is prepared first on the charts then validated by the Master and finally reported in the dedicated software. Passage Planning is prepared from **berth to berth**.

The software has been developed to display the Passage Plans to all concerned parties:

- Routing Operators, in order to be discussed in advance.
- Head office and other vessels, for standardization and sharing best practices.

IV.1. Chart work

Information listed in the *Card No Bridge-061* is to be marked and made available on the charts.
Symbols to be used on navigation paper charts are defined in Annex 2.

IV.2. dedicated software

- The Passage Plan is made with **dedicated software** and sent to the shore
- It is signed by Master, Chief Officer and all the Deck Officers.
- It must be available **prior to the beginning of passage**.
- A printout is displayed on the chart table at the disposal of the Master, the Officers on Watch and the Pilot.
- The printout is filed in the Bridge Record Binder so as to keep only the current voyage and the preceding one.

IV.3. ECDIS, ECS & GPS

- Way points and Tracks are transferred on both systems
- No go areas are to be transferred on the ECS.
- When ECDIS is use on board, the passage plan must be inserted on it.
  A preconditions check must be done on ECDIS:

- The used route must have been successfully checked and reasonable settings for the track limit (i.e.: the monitoring strip for the deviation from route alarm) must have been made for each leg.
- ENC must be available for the entire navigated area.

IV.4. Passage planning briefing: Appendix 1

Prior to departure, the Master shall organise a meeting gathering all OOW, the bosun and the chief engineer when necessary. The Navigation Officer shall make a statement of the particularities of the voyage: true courses, dangers for the navigation encountered in particular areas, safety level changes during the passage, "special" areas in which particular care will have to be taken to prevent pollution of the environment (garbage and waste disposal, sulphur rates in fuel oil…) and any other suggestions which may have consequences on the passage planning…The Master complete the information provided.

IV.5. Passage planning debriefing

A final debriefing shall be organised gathering all OOW, the bosun and the chief engineer when necessary to report the possible corrective actions to be taken for a smoother running of the next voyage: estimated positions, information sources, positioning systems used, conduct of the vessel, steering and propulsion, sea keeping qualities of the ship, cargo stowage, quality of watch keeping, meteorological observations, communications, etc...

Debriefing could also be included in next Passage Plan briefing.

V. Appendices

Appendix 1

Passage planning briefing

The passage briefing should address the following subjects:

- Weather forecast
- Routes overview including:
  - Tide/Currents
  - Special areas crossed (Military exercise, Whale protection, Piracy, Ice, tropical storm, war zones…)
  - Restricted waters
  - VTS
  - Navigation Warnings
  - All relevant information
- ECDIS parameters (Safety contours, Look-ahead sector, Alarms settings…)
- Communications (VHF, NAVTEX,..)
- Bridge/Engine room manning
- Engine special instructions
- Captain's comments and instructions

Appendix 2

Paper Chart Work Legend

Symbols to be used on navigation charts for:
Waypoint
Dead reckoning position
Terrestrial (coastal) objects visual and radar obtained position
Satellite (GPS) obtained position
Cross index range
Range and bearing

Waypoint

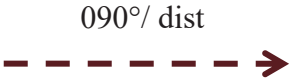
Track

Dead reckoning position with time

GPS Position and Time

Terrestrial (coastal) objects visual and radar obtained position with time

Cross Index Range (CIR), indicating distance between the course line and the shore object for Parallel Indexing.



Range and bearing from an object, used when marking alterations of the course on the chart during the planning stage

VI. References

Nil

VII. Modifications of the document

Description of the Modification	Date	N° Version
creation	2008-01-01	**1**
Added: IV. Content Software / Chart Work Legend/ passage plan checklist/ Passage Planning briefing	2014-02-01	**2**
References corrected	2014-05-01	**3**
Add of ECDIS specifications	2014-10-01	**4**

VIII. Validation and approval

Versions of the document	Redactor name and function	Date and Signature	Approval Name and Function	Date and Signature
4	[redacted], **SSE Marine Division Manager**	**2014-10-01** [redacted]	[redacted], **SSE Director,** *as per steering committee members*	**2014-10-01** [redacted]

CMA CGM Port Card - Jebel Ali

CMA CGM PORT CARDS				CMA SHIPS CMA CGM group
UN CODE	PORT NAME	VERSION	PAGE	
AEJEA	**JEBEL ALI**	FBV April 2015	1 / 6	

CMA CGM port cards are means of gathering port information and experience by individuals and shared by all. It is neither 'to-do-list' but a summary of what an experienced master would advise a colleague who does not know the next port he is scheduled to call at.
Port card are not intended to replace official publications ALRS, navigational charts, etc… Port cards are supplementary information written by ships masters. Masters are invited to maintain port cards updated and corrected whenever change or correction is noted. Corrections and suggestions may be sent to [redacted]

Based on Captain [redacted] visit – December 2014

1. MAJOR OPERATIONNAL ISSUES
2. COMPANY REGULATION: *NONE*
3. TERMINAL
4. ENVIRONMENT
5. APPROACHES / POINT OF NO RETURN
6. PILOTAGE
7. TUGS
8. LIMITS
9. BERTH/BERTHING
10. CAUTIONS
11. REMARKS

1. MAJOR OPERATIONNAL ISSUES

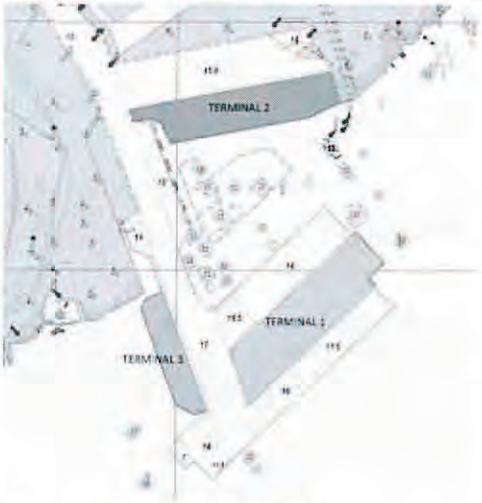
•

2. COMPANY REGULATION: *NONE*

The regulations included in this section are mandatory for CMA-CGM owned fleet. Chartered vessels are invited to act accordingly without prejudice to owners' particular guidance.

3. TERMINAL

There are three terminals in Jebel Ali port area which are belonging to DP World.



- **TERMINAL 1** : located in the middle of the port.
  Quay 3: 26 gantries, 8 berths (B10-B17), 2500m
  Quay 4: 10 gantries, 2 berths (B18-B19), 830m
  Quay 5: 13 gantries, 5 berths (B21-B25), 1545m

- **TERMINAL 2** : located in the north of the port.
  North Quay 1: 29 gantries on line 3000 m length
  There are 8 berths (B70-B77).

- **TERMINAL 3** : new semi-automated terminal, still under construction. 19 gantries installed.
  West Quay 10: 5 berths (B61-B65), 1862m

4. ENVIRONMENT

All over the year this area is known as very hot with humidity increased in winter.
Average wind direction is from W-NNW with about 50% occurrence blowing over the whole area producing rough seas and stirring up dust clouds on shore which reduces visibility at sea. 95% of the winds have a speed between 5-20 knots.
From November to February, *Shamal* wind (W to NNW, lasting 24 to 36 hours 2-3 times per month) is strong during the day (up to 30 kt) and decreasing at night.

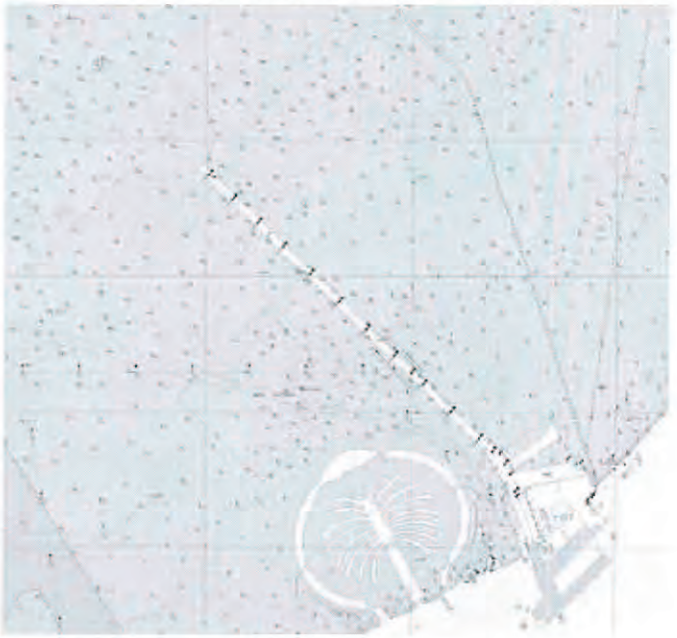
Predominantly anti-clockwise current in Persian Gulf reaches 0.5 to 1 kn Eastwards It is increased up to 2 knots by NE out-going ebb stream and reduced by SW in-going flood stream.
LW from -0,1 m to 1,1m ; HW from 0,9 m to 2,2 m. Atmospheric surges can add up to 1,4 m. Water density is 1026 and can reachl 1032 during dry summer months.

The fog may occur usually at midnight till sunrise. Visibility may drop down to 100-200 m.

5. APPROACHES / POINT OF NO RETURN

The approach channel begins around 9 nm offshore with depth of 17 m and width of 320 m. The traffic is controlled by Port Control station which operates on VHF Ch 69.

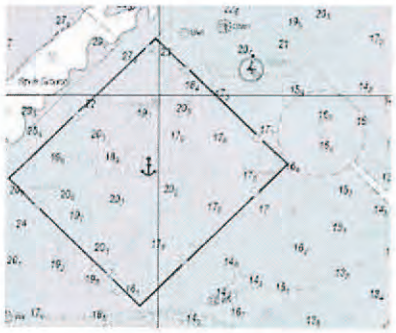
The channel is marked by 14 pairs of buoys. Green buoys are on the Abu Dhabi side and red ones are on Dubai side. This wording is used by port control station when they indicate the position for the vessel to enter the channel. Until that permission the ships must proceed nearby the channel.



Channel is straight 134°-314° extended 8.5 nm from 1st to 11th pairs of buoys.
Then the channel takes a 25° bend and becomes the entrance channel which leads into the harbor.

Point of No Return is depending on vessels draft.
Deep draft vessels should consider the distance of 1 nm from 1st pair of buoys.
Proceeding near the channel the abort point has been chosen:

- at 2nd pair of buoys if ship's draft up to 15 m,
- at 3rd pair of buoys if ship's draft up to 14 m,
- atf 4th pair of buoys if ship's draft up to 12 m,



An anchorage area is present 1 nm W of the Pilot Boarding Ground (PBG) where the depths are varying from 16.2 m to 25.0 m. Anchoring outside is not recommended, due to the presence of underwater cables S of it, close Spoil Ground presence NW of it and the Fairway, PBG and essels traffic NE and E of it.
The holding ground is poor and vessels are recommended to use more shackles than usual.

On departure the pilot usually disembark between buoys 7-8, but also can go till 1-2 pair of buoys if the next entering ship is a deep draft vessel.

6. PILOTAGE

Biggest and deepest vessels are advised to wait for the pilot at the Fairway Racon buoy which is located at 20 m depth at 3 nm distance from the channel entrance and at 2 nm distance from the PBG due to the current and NW winds in order to avoid drifting in the pilot waiting area.

The pilot can board starting between the pairs of buoys 1-3 with pilot boarding speed of 8-10 knots or between the pairs 5-6 or even between the pairs of buoys 10-11 depending on the vessel maximum drafts and captains confidence to proceed without pilot in the channel until pilot boards, usually with 10 knots speed.

7. TUGS

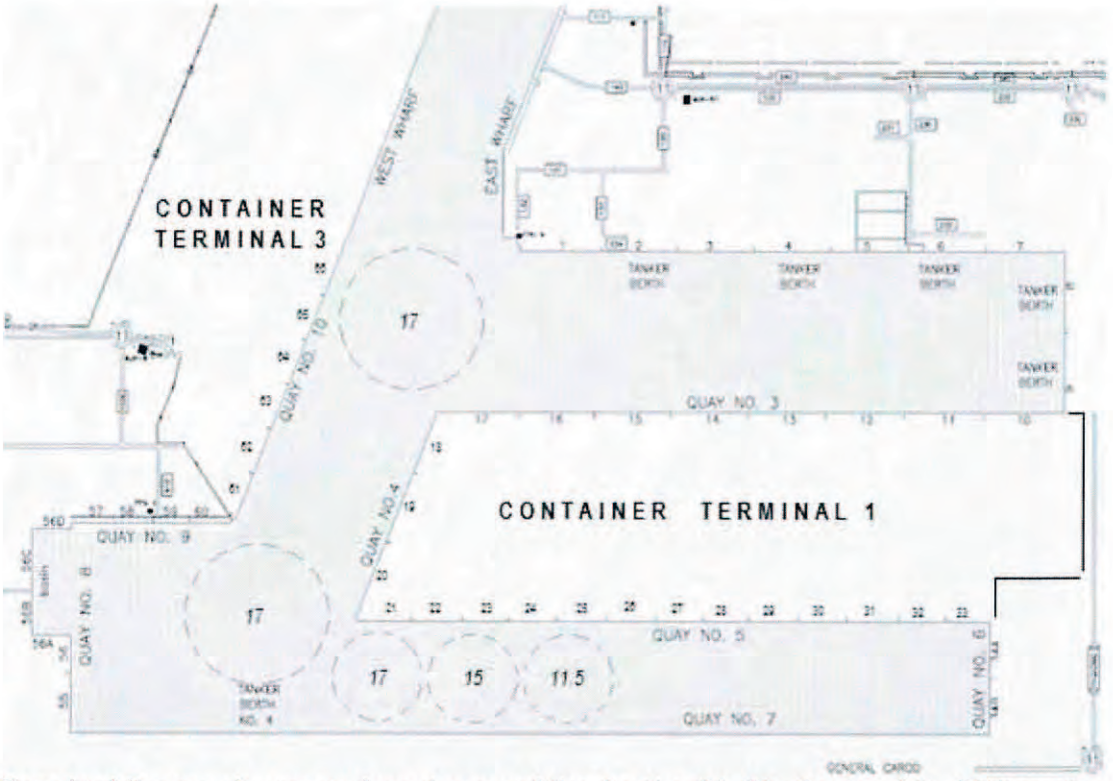
There are 9 tug boats available in port of Jebel Ali.
Three of them (Mihaiz, Shamal and Tunann) belong to the port and may also serve for fire-fighting assistance. The rest ones (Asad, Al Nuwaibi, Timrar, Namer, Blenda) are partly belonged to the private companies.
All 30-55 ton bollard pull capacity tugs are using own lines only for mooring operations.
There is no port regulation about tugs quantity, leaving it to the pilots' discretion based on the berth, the vessel berthing side, the vessel length overall, the vessel draughts, the weather conditions and tugs readiness. 4 mooring boats are also available.

8. LIMITS

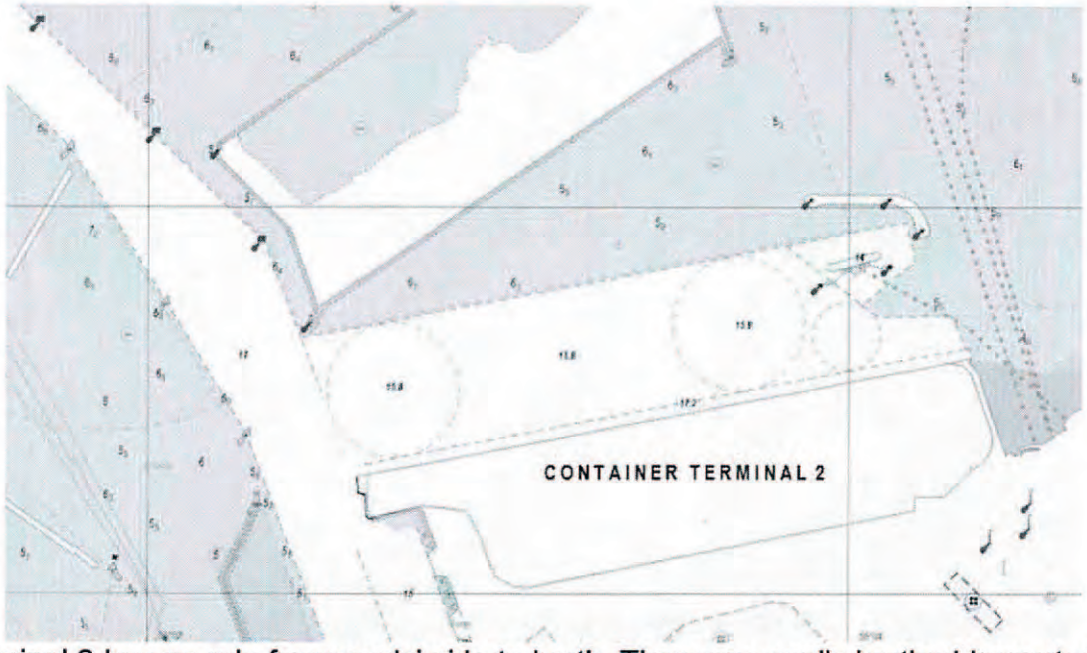
Anchorage is prohibited at Dubai side of the approach channel due to many entrenched pipelines lies E of the channel.
Speed limitation in the entrance channel and inside the harbor is 8-10 knots.
The pilotage can be suspended for 3-4 hours when the visibility is less than 5 cables.
The maximum allowed wind for pilotage and berthing is 30 knots.

9. BERTH / BERTHING

At Terminal 1 the vessels can be moored by any side to the berths 11-17 except the berth 10 at which the vessels are usually moored by starboard side due to the tanker berth 9 other side the corner.
The turning area abeam of the berths 18-20 has 630 m diameter with minimum depths of 17 m at zero tide level.
The biggest and deepest vessels are usually berthed by starboard side along to berths 18-21 of the Quay No 4.
The turning area abeam of berths 21-25 has 450 m diameter. Abeam of the berth 21 the turning area is minimum 17 m deep. Abeam of berths 22-23 the turning area is 11.5-16.0 m deep. And abeam of berths 24-25 the turning area is only 11.5 m deep.



At Terminal 3 vessels can swing abeam of the berths 61-65, dredged to 17.0 m at zero tide level with 630 m diameter abeam of the Terminal 1 Quay No 4. Minimum depth alongside s 16,0 m.



Terminal 2 has no rule for vessels' side to berth. They are usually berthed by port side. Exception is the berths 76-77 where vessel berthed starboard side due to the LNG berth due to berthing dolphins abeam. It's not safe to move astern and berth port side as there is only 210 m from these berths to the LNG deep water berth.

Vessels proceeding to Terminal 2 are swinging abeam berths 70-77 where the turning circle has 710 m diameter with minimum depths of 15.8 m at zero tide level.

Container Terminal 1

Container Terminal 2

10. CAUTIONS

Vessel with deep draft which is maximum allowed 16 m should keep a caution during the passage inside approach channel. Due to minimum 17 m depths in the channel at zero tide and actual sea swell condition which can be sometimes up to 2.0-2.5 m even on the height of tide there is a likelihood of the vessel heel & squat effect. It is required to keep all the time 1 m underway UKC as per Jebel Ali Harbor Master regulation.

The sunken vessel "Victoria Star" near the NE of the Palm Deira (25° 24.136'N, 055° 16.203'E) is still unmarked as per the Navigation Warning No.09/2014. All vessels should navigate with extreme caution and avoid this area.

11. REMARKS

The Megamax Terminal 4 construction works can possibly impact the safe navigation/approach to some berths of the Terminal 2.

Recommendations on Bridge Resource Management Courses for Maritime Pilots (BRM-P)

Recommendations on Bridge Resource Management Courses for Maritime Pilots (BRM-P)

Introduction

Bridge Resource Management (BRM) generally refers to practices employed in the management of bridge operations to maximise the effective utilisation of all resources, including personnel, equipment and information, available for the safe navigation of the ship. The essence of BRM is a safety attitude and management approach that facilitates communication, cooperation, and coordination among the individuals involved in a ship's navigation.

BRM is widely accepted as a best practice for ship navigation, and training in BRM has become a staple of the maritime industry. Pilots around the world have been strong proponents of BRM and, in a number of countries, have modified BRM concepts and training to address the particular demands and challenges of compulsory pilots who are not members of a ship's crew. Recognising the interest of pilots and pilotage authorities in BRM training, the International Maritime Pilots' Association offers the following guidelines for BRM courses for Pilots (BRM-P).

Background of BRM

BRM was derived from Cockpit Resource Management (CRM), which was developed in the aviation industry during the late 1970's and early 1980's. Research in that industry had shown that despite improvements in cockpit instrumentation and expanded use of simulator training, human error continued to be a leading cause of commercial plane accidents. Many of those accidents were attributed to a loss of situational awareness and a failure to detect developing error chains by the crew. The industry concluded that a different management approach in the cockpit, one that featured better coordination and communication among the crew, could reduce human error. That approach became known as CRM, and training in CRM concepts became an aviation industry standard.

By the late 1980s, several studies of marine accidents as well as a number of casualty investigation reports suggested that many of the CRM concepts might also have benefits for ship navigation. It was noted, for example, that many of the human errors found to have been a cause of ship accidents were due to poor "management" rather than poor shiphandling or a lack of knowledge or skill. Causal factors attributed to poor management included confusion, poor decision making, preoccupation with non-critical problems, inadequate leadership skills, bad teamwork, and stress and fatigue.

In response, mariner training providers began developing Bridge Resource Management courses. These BRM courses borrowed from the well-established CRM training programmes but recognised that there are substantial differences between navigating a ship and flying an airplane and adapted CRM concepts to fit the maritime world.

BRM and the IMO

The 1995 amendments to the International Maritime Organization's Seafarers' Training, Certification and Watchkeeping Code (STCW) recommended that ship operating companies provide their masters and officers in charge of the navigational watch with guidance on proper bridge procedures and practices "based on bridge resource management principles." (95 STCW Code, B-VIII/2, part 3-1.)

In 2003, the IMO adopted Resolution A.960, which recommended that competent pilotage authorities should provide or require pilots to be trained in "bridge resource management with an emphasis on the exchange of information that is essential to a safe transit." (Annex 1, 5.5.3). The resolution further recommends that pilotage authorities provide, or require pilots to have, "refresher or renewal courses in bridge resource management." (Annex 1, 5.5.5).

The 2010 Manila amendments to the STCW replaced the previous recommendation for ship operating companies to provide BRM guidance to the deck officers with a new requirement that officers in charge of a navigational watch have knowledge of BRM principles. In order to meet this requirement, individuals must demonstrate such knowledge by having had approved BRM training, approved in-service experience, or approved simulator training. (STCW Code, as amended, Table A-11/1). Many national administrations will only accept an approved BRM course offered by a training centre for this purpose.

The Need for BRM Courses Specifically Designed for Pilots

Most BRM courses include the interaction of the master and bridge team with the pilot, but these courses are designed for, and are primarily taken by, ship crewmembers, not pilots. These courses for ships' crews often address subjects, and may promote concepts, that are not only inapplicable to what pilots do on the bridge of a ship, but may even be contrary to good piloting practices. For example, BRM courses for ships' crews typically advocate the development of standardised routines and an adherence to a uniform, constant set of operational procedures, albeit one that encourages a greater team-oriented approach.

That may be effective for bridge crewmembers who have a similar training background and work in the same bridge operating system from day to day.

That is not the environment in which a compulsory, non-crewmember pilot works, however.

On each assignment, a compulsory pilot will typically encounter a different ship, different bridge equipment and lay-out, a different operating environment, a different set of navigation procedures, and a different crew (usually one with limited English language abilities) with varying skill levels and capabilities from what the pilot encountered on the previous assignment. In most pilotage areas, the compulsory pilot is also expected to exercise independent professional judgement, which may on occasion conflict with the intentions of the ship's operator or master.

Because of those circumstances, pilots need to assess quickly the nature and quality of the resources available for each pilotage assignment and then adjust their practices to get the most out of those available resources. This calls for flexibility and adaptability rather than rigid adherence to a standardised routine.

BRM courses for pilots should therefore address strategies and techniques for evaluating the capabilities of the ship's crew and equipment and then establishing and maintaining

the best, mutually supportive working relationship with the bridge team in light of those capabilities. These are not alien or radical ideas for pilots. In fact, pilots have been routinely doing these things for many years – long before BRM was ever recognised as a concept. In traditional hands-on training under the guidance of senior pilots, junior pilots learn about effective communication techniques, bridging cross-cultural barriers, and productive interaction with bridge watch personnel.

IMPA recommends that such BRM training courses for pilots meet the following:

Recommendations

1. The course should be designated as a Bridge Resource Management for Pilots (BRM-P) course.

A BRM-P course should be separate and distinct from a BRM course offered for ships' crews. The course should focus on the functions, tasks, experiences and needs of pilots. In particular, the course should address the special problems involved in working on different types of ships and communicating with ship personnel from many different countries and cultures and with varying degrees of English language skills, training (including BRM training), qualifications, and commitment to safety.

2. Objectives of the Course.

In general terms, the objective of the course should be to help pilots use the skills and training they already possess in ways that maximise the safety performance of all the individuals on the bridge. Specifically, the course should seek to have each participant gain the following:

a. an increase in "situational awareness" skills;

b. an improved ability to foresee and prevent potential errors and to detect developing error chains in order to intervene before an accident becomes unavoidable (error trapping);

c. a more developed concept of the appropriate roles of teamwork and leadership in the navigation of a ship;

d. a greater regard for the importance of communication, an understanding of the common barriers to effective communication, and an awareness of how BRM practices can improve communication; and

e. an enhanced ability to evaluate quickly the resources available for each pilotage assignment and to adjust practices to utilise those resources most effectively.

3. Length of the Course.

The course should be at least two days (14-16 hours) An acceptable course might be expanded beyond two days or be offered in conjunction with training in other areas of professional development or with different instruction methods, provided that the focus of the course remains on BRM concepts applicable to piloting.

4. Curriculum

The course should include instruction/training in the following subject areas:

a. situational awareness
b. error chains (error detection and error trapping)
c. human factors
d. dynamics of group performance
e. special problems in pilot-bridge team interaction/ coordination
f. communication and communication skills
g. command/leadership skills.

5. Class Size and Instruction Methods.

Because one of the primary focuses in a BRM-P course should be communication and inter-personal skills, class size should ideally be between 5 and 10 individuals. Interactive instruction methods, such as a "workshop" approach involving discussion groups, exercises, etc. are encouraged. Lecture-type instruction in which the instructor tells the pilot students how to pilot should be avoided.

Case studies from casualty reports are particularly appropriate for BRM programmes, but care should be taken to ensure that the discussion and analysis of cases retains the BRM focus. Pilot students should be encouraged to offer their own opinions as to the causes of the casualty, the quality of the pilot's performance, and measures to avoid whatever deficiencies in pilot performance may have been found.

6. Sponsors and Instructors.

An acceptable BRM-P course would be one offered by a recognised maritime academy, training centre, or other school or institute or individual engaged in the business of offering training and instruction to certificated marine officers. Instructors for BRM-P courses should have specific training in BRM concepts and teaching methods. At least one instructor in a course should not only possess instructional skills and ability to facilitate interactive discussion amongst the pilots, but also have experience as a pilot on large commercial ships.

7. Use of a Simulator.

A simulator is not necessary for a BRM-P course. Simulator exercises could be offered in conjunction with a BRM-P course, however. In addition, simulator exercises for pilots who have had BRM-P training or are in the process of receiving BRM-P training should involve practice in, and peer review of, a pilot's implementation of BRM-P concepts.

8. Renewal/Refresher Training

Consistent with the recommendation of IMO Resolution A.960 (see above), many pilotage authorities and pilot service providers require pilots to take periodic BRM-P renewal or refresher courses. It seems clear, however, that simply repeating a previous BRM-P course would not be worthwhile. Consequently there is a need for BRM-P training providers to develop and offer courses specifically designed for pilots who have already taken a BRM-P course, and IMPA would encourage the schools to offer separate initial and renewal courses. At a minimum, BRM-P course providers should ascertain the past BRM training of the course participants and adjust the renewal/refresher course accordingly, as discussed below

A renewal/refresher course should take a somewhat different approach than an initial course. For example, instructors in a renewal/refresher course should assume that the pilots in the course have an understanding of basic BRM concepts, such as situational awareness, error chains, and human factors affecting communication, cooperation and pilot-bridge team integration/coordination. As a result, those concepts can be reviewed, expanded, and updated with new information and theories, but there would be no need to repeat the exercises or case histories used to introduce those concepts.

A renewal/refresher BRM-P course should feature discussions of developments in the subject of BRM since the time of the previous BRM-P course as a result of accidents during that period, research in human factors affecting individual and group performance (in such things as fatigue and cultural and language barriers), developments in technology and information resources, and regulatory changes.
For renewal/refresher courses, particular attention could be given to:

a. Developments in technology and information resources, e.g.:
- electronic charts, ECDIS, etc.
- integrated bridge systems and new bridge lay-outs,
- advanced shipboard navigation and control systems (such as auto- and track-pilot and azipod propulsion),
- advanced tug designs (e.g., tractor tugs) and procedures;

b. Incorporating the PPU into the pilot-bridge team relationship and other aspects of piloting;

c. Research on fatigue, cognitive science, and other human factors;

d. Regulatory requirements governing respective duties of master and bridge crew and pilot (e.g., STCW, SOLAS);

e. New regulations possibly requiring a change in bridge procedures;

f. Potential impact of changes to international (IMO) measures on the competence and operations of masters and bridge crews;

g. Positions and proposals of other organisations on master-pilot interaction, bridge team management, bridge procedures with pilot aboard, etc;

h. Casualty reports since the previous BRM-P course; and

i. Revisiting IMO Resolution A.960

Although recent developments in BRM matters, such as research in human factors, changes in regulatory requirements, and technological advances, may justify more lecture-type instruction than would be advisable for initial BRM-P courses, a significant portion of a renewal/refresher BRM-P course should be conducted with interactive instruction methods and encourage discussion.

BRM-P and STCW BRM courses

Many pilots hold STCW endorsements and are, therefore, subject to the BRM training requirements of that code. A two-day BRM-P course may not qualify under a national administration's BRM course approval standards (among other things, many administrations require a 3-day STCW BRM course). Pilots and pilotage authorities wanting to use BRM-P towards the STCW BRM requirements should ask training providers to develop a combined course meeting both BRM-P recommendations and STCW standards.

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