

## **Isle of Man Ship Registry**

Casualty Investigation Report No. CA127

**Collision between the BW MAPLE and DAWN KANCHIPURAM**

on the 28<sup>th</sup> January 2017

**Extract from**  
**The Isle of Man Merchant Shipping**  
**(Accident Reporting and Investigation)**  
**Regulations 2001 – Regulation 4:**

*“The fundamental purpose of investigating a casualty, an accident, or an incident under these Regulations is to determine its circumstances and the causes with the aim of improving the safety of life at sea and the avoidance of accidents in the future.*

*It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame”*

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## 1. SUMMARY

- 1.1 On the morning of the 28<sup>th</sup> of January at approximately 0343hrs LT the vessels BW Maple, a 47386GT Gas Carrier and Dawn Kanchipuram a 29141GT Tanker were involved in a collision off Kamarajar Port (Ennore), India in position 13° 13.7 N 080° 21.8 E, a position about 4 cables east of No 3 buoy and outside the buoyed channel. Both vessels sustained damage and a resultant oil spill from the Dawn Kanchipuram caused pollution to the environment.
- 1.2 The BW Maple was departing the port and had embarked a pilot. Two tugs assisted the vessel depart the berth. The Pilot advised the Master to alter course to port after No 5 & 6 Buoys and leave the buoyed channel. The pilot disembarked shortly after the vessel departed the berth and before the breakwater. The Master continued to follow the pilot's advice and altered to port on passing No 5 Buoy.
- 1.3 The Dawn Kanchipuram was inbound to the port. She was underway and directed to proceed to a position 0.5 miles to the east of No3 Buoy.
- 1.4 Both vessels were directed to a position in which they would be in a close quarters situation.
- 1.5 Upon passing No 5 Buoy the BW Maple completed her turn to port. The Dawn Kanchipuram was approaching No 3 Buoy and altered course to starboard. A close quarters situation between the two vessels developed and eventually the bow of the BW Maple made contact with the Dawn Kanchipuram just forward of the accommodation on the port side. This resulted in the rupture of her port slop cargo tank and rupture of the port heavy fuel oil tank which released oil into the environment. The BW Maple sustained damage to her bulbous bow, forepeak tank and shell plating.

**BW Maple**



**Dawn Kanchipuram**



**Abbreviations Used In This Report**

C/O	Chief Officer
2/O	Second Officer
C/E	Chief Engineer Officer
2/E	2nd Engineer Officer
3/E	3rd Engineer Officer
4/E	4th Engineer Officer
ARPA	Automatic Radar Plotting Aid
AB	Able Bodied seaman, a crew rating
OOW	Officer of the Watch
CPA	Closest Point of Approach
CoC	Certificate of Competence
TCPA	Time to Closest Point of Approach
SMS	Safety Management System
AIS	Automatic Identification System
GPS	Global Positioning System
E/O	Electrical Officer
Fr	Frame
GT	Gross Tonnage
nm	Nautical Miles (1852 metres)
Kts	Knots measured in Nautical Miles per hour
TSS	Traffic Separation Scheme
UTC	Universal Coordinated Time
LT	Local Time
VHF	Very High Frequency
VTIS	Vessel Traffic Information Service
COLREGS	International Convention for the Prevention of Collision at Sea as applied by Isle of Man Regulations.



**Description of the Vessels**

	<u>BW Maple</u>	<u>Dawn Kanchipuram</u>
IMO	9320752	9116917
Registration Date	18/10/13	03/15
Call Sign	2G XK8	9V2810
Flag	Isle of Man	India
Ship Type	Gas Carrier	Tanker
Construction	Steel	Steel
LOA	225.48m	181m
Breadth	36.60m	32m
Depth	20.00m	18.8
Draught	12.55m	10.70
GT	47386.0	29141
Speed	16.5 kts	15 kts
Crew	27	28
Engine	Hyundai B&W 6S60ME-C	MAN-B&W 6S50MC-C
Keel Laid	29/12/06	1996
Place	Samho, South Korea	Korea
Owner	BW VLGC Ltd	Interocean Shipping PVT
Ship Manager	BW Fleet Management AS	Darya Shipmanagement

## **2. NARRATIVE OF EVENTS**

2.1 Times and events on board the BW Maple are based on VDR replay, interviews and logs.

### **2.2 26<sup>th</sup> January**

2.3 18:48 LT Vessel all fast.

2.4 21:00 Commence cargo operations.

### **2.5 27<sup>th</sup> January**

2.6 23:12 Complete cargo operations.

### **2.7 28<sup>th</sup> January**

2.8 02:44 BW Maple is requested make fast tugs and is informed that the pilot is on the way to the vessel.

2.9 03:01 Pilot on board BW Maple.

Dawn Kanchipuram is requested to proceed to a position 0.5nm East of No 3 Buoy to pick up its pilot.

2.10 03:03 Message from deck crew that the pilot requested to let go headlines and sternlines).

2.11 03:04:42 Pilot is welcomed on the bridge.

2.12 03:04:46 Master makes a reference to the engine (poor sound quality, unclear).

2.13 03:04:53 Pilot requests to let go head line and stern line.

2.14 03:05 Unmooring operations commence.

2.15 03:08 Pilot advises Cadet to record Pilot boarding time and tug arrival time as 02:06

2.16 03:12 Vessel left berth.

2.17 03:16 Master orders Tugs lines cast off forward and aft.

2.18 03:16 Conversation between pilot and Master regarding the outbound procedure. Pilot advised Master to alter course to port after passing No 5 and 6 Buoys. The Master further asked if he could just continue in the channel. The Pilot confirmed that he could not because of inbound merchant vessels.

2.19 03:20 Pilot informs Master that he will disembark before the breakwater.

- 2.20 03:21 Pilot proceeds from the bridge to disembark the vessel while being escorted by the Chief Officer who also calls for the Second Officer to relieve him.
- 2.21 03:21 Master expresses concern over channel buoy lights.
- 2.22 03:27 Pilot disembarked and the pilot boat is clear. Second Officer arrives on the bridge around the time the vessel passes the breakwater.
- 2.23 03:29 Chief Officer returns to the bridge. Main engine ordered to half ahead.
- 2.24 03:30 Vessel passing breakwater Buoys No 7 & 8. Speed approximately 8 knots. Steering 168° Speed 7.4 kts.
- 2.25 03:32 Master states that "one vessel is inbound, I see it".
- 2.26 03:33 Cadet acquired Dawn Kanchipuram on radar Rng 2.0nm Brg 135.5°  
  
Bridge team attempt to identify channel buoys.
- 2.27 03:35 OOW is instructed by Master to inform the inbound vessel of the BW Maples planned turn to port.  
  
Dawn Kanchipuram Rng 1.62nm Brg 136.7°
- 2.28 03:36 Master asks "what is that buoy?"
- 2.29 03:37 Vessel passing No 5 & 6 Buoys (Buoy 5 is unlit). Shallow water patch to the east of No 5 Buoy.  
  
Vessel commences alteration of course to port. Port 5 – port 10 – Hard a port.
- 2.30 03:38:34 Helm order hard to starboard given by Master to slow rate of turn to port.  
  
Dawn Kanchipuram Rng 0.98nm Brg 131°
- 2.31 03:38:53 Number 3 Buoy sighted dead ahead.
- 2.32 03:38:57 Helm order hard to port given by Master.  
  
Ships head 126.7° Speed 8.5knots Rate of turn to port 8°/min.  
  
Dawn Kanchipuram Rng 0.85nm Brg 128°
- 2.33 03:39:06 Port control unsuccessfully tries to contact BW Maple (distance between vessels 0.85nm).
- 2.34 03:39:36 Helm orders given in short succession amidships then hard to starboard.  
  
Ships heading 119.5° Speed 8.3kts. Rate of turn to port 25°/min.  
  
Dawn Kanchipuram Rng 0.73nm Brg 128°

- 2.35 03:40:09 Call from Port control "BW Maple, for your information, there is a vessel inbound, take note please." BW Maple OOW acknowledged this communication by replying "Yes Sir."
- Dawn Kanchipuram Rng 0.6nm. 4 minutes to collision.
- 2.36 03:40:10 Helm orders given in short succession - Steady, Starboard 10, Midships, Steady 112°, 117°
- 2.37 03:40:48 One of the bridge team other than the Master comments "she is turning to starboard".
- 2.38 03:40:54 OOW suggests to use engine for manoeuvring.
- 2.39 03:41:36 Master orders "hard to port".
- 2.40 03:41:46 Master orders "hard to starboard".
- 2.41 03:41:59 Master orders "full astern".
- Ships speed 8.2 knots.
- Dawn Kanchipuram Rng 0.26nm on starboard bow of BW Maple.
- 2.42 03:43 BW Maple and Dawn Kanchipuram collide.
- Ship's speed approximately 7.5 knots.
- General alarm sounded on BW Maple. Head count taken. All present, no casualties.
- 2.43 03:45 BW Maple informs port control of collision.
- 2.44 03:44 – 0448 After checking with Dawn Kanchipuram that there are no casualties on other vessel, BW Maple proceeds to anchorage. OOW of BW Maple calls Port Control to request for tugs to assist Dawn Kanchipuram, Master of BW Maple calls Company Alert Team.

### **3. COMMENT AND ANALYSIS**

- 3.1 The Flag State Investigation is based on the evidence obtained on board the BW MAPLE alone. It was not possible for the Flag State, the Isle of Man, to obtain any evidence from the DAWN KANCHIPURAM and/or Kamrajar Port Control/Pilot, despite making several requests to the coastal State conducting a marine casualty investigation. The managers of the DAWN KANCHIPURAM had made some information relating to the vessel timeline and damage sustained, available in the public domain. This information, which is not verifiable as being accurate, is referenced in section 3.84 of this report. The evidence from the DAWN KANCHIPURAM and/or Kamrajar Port Control/Pilot, if and when available for our assessment, may materially alter the analysis and conclusion reached in this report.
- 3.2 This investigation has examined the background of the events leading to the collision between the two vessels in order to determine what factors contributed to the event. Moreover, what lessons can be learned in order to prevent it from occurring again.

#### **3.3 Working Language**

- 3.4 Company procedures state the working language of the ship is English. Tagalog is sometimes heard on the VDR recording.

#### **3.5 Manning on the BW Maple**

- 3.6 The vessel was manned with in accordance with the Minimum Safe Manning Document. The remainder of the manning on board is in excess of the requirements of the Minimum Safe Manning Document.

#### **3.7 The BW Maple Bridge Team**

##### **3.8 Master – CoC Master Unlimited- STCW II/2**

- 3.9 Joined the vessel on 14/01/17 and had over 6 years' experience as Master serving on VLCCs and gas carriers. It was his 3<sup>rd</sup> trip with BW Fleet Management AS.

##### **3.10 Chief Officer – CoC Chief Mate Unlimited- STCW II/2. IV/2**

- 3.11 Joined the vessel on 22/09/16 and had over 2 years' experience in the rank. Previously a BW Cadet, completing his cadetship in 2002. He left the company in 2010 and returned again in 2015.

##### **3.12 Second Officer – CoC OOW Unlimited- STCW II/1./IV/2**

- 3.13 Joined the vessel on 21/12/16. A BW Cadet gaining his OOW certificate of competence and sailing as 4<sup>th</sup> and 3<sup>rd</sup> officer. In 2013 he was promoted to Second Officer.

##### **3.14 OS – Rating forming part of a Navigational Watch- STCW II/4**

- 3.15 Joined the vessel on 11/08/16. Joined the company in 2015 as a deck boy for 8 months and then as OS. This was his first trip on board the BW Maple as OS.

##### **3.16 Cadet – N/A**

- 3.17 Joined the vessel on 13/10/16. This was his second trip on board having previously sailed on board for a 3 month period. He has 7 months sea time in total.

**3.18 Pilot**

3.19 No Information

**3.20 Training**

3.21 The Master had completed a Level 3 Bridge Team Management course on 29/09/14. The 2/O had completed Bridge Resource Management Course on 15/02/13. They also completed ECDIS IMO Model Course 1.27 on 28/10/16 and 20/06/14 respectively. Type Specific ECDIS training was completed on 23/01/16 and 15/07/15 respectively. The Helmsman had a watchkeeping certificate. He had also completed IMO Model Course 1.07 – Radar Navigation, Radar Plotting and Use of ARPA on 30/10/10

**3.22 Roles and responsibilities between 00:00 and 04:00**

3.23 Master – In Command

3.24 2<sup>ND</sup> Officer – OOW

3.25 Cadet – Lookout, assisting in plotting positions, using the radar to plot positions

3.26 OS – Helmsman

3.27 Chief Officer – Not the OOW having completed a handover to the 2/O at 00:00 hrs on 28<sup>th</sup> Jan. However he was on the Bridge for departure, relieving the 2/O to go to his mooring station. He effectively becomes the Bridge watch keeping Officer at the time of departure until relieved by the 2/O. There is no information available to confirm that a formal handover between the C/O and 2/O was completed with regard to the navigational status of the vessel. Having been relieved he remained on the bridge completing paperwork at the chart table.

**3.28 Effects of Drugs/Alcohol**

3.29 At 0600 hrs on the 28<sup>th</sup> January the Master performed an alcohol test on the all crew on board. No positive results were recorded therefore it is concluded that alcohol was not a contributing factor. No information is available with regard to drug testing.

**3.30 Effects of Fatigue**

3.31 The Hours of Rest for the Master, C/O, 2/O, OS and Deck Cadet on the BW Maple were examined. The records showed that the Hours of Rest recorded for the C/O on the 27<sup>th</sup> January exceeded the minimum requirements of the Hours of Rest Regulations. He received only 7 hours rest within a 24 hour period. It is also noted that the Chief Officer was part of the bridge team for departure until he was relieved by the 2/O.

3.32 Interviews with seafarers on board confirmed that they were not experiencing any effects of fatigue at the time of interview.

**3.33 BW Maple Bridge Equipment**

3.34 Prior to departure it is required that checks be completed to confirm that the vessel and its equipment is ready to depart the port. The Port Departure checklist is used to complete this task and all items of equipment were confirmed to be checked at 0258hrs on 28<sup>th</sup> January.

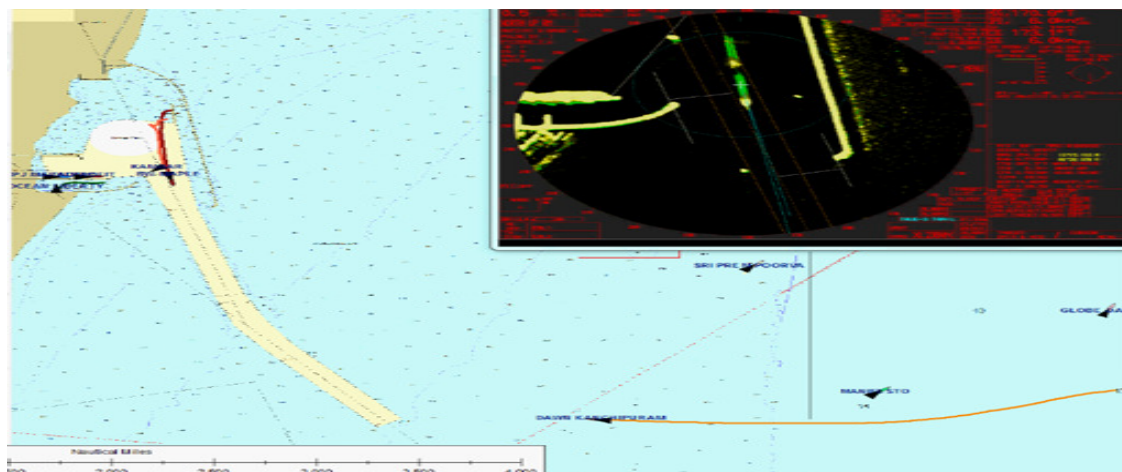
3.35 Investigations carried out subsequent to the incident confirmed that there were a number of issues with regard to the bridge equipment. However they are not

considered to be a contributing factor to the collision but are included in this report because they were none the less present. The status of this equipment was reported to the company as required by vessels Safety Management System.

- 3.36 There was no VDR back up hard disk on-board. It was reported as a non-conformity to shore on 02 Jan 2017 for missing VDR HDD (MAE01585). However, after the collision the VDR information was successfully extracted.
- 3.37 The alarm print out was not synchronized. It was 1h 30 min behind (Ras Laffan time UTC +4, Ennore time UTC +5.5) This was a mistake from engine department as they forgot to adjust the time accordingly.
- 3.38 The telegraph printer was also out by 1hr 54 mins from UTC. There is a non-conformity report (MAE01585) regarding Bridge Auto Chief C20 Panel not working, which is used to set the time on the telegraph.
- 3.39 Telegraph printer read not clear – reported as non-conformity to shore 12 Jan 2017 (MAE01599).

### 3.40 External Conditions

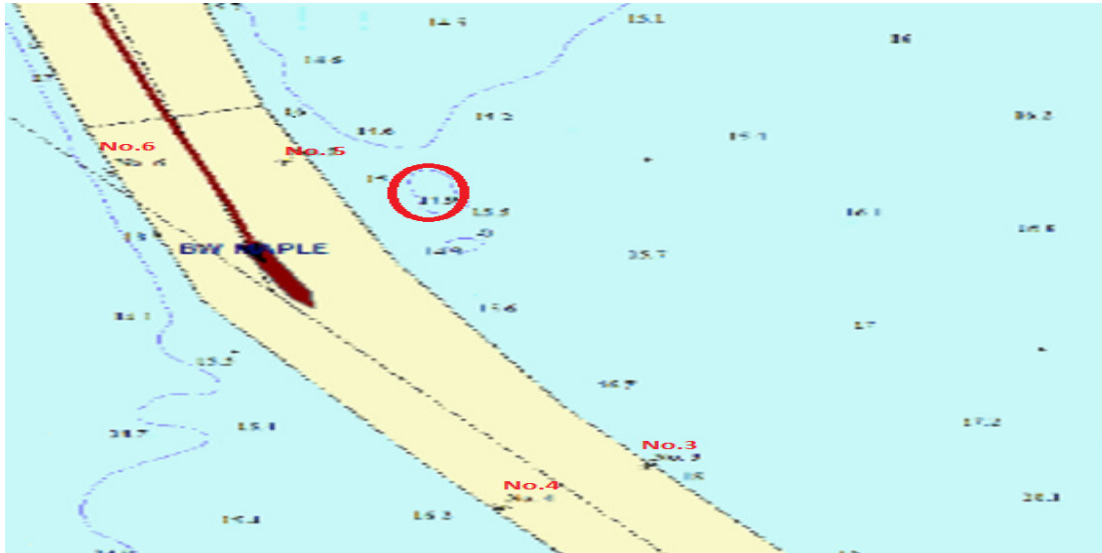
- 3.41 At the time of the incident the local conditions were as follows;
- 3.42 Visibility - Good  
Wind - North Easterly Beaufort Force 3  
Swell – 2 to 3m  
Air Pressure – 1010hPa  
Temperature – 24°C  
Tide- On 28th January 2017, the low tide was at 02:12hrs and high tide was at 07:57 hrs. The tidal range was about 0.9m and the collision occurred when the tide was in flood (low to high) phase.  
Currents were predominantly towards south with a range of 0.1 to 0.2 Kts along the coastal stretch of Chennai.
- 3.43 Traffic conditions in the area as the BW Maple approached the breakwater as far as can be ascertained are illustrated below. The buoyed channel was clear and the nearest vessel in open waters to the east is at a distance of approximately 2.75nm. Local fishing vessels may also have been in the area.



**Local Traffic In The Vicinity**

### 3.44 Navigational Restrictions

- 3.45 To the south east of No. 5 buoy is a shallow patch showing a charted depth of 11.9m. To the west of the buoyed channel buoys there is reduced water. The BW Maple had a maximum draught of 10.4m on departure



**Shallow Patch to the East of No. 5 Buoy**

### 3.46 Safe Speed

- 3.47 As per information provided on the BW Maple's vessels pilot card. The vessel's speed at half ahead is 12.21 knots and at slow ahead is 9.3 knots in the ballast condition. The vessel was partly loaded on departure and VDR information confirms that the vessels maximum speed achieved is 10.2 kts. The BW Maple's passage plan also states a leg speed of 10 knots is to be maintained at Buoys 5 and 6.

### 3.48 The Passage Plan

- 3.49 The BW Maple's berth to berth passage plan from Ennore to Vizag had been completed on the 27/01/17, prior to departure. An ECDIS Voyage Plan Checklist was completed by the 2/O and this was checked by the Master. The Master, all Deck Officers and the Cadet had signed the plan.
- 3.50 The plan was to navigate the fairway channel outbound from the port, then disembark the Pilot at the designated pilot station. The vessel would then proceed in a north easterly direction to Visag.
- 3.51 At 02:40 hrs on 28<sup>th</sup> January records indicate that a Passage Plan Meeting was conducted. The Master, all deck officers and the cadet were present. No VDR Bridge recording was made available to confirm that such a meeting took place. It is further noted that the record entered in the vessels Port Book is not made on a separate line.

### 3.52 Pilot On Board

- 3.53 About 03:01hrs it was reported to the bridge by radio that the pilot was on the gangway. On boarding and while on the deck the pilot gave an instruction to let go the headline and stern lines, this instruction was relayed to the bridge by a member of the crew. No lines were touched as a result of the pilot's instruction while he was on the deck.



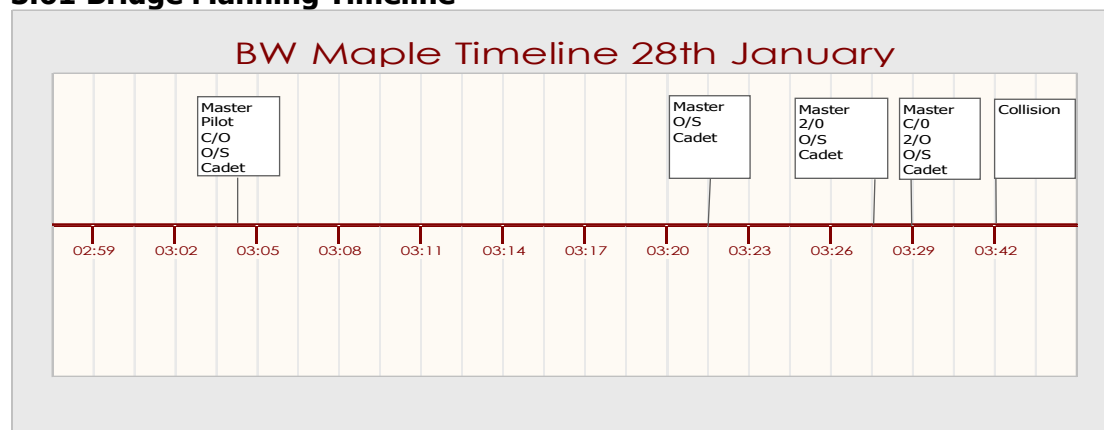
### 3.54 Master/Pilot Exchange

- 3.55 At 03:04 the Master Pilot exchange took place. The vessels pilot card contains a checklist of the topics to be discussed during the Master/Pilot Exchange. It is noted that page 2 of the pilot card had not been completed. VDR playback of the bridge conversation at this time cannot confirm what information what exchanged, if any. A brief reference with regard to the engine can be heard.
- 3.56 Such an exchange should inter alia cover the pilotage plan and the circumstances when a deviation from the plan may be required, an update on traffic conditions and an update on local conditions such as inoperative lights on navigational buoys if known. Any amendments to the plan should be agreed before pilotage commences.
- 3.57 It is further noted that the time as stated on the Master/Pilot Information Exchange is 02:10 hrs on January 28th. VDR recordings of the bridge conversations confirmed that the Pilot requested that the time of his boarding be altered. The entry made by the Cadet in the vessels Port Book records that the pilot on board and waiting for second tug as being 02:06.
- 3.58 At 0316 a conversation between the Pilot and Master takes place with regard to the outbound procedure. The pilot advises that the Master should alter course and proceed out of the buoyed channel after passing a buoy. VDR playback of the bridge conversation at this time cannot confirm exactly which buoy is being talked about. At this time the Master questions the Pilot asking if he can just continue in the channel. The Pilots reply was that the Master should not continue in the channel because of inbound merchant vessels. At 03:19 hrs the Master asks Pilot if he will disembark before or after the breakwater. The Pilot confirms that he will depart prior to the breakwater. Furthermore the Pilot advises the Master to alter course to port after passing Buoys No. 5 and 6. The Master acknowledges and confirms he will alter to Port.

### 3.59 Pilots Departure

- 3.60 It was agreed with the Master that the Pilot would depart before the vessel reached the breakwater. A brief handover was given to the Master from the pilot. It consisted of identifying a red light, and confirmation that the alteration of course to port should be completed after No. 5 Buoy. To facilitate the Pilot's departure the Chief Officer accompanied the Pilot off the bridge and down to the deck to disembark the vessel. The total time that the pilot was on the bridge was 17 minutes. As a consequence the manning on the bridge was reduced. Between 03:21 and 03:27 the bridge team consisted of the Master, Helmsman and Cadet. During this period the Master was heard to express concern over the location of a red light. Furthermore the Master was aware that there was another merchant vessel in the vicinity but was unaware of its location.

### 3.61 Bridge Manning Timeline



### 3.62 Amendments to Routes

- 3.63 At 03:27hrs the 2/O arrived on the bridge having completed his duties for unmooring. The vessel was approaching the end of the breakwater. At 03:29 the C/O arrives back on the bridge. Shortly after this VDR playback confirms that a conversation is had with the 2/O and the Master. The content of this conversation is not clear but reference is made to the plan and a clear statement from the 2/O saying "I will edit". The 2/O proceeds to edit the route on the ECDIS and at 03:34hrs it is noted that the route overlay on the radar disappears. The time to alteration of course 2.5 minutes.

### 3.64 Lookout

- 3.65 The Cadet was inter alia the designated lookout. A task in which he is not formally qualified to do. Furthermore he was not a dedicated lookout, having other duties to perform as part of his training. It is concluded that the vessel was not in compliance with Rule 5 of the COLREGs.
- 3.66 In accordance with COLREGs Rule 5 (Look-out), every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.
- 3.67 STCW 95 Section A-II/4 requires that every rating forming part of a navigational watch on a seagoing vessel of 500gt or more shall be required to demonstrate competence in the duties associated with the keeping of a safe navigational watch at the support level. This competence is evidenced by the issue of a Navigational Watch Rating Certificate. No rating should be assigned to navigational watchkeeping duties unless suitably qualified. As the OS was the helmsman, he could not be the lookout as well.

### 3.68 VHF Communication at between Dawn Kanchipuram and the Pilot

- 3.69 From VDR recordings on the BW Maple the following VHF radio messages were heard. At 03:01 Dawn Kanchipuram is requested confirm that she is underway and to confirm her maximum draught. The pilot boarding speed was confirmed to be 5 knots and Dawn Kanchipuram is directed to proceed to a position 0.5nm east of Buoy No 3. At 03:15 the Dawn Kanchipuram called the pilots and was told to change to VHF channel 77. No further information was made available with regard to the resulting conversation.

### 3.70 VHF Communication between Vessels Prior to Collision

- 3.71 At 03:35 the BW Maple's Master instructs the 2/O to inform the Dawn Kanchipuram that the BW Maple will be altering course to port. The 2/O acknowledges the Masters request but no such VHF communication is made. There was no communication between the BW Maple and Dawn Kanchipuram prior to the collision.

### 3.72 VHF Communication at between BW Maple and the Port

- 3.73 At 02:44 the Port Control requested the BW Maple to make fast the tugs and further informed them that the Pilot is underway
- 3.74 03:39 Port Control attempts to contact BW Maple without success.
- 3.75 03:40 Port Control broadcasts "BW Maple for your information, there is a vessel inbound, take note please". BW Maple OOW acknowledges this communication by replying "yes Sir".

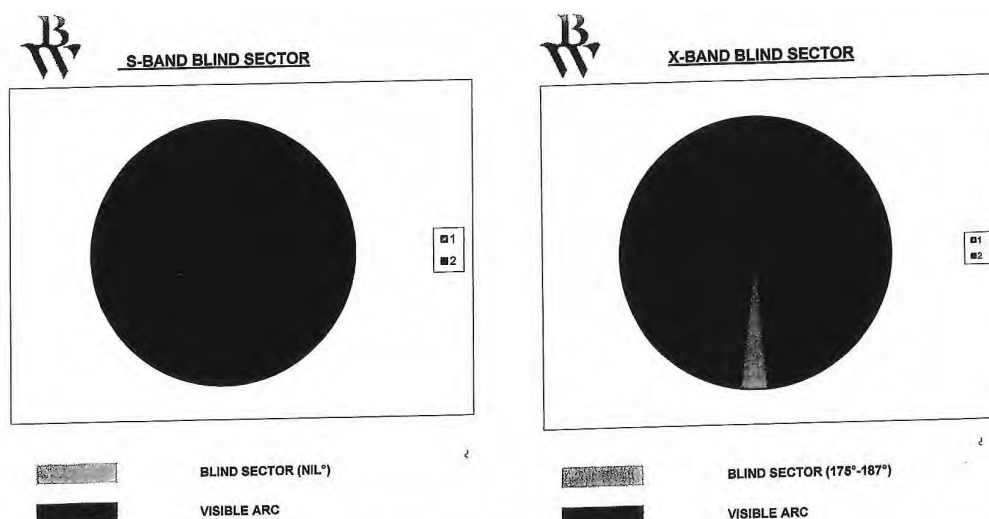
- 3.76 03:45 Communication between Port Control is established and information is passed that a collision has occurred.

### 3.77 No 5 Channel Buoy

- 3.78 The alteration of course to port was to be completed after clearing No. 5 Buoy. On the morning of the 28<sup>th</sup> January, when No. 5 Buoy was abeam, the 2/O identified that this buoy was unlit. The Master was confused as to which buoy it actually was. The 2/O confirmed to the Master that was No. 5 Buoy.

### 3.79 Dawn Kanchipuram Acquired on Radar

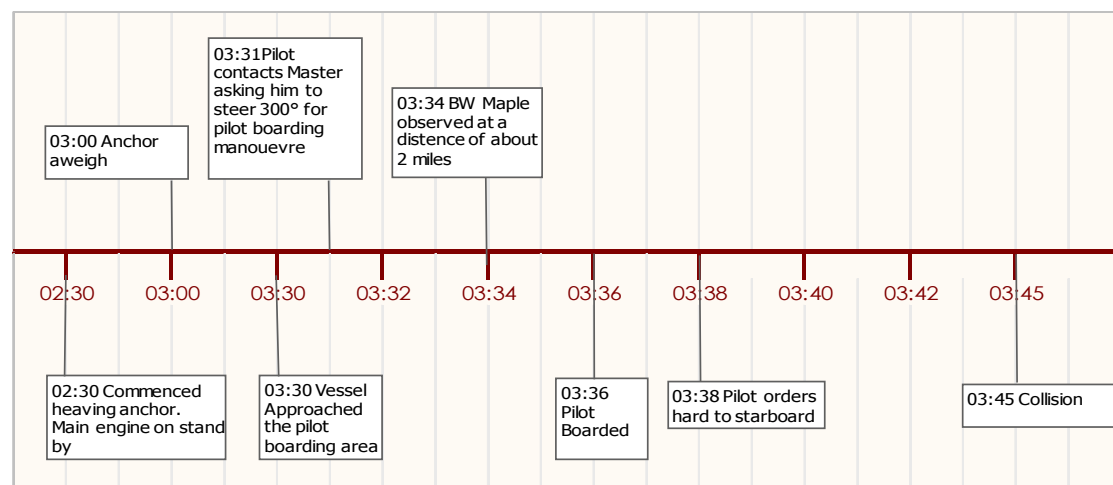
- 3.80 VDR recording of bridge conversations confirm the Master is aware that there is an inbound vessel At 03:32hrs The Master says "one vessel is inbound vessel... I see it". Shortly after this the Dawn Kanchipuram is acquired on radar by the Cadet.
- 3.81 The notice shown below is placed on the radars of the BW Maple informing the Officer of the Watch of blind sectors that may affect the detection and subsequently the display and plotting of targets. The Dawn Kanchipuram was not in the blind sector of the radar.



### 3.82 How the Collision Occurred

- 3.83 The Dawn Kanchipuram initially reports to the pilot that she is underway with a draught of 10.7m even keel. She is directed by the pilot to proceed to a position of 0.5nm East of No. 3 Buoy. The vessel initially proceeds in a westerly direction towards the entrance to the fairway at a speed of about 8 knots gradually being reduced as she approached the fairway. She then makes a number of small alterations of course to starboard coming to a north westerly heading, towards No. 3 buoy and further reducing speed to about 4 knots. In a position to the south east of No. 3 Buoy, she makes a broad alteration course to starboard. Had VDR information for the Dawn Kanchipuram been made available to examine, a fuller understanding of the events and actions that led to the collision would have been gained.
- 3.84 The management company of the Dawn Kanchipuram have made public the timeline of events that occurred on board the vessel. On the time line below, the time of collision is 03:45 hrs which is approximately two minutes later than the time recorded on the VDR on the BW Maple.

### 3.85 Dawn Kanchipuram Timeline 28<sup>th</sup> January

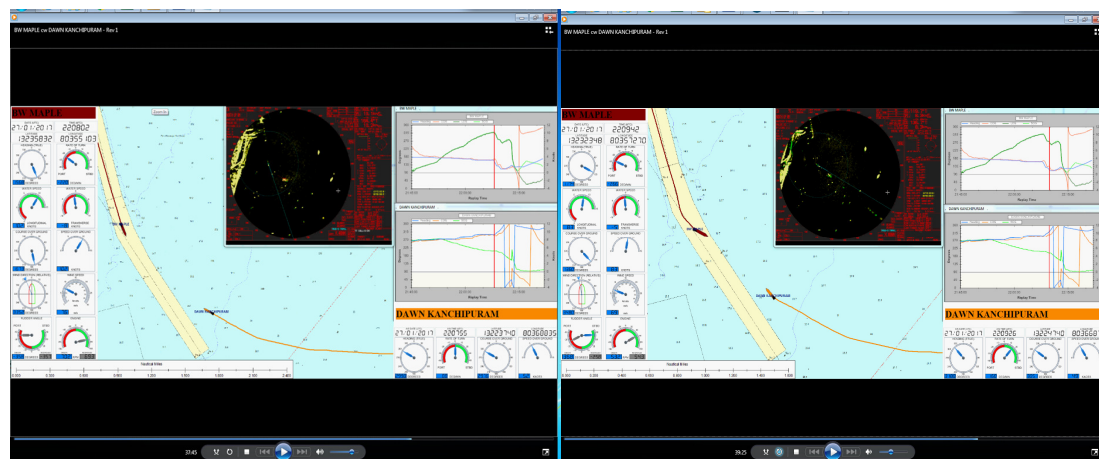


3.86 The BW Maple departed the berth and proceeded into the fairway on a southerly course, gradually increasing speed to about 10 knots. At No. 5 Buoy the vessel proceeded to alter course to port to leave the channel. The BW Maple approaches close to No. 3 Buoy and the course is steadied at 117°. North of No. 3 Buoy the C/O suggests using the engine “shall we... engine Sir”. As the BW Maple passes to the East of No. 3 Buoy, the Master orders the wheel “hard to port” then 9 seconds later orders the wheel “hard to starboard”. 13 seconds later, he orders the engine “full astern”. Less than a minute later the vessels collide.

3.87 The collision consisted of a single contact. The BW Maple is initially executing a manoeuvre to alter course to port when No. 5 Buoy is abeam. The Dawn Kanchipuram is executing to turn to starboard.

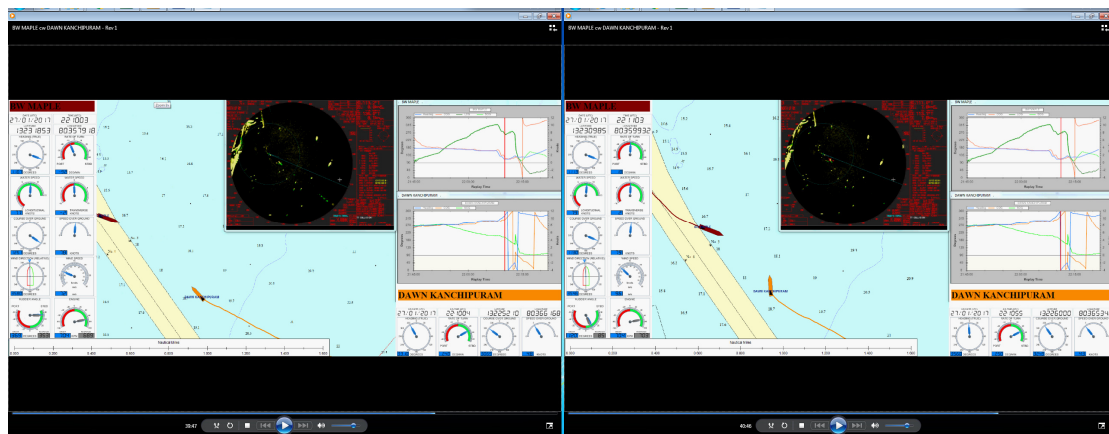
3.88 From information obtained from the Pilot Card there is an engine order delay of 15 seconds. Although no information was available for the time it takes for the engine to move from half ahead to full astern. It is further stated that the time from full ahead to full astern is 380 seconds (6 mins 20secs).

3.89 As can be seen from the below illustrations, the impact occurs when the BW Maple’s heading is approximately 131° at a speed of about 7.4 knots.



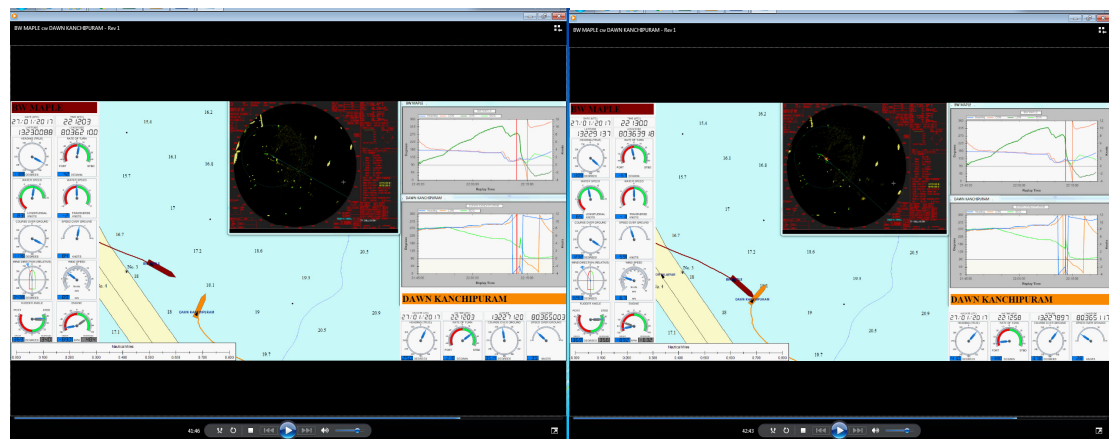
03:38

03:39



03:40

03:41



03:42

03:43

### 3.90 Damage to Dawn Kanchipuram

3.91 It is unknown as to the full extent of the damage that occurred. However substantial damage is known to have been sustained to the vessels accommodation, deck and hull on the port side. The resultant damage caused tanks containing oil to be ruptured and pollution to occur.

### 3.92 Damage to the BW Maple

3.93 A hull damage occasional survey was completed by the attending Classification Society on 31/01/17. Damage occurred to the bulbous bow, forepeak ballast tank, bulwark plating, bulwark railing, and shell plating. The structural capacity and the watertight integrity of the cargo area including the collision bulkhead are not impaired by the damages in present condition.



### 3.94 BW Maple Images



## 4 Compliance with the COLREGS

### 4.1 Rule 7 - Risk of collision

- 4.2 (b). Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.
- 4.3 *VDR recordings show that the BW Maple's radar was switched from standby to transmit at 03:07 hrs. The Cadet on the BW Maple acquired the Dawn Kanchipuram on radar at 03:33 hrs at a distance of 2nm.*
- 4.4 *Activities of the bridge team on board the Dawn Kanchipuram cannot be verified.*
- 4.5 (d) In determining if risk of collision exists the following considerations shall be among those taken into account:
- 4.6 (i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change;
- 4.7 (ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.
- 4.8 *The below times, bearings and ranges of the Dawn Kanchipuram confirm that risk of collision is deemed to exist.*
- |                                     |              |
|-------------------------------------|--------------|
| 03:33 Dawn Kanchipuram – brg 135.5° | Range 2.02nm |
| 03:38 Dawn Kanchipuram – brg 128°   | Range 0.85nm |
| 03:39 Dawn Kanchipuram – brg 128°   | Range 0.73nm |
- 4.9 *Activities of the bridge team on board the Dawn Kanchipuram cannot be verified.*

### 4.10 Rule 8 - Action to avoid collision

- 4.11 (a). Any action to avoid collision shall be taken in accordance with the Rules of this Part and shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.
- 4.12 *Action taken to avoid collision was taken by the BW Maple about one minute before impact. At 03:41:46 The Master ordered the wheel hard to starboard. At 03:41:59 the Master ordered the engine to full astern.*
- 4.13 *The Dawn Kanchipuram did make a broad alteration of course to starboard, but it is unknown as to the why this alteration of course was made, because activities of the bridge team on board the Dawn Kanchipuram cannot be verified.*
- 4.14 (b) Any alteration of course and/or speed to avoid collision shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar; a succession of small alterations of course and/or speed should be avoided.
- 4.15 *The Dawn Kanchipuram did initially make a succession of small alterations of course to starboard however it cannot be verified that such alterations were actions to avoid collision.*

- (e). If necessary to avoid collision or allow more time to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.

4.16 *The BW Maple did not reduce speed to allow more time to assess the situation. The BW Maple did reverse her means of propulsion to try to avoid collision.*

4.17 *Records show the Dawn Kanchipuram gradually reducing speed as she approached the channel. However it cannot be verified that such reductions in speed were made in order to avoid collision or to allow more time to assess the situation.*

#### **4.18 Rule 11 - Application**

4.19 Rules in this section apply to vessels in sight of one another.

4.20 *About 03:32 the Master made a statement "there is an inbound vessel... I see it". The rules in this section are considered to apply.*

#### **4.21 Rule 15 - Crossing situation**

4.22 When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

4.23 *As the Dawn Kanchipuram approaches the entrance to the channel the BW Maple is on her starboard side.*

#### **4.24 Rule 16 - Action by give-way vessel**

4.25 Every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear.

4.26 *The Dawn Kanchipuram on approach to the fairway performed a make a succession of small alterations of course to starboard. About 3 minutes before collision she made a broad alteration of course to starboard. It could not be verified whether such alteration was made in order to avoid collision or for some other reason.*

#### **4.27 Rule 17 - Action by stand-on vessel**

4.28 (a). (i). Where one of two vessels is to keep out of the way the other shall keep her course and speed.

4.29 *BW Maple did not keep its course*

4.30 (ii) The latter vessel may however take action to avoid collision by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.

4.31 (b). When, from any cause, the vessel required to keep her course and speed finds herself so close that collision cannot be avoided by the action of the give-way vessel alone, she shall take such action as will best aid to avoid collision.

4.32 (c). A power-driven vessel which takes action in a crossing situation in accordance with subparagraph (a)(ii) of this Rule to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side.

4.33 *BW Maple altered course to port for a vessel on her own port side.*



**4.34 Rule 34 manoeuvring and warning signals**

4.35 (a). When vessels are in sight of one another, a power-driven vessel underway, when manoeuvring as authorized or required by these Rules, shall indicate that manoeuvre by the following signals on her whistle:

- one short blast to mean "I am altering my course to starboard";
- two short blasts to mean "I am altering my course to port";
- three short blasts to mean "I am operating astern propulsion".

4.36 *No such signals were made by the BW Maple.*

4.37 *Sound signals made on board the Dawn Kanchipuram cannot be verified. However it is noted that no such sound signal was recorded on the BW Maple's external VDR microphones.*

4.38 (b). Any vessel may supplement the whistle signals prescribed in paragraph (a) of this Rule by light signals, repeated as appropriate, whilst the manoeuvre is being carried out:

4.39 (i). these light signals shall have the following significance:

- one flash to mean "I am altering my course to starboard";
- two flashes to mean "I am altering my course to port";
- three flashes to mean "I am operating astern propulsion";

4.40 *No such signals were made by the BW Maple*

4.41 *Signals made on board the Dawn Kanchipuram cannot be verified.*

4.42 (d). When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.

4.43 *No such signals were made by the BW Maple.*

4.44 *Sound signals made on board the Dawn Kanchipuram cannot be verified. However it is noted that no such sound signal was recorded on the BW Maple's external VDR microphones.*

## **5. Conclusions**

- 5.1 When the Pilot arrived on board and prior to him arriving in the bridge, the Pilot gave an instruction to one of the crew to let go the headlines and sternlines. This message was relayed to the bridge. When the Pilot arrived on the bridge he requested that the pilot on board time be recorded as 02:06 hrs. An inference can be drawn that the pilot was either late and/or in a hurry.
- 5.2 The Master/Pilot exchange was brief. VDR recording of bridge conversations could not establish exactly what information was exchanged. However from the time the Pilot entered the bridge to the time the pilot requested the Master to let go headlines and stern lines, it took 11 seconds.
- 5.3 Such an exchange should inter alia cover the pilotage plan and the circumstances when a deviation from the plan may be required, an update on traffic conditions and an update on local conditions such as inoperative lights on navigational buoys if known. Any amendments to the plan should be agreed before pilotage commences.
- 5.4 Shortly before his departure the Pilot advises the Master to alter course to port after passing Buoys No. 5 and 6. It cannot be confirmed if this information was previously exchanged. If such information had been exchanged, the Passage plan should have been amended accordingly. No such amendment was made at this time. The bridge Procedures guide provides guidance on the information to be exchanged between Master and Pilot. To achieve this exchange a checklist should be used. The result of this exchange is that clear and effective communication is established. It is concluded that due to the short exchange, the incomplete pilot card, the lack of any substantial conversation being heard, advice provided by the pilot after departing the berth and the wrong time being noted, effective communications had not been established.
- 5.5 Situational awareness on board the BW Maple was reduced due to a number of factors which include;  
  
A proper lookout was not maintained;  
The Master/Pilot exchange was brief;  
The bridge team manning was reduced;  
Command priorities are rapidly changed;  
The Passage plan for the outbound pilotage was changed.
- 5.6 A proper lookout was not maintained at all times in accordance with COLREGS Rule 5 (Look-out). Had a proper lookout been maintained sufficient advanced warning may have been given as to the location of the Dawn Kanchipuram.
- 5.7 The bridge team manning was reduced for a period of about six minutes leaving the Master as the sole Navigator. During this period he was heard to express his doubt as to the location of a red light
- 5.8 Command priorities are rapidly changed at a critical stage of the outbound passage. When the Dawn Kanchipuram is acquired on radar, the bridge team focus is turned to identifying and keeping clear of channel buoys. As a consequence monitoring of Dawn Kanchipuram passage is reduced.
- 5.9 The Bridge Procedures Guide provides the following guidance: "the purpose of passage planning is to develop a comprehensive navigation plan for the safe conduct of the ship from berth to berth. The plan may need to be changed or it may be necessary to amend the plan following consultation with the pilot. The essence of the passage plan is to establish the most favourable route while maintaining appropriate safety margins

and safe passing distances offshore. The plan should be completed prior to departure using appropriate available charts and publications. The Master should verify that tracks laid down are safe." At 03:16 hrs a conversation between the Master and Pilot was had about the outbound passage. The Pilot confirmed that the Master should alter course to Port and leave the channel. At 03:33 hrs The Master informed the 2/O of his intention to leave the channel and reference was made to the passage plan. At 03:35 the 2/O made a statement "I will edit sir" to which the Master said "ok". Shortly after the passage plan overlay on the radar is seen to disappear. No amended passage plan overlay appears on the radar. The original plan had been completed as per the Bridge Procedures Guide. Furthermore it is considered that the passage plan is a dynamic document which is subject to change on the basis of new information received. It is concluded that the passage plan was in the process of being edited approximately 8 minutes prior to collision.

- 5.10 The passage plan for the outbound pilotage was changed. The bridge team were not sufficiently briefed on the change of plan. As a result the 2/O (OOW) was busy editing the plan. Consequently support to the Master was reduced with regard to the conduct of the vessel at a critical time.
- 5.11 Although the Master was following the advice given by the pilot there was a failure to follow in all respects International Regulations for Preventing Collisions at Sea.
- 5.12 It is known that the Dawn Kanchipuram was directed to proceed to an area 0.5nm to the East of No. 3 Buoy. The Dawn Kanchipuram complied with the instructions given. It is further known that the pilot advised the BW Maple's Master that there was an inbound merchant vessel and to alter course to port after No. 5 Buoy. The Master followed the pilot's advice. The results were that both vessels were directed to an area in which they would be in close proximity to each other. A reasonable assumption can be made that the Bridge team on the Dawn Kanchipuram were not expecting the BW Maple to leave the channel.
- 5.13 The Port Control was aware of the developing situation at 03:40 hrs Port Control broadcasts "BW Maple for your information, there is a vessel inbound, take note please". BW Maple's OOW acknowledges this communication by replying "yes Sir". The port did not provide any further information nor was it requested from the BW Maple.
- 5.14 In 2015 a Vessel Traffic Management System (VTMS) facility was installed at the Kamarajar port in Ennore, by Kongsberg Norcontrol Surveillance Pvt Ltd.  
The purpose of Vessel Traffic Services:- "Vessel Traffic Services contribute to the safety of life at sea, safety and efficiency of navigation, the protection of the marine environment, the adjacent shore area, worksites, and offshore installations from possible adverse effects of maritime traffic." SOLAS Chapter V, Regulation 12
- 5.15 The investigation as to what is considered to be a safe speed in this situation is inconclusive. Given the traffic density and prevailing conditions on departure the speed achieved by the BW Maple would not be considered excessive.

## **6. Recommendations**

6.1 Safety recommendations shall in no case create a presumption of blame or liability.

### **6.2 The Isle of Man Ship Registry is recommended to:-**

6.3 Distribute this report to owners and ship managers alike.

6.4 Forward a copy of this report to Directorate General of Shipping, India.

### **6.6 BW Fleet Management AS is recommended to:-**

6.6 Review the safety management system to highlight the importance of good bridge team management including the proper use of resources to effectively maintain a safe navigational watch.

6.7 Consider the benefits of having the bridge team undertake a refresher bridge resource management course that meets the requirements detailed in Table A-II/I of the 2010 Manila amendments to the STCW Convention and Code.

6.8 The Master, Officers of the BW Maple are recommended to:-

6.9 Effectively challenge the actions or advice given by a pilot if there is any doubt.

6.10 Ensure that the COLREGS complied with at all times.

6.11 Ensure that the guidance provided in the Bridge Procedures guide is followed.

### **6.12 Kamanjar Port/Pilots (Ennore) are recommended to:-**

6.13 Review their procedures and practices with regard to directing inbound and outbound traffic to the port, to ensure close quarters situations are avoided.

6.14 Review their procedures and practices with regard to providing information on traffic movements.

6.15 Review their procedures and practices with to ensure that an effective Master/Pilot exchange is completed prior to the commencement of pilotage.

## **Appendix 1. Chief Officer Hours of Rest Record**

ISF Watchkeeper

Rank: Chief Officer 1

Vessel: BW Maple

January 2017

Payroll No: 15207

Watchkeeper: YES

		Periods of work are shaded																								Normal Working Hours	Total Hours Worked	Overtime Hours	Comments	Hours of Rest			
DOY	Date	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23					24	In any 24h period	In any 7 day period	
Sun	1																											0.00	8.00	8.00		12.0	91.5
Mon	2																											8.00	11.00	3.00		12.0	93.0
Tue	3																											8.00	11.00	3.00		12.0	94.0
Wed	4																											8.00	11.00	3.00		12.0	94.0
Thu	5																											8.00	11.00	3.00		12.0	94.0
Fri	6																											8.00	11.00	3.00		12.0	94.0
Sat	7																											4.00	8.00	4.00		12.0	97.0
Sun	8																											0.00	8.00	8.00		16.0	97.0
Mon	9																											8.00	11.00	3.00		12.0	97.0
Tue	10																											8.00	11.00	3.00		12.0	97.0
Wed	11																											8.00	11.00	3.00		12.0	97.0
Thu	12																											8.00	11.00	3.00		12.0	97.0
Fri	13																											8.00	11.00	3.00	Berthing Ras Laffan	12.0	97.0
Sat	14																											4.00	11.00	7.00	Departure Ras Laffan	11.0	94.0
Sun	15																											0.00	7.00	7.00		11.0	95.0
Mon	16																											8.00	12.00	4.00		10.0	94.0
Tue	17																											8.00	11.00	3.00		10.0	94.0
Wed	18																											8.00	12.00	4.00		10.0	93.0
Thu	19																											8.00	11.00	3.00		10.0	93.0
Fri	20																											8.00	11.00	3.00		12.0	93.0
Sat	21																											4.00	11.00	7.00		12.0	93.0
Sun	22																											0.00	8.00	8.00		12.0	92.0
Mon	23																											8.00	11.00	3.00		12.0	93.0
Tue	24																											8.00	11.00	3.00		12.0	93.0
Wed	25																											8.00	11.00	3.00		12.0	94.0
Thu	26																											8.00	13.00	5.00	Berthing Ennosel Discharging	10.0	92.0
Fri	27																											8.00	14.00	6.00	Discharging operation/ CCI inspection	7.0	89.0
Sat	28																											4.00	14.00	10.00	Collision/ Forepeak tank inspection	4.0	85.0
Sun	29																											0.00	13.00	13.00		10.0	81.0
Mon	30																											8.00	12.00	4.00		11.0	83.0
Tue	31																											8.00	12.00	4.00		11.0	79.0
		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	192.0	336.0	147.0				

## Appendix 2. BW Maple ECDIS Checklist

**ECDIS - Voyage Plan - Checklist**

Voyage from ENNDLE to VIZAG Date 28 Jan. 2017

	YES	NO	N/A
ENC and RNC Charts With Permit for the entire voyage available in the ECDIS catalogue?			
ENC Permits validity is for entire duration of the Voyage (Check in License tab under Charts)			
ENC and RNC Charts updated with latest Base, Update and Admiralty Information Overlay CD?			
(Check for "Display" and "Approve" dates: In order to display charts with correct & updated situation, always use current date during your voyage. If your Voyage lasts more than one week, apply current date to "Chart viewing date" at least once a week during the voyage.)	/		
Is the route prepared using safe settings for draught, Safety Contour and Depth Contours:			
Is the route prepared using safe settings for draught, Safety Contour and Depth Contours in compliance with company Under Keel Clearance policy and with due regard to Squat Effect (Including Trim & Heel)?			
Under Keel clearance : Pilot: <u>2.71</u> m Confined waters : <u>2.75</u> m Open Sea : <u>3.74</u> m	/		
Shallow Contour : <u>12</u> m Safety Depth : <u>15</u> m			
Safety Contour Planning : <u>15</u> m Safety Contour Monitoring : <u>15</u> m			
Deep Contour : <u>21</u> m			
Max Height : <u>44.0</u> m			
Estimated speed for each leg entered into voyage plan?	/		
Channel Width set to a minimum of 1852 meters at open sea (if possible)?	/		
Check of WGS-84 datum in GPS, ECDIS and used Charts?	/		
(ENC vector charts according to S57 standard is produced in the WGS-84 Datum)	/		
Calculated ETA in route planning tool using present departure date?			
USER CHART and NOTES created and/or updated for the voyage?			
Containing as a minimum the following items:			
Pilot reporting points?	/		
Mandatory reporting points?	/		
Point Of No Return for narrow passages?	/		
Contingency anchorages?	/		
No Go areas (Using Channel Limits and User Danger Areas in User Charts)?	/		
Conspicuous targets for position fixing and Cross Checking reference?	/		
Parallel Index?	/		
Areas with high speed vessels?	/		
Relevant Navtex warnings and T&Ps entered Using Manual updates and Notes if applicable?	/		
Echo sounder programmed in DBS or UKC mode? Vessel draught+ UKC?	Alarm	Indi	
Chart Alert setting used for planning the route:	/		
User Chart Danger	/		
Areas To be avoided	/		
Traffic Separation Zone	/		
Inshore Traffic Zone	/		
Restricted Area	/		
Caution area	/		
Offshore Production Area	/		
Seaplane landing Area	/		
Submarine Transit Lane	/		
Anchorage Area	/		
Marine Farm	/		
PSSA Area	/		
Voyage plan checked together with User Chart & Notes using voyage specific Safety Contour?	/		
Route Plan, user Chart and Notes switched to monitoring mode?	/		
Voyage Log, Danger Targets Log and Trip Counter reset?	/		
Printed Passage Plan Report, Route Plan Report and Full user Chart Report?	/		

The methods to be used for cross-checking are by all other means available - such as visual bearings, radar Position by RING & DIST, Parallel Index etc. It is important for the Navigator to practice all the traditional navigational skills and not to be overly confident in the information from the ECDIS. During the voyage GPS signal quality should be monitored continuously.

Navigation Officer

Voyage Plan checked by Master

**Appendix 3. BW Maple Port Departure Checklist - Navigation**

## Port Departure Checklist – Navigation

W

To be used by the OOW & Bridge Team to CONFIRM vessel and equipment ready for Departure from port.  
 If any of the items on the check list is answered with 'No', and before the operation can commence, a risk assessment to be carried out, see SBM 06-38, and reported to the Master. The Master to decide on any necessary actions before the operation can commence or abort the operation, see SBM 02-03 and 02-04 Masters Responsibility and authority.  
 The remarks column must be used for additional information if required. TO BE COMPLETED BY HAND – NOT BY ELECTRONIC MEANS

Port:	Yes	No	NA	Remarks	Initials
<b>ENMORE INDIA - DEPARTURE</b>					
<b>Information</b>					
Has a passage plan for the intended voyage been prepared in accordance with the Bridge procedure manual and discussed with the Bridge Team?	/				GM
Are charts and other nautical publications required for the voyage corrected and courses laid out?	/				GM
State latest NTM week no.: 04/17					
<b>Has the following equipment been checked and found ready for use?</b>					
a) Clocks Synchronised with engine room	/				GM
b) Ancillary bridge equipment (e.g. binoculars)	/				GM
c) Bridge movement book, (where carried)	/				GM
d) Course and engine movement recorder	/				GM
e) Echo sounder	/				GM
f) Electronic navigational position fixing aids	/				GM
g) Gyro compass and repeaters incl. repeater in steering gear room	/				GM
h) Magnetic compass	/				GM
i) Radar, ARPA and other plotting aids	/				GM
j) Speed indicators & distance recorders	/				GM
k) Integrated Bridge System - ECDIS	/				GM
l) Deck power	/				GM
m) Navigation lights and shapes, signalling equipment	/				GM
n) Ships whistles, if permitted and required	/				GM
o) BNWAS switched on and found operational	/				GM
LRIT and SVDR found operational	/			Time/Date: 0225	GM
Steering Gear tested (Checklist completed)	/			Time/Date: 0258	GM
Main Engine tested (astern and ahead) (CHECK port requirements)	/				GM
Thrusters (if fitted) powered on and ready for use	/				GM
Anchors cleared & ready for use. (Check port requirement)	/				GM
<b>Port an Pilotage Information / Requirements</b>					
VHF channels for various port services Noted and Checked	/				GM
Has port / agents been advised of any special vessel requirements	/				GM
Pilot card prepared	/				GM
Pilot boarding arrangements prepared / in hand	/				GM
Pilot boarding time confirmed	/				GM
Has a Master / Pilot information exchange been completed	/				GM
Has passage plan been amended in line with Master / Pilot exchange	/				GM
<b>Before Sailing</b>					
GMDSS station reactivated. All Communications systems Tested	/				GM
GMDSS log filled with details	/				GM
Navtex Operational, correctly set for area reception	/				GM
AIS reactivated / full power mode (Port requirements)	/				GM
All crew on board and Notified for mooring stations	/				GM
Are necessary personnel sufficiently rested	/				GM
Has a stowaway search been completed	/				GM
<b>Other checks and remarks</b>					



## PASSAGE PLAN - Part A

Date prepared: 1 June 2017

Page: 3 (6)

Vessel:	BW MAPLE	Engine statuses:	Navigation/bridge watch conditions:
Route:	Enmore - Viazag	F = Full speed (Sea)	1 = OOW + Lookout
Total distance:	330.2 NM	M = Maneuver Speed	2 = Master+OOW+Lookout+Helmsman/2nd Man
Average speed:	15.1 knots	H = Half Speed	3 = Pilot+Master+OOW+Lookout+Helmsman/2nd Man
Sailing time:	0 days 20:50 hours and minutes	S = Slow	=
Arrival time (LT):	1/28/2017 11:50 PM	DS = Dead Slow	=
Arrival time (UTC):	1/28/2017 6:50 PM		=
Deepest draught:	10.4 m		=

WP no	Waypoint name	Latitude	Longitude	Course to next WP (deg)	Distance to next WP (NM)	Leg speed to next WP (knots)	Under Keel Clearance			Engine status	Nav. watch level	Security level	Leg sailing time to next WP	ETA WP (UTC)	Distance sailed (NM)	Distance to go (NM)	Time to go (days hours m)	Max intervals between pos. fix (minutes)
							WL Depth (m)	Squat (m)	UOC (m)									
1	BERTH	N 13° 16.220'	E 080° 30.900'	194	0.3	2.0	15.0	0.0	4.6	DS	3	2	00:09	1/27/2017 9:00 PM	0.0	330.2	21:50	10
2	Turn South	N 13° 15.910'	E 080° 30.800'	165	1.9	6.0	19.0	0.2	8.4	S	3	2	00:18	1/27/2017 9:09 PM	0.3	329.9	21:40	10
3	Buoy 5/6	N 13° 14.080'	E 080° 21.530'	145	2.1	10.0	19.0	0.5	8.1	H	3	2	00:02	1/27/2017 9:28 PM	2.2	328.0	20:21	10
4	Fairway Exit	N 13° 12.400'	E 080° 22.540'	118	1.2	10.0	19.0	0.5	8.1	H	3	2	00:07	1/27/2017 9:40 PM	4.3	326.0	21:09	10
5	Enmore Pilot Stn	N 13° 11.840'	E 080° 23.610'	087	0.4	5.0	20.0	0.1	9.5	S	2	2	00:05	1/27/2017 9:47 PM	5.5	324.8	21:02	10
6	Off Pilot Stn	N 13° 11.860'	E 080° 24.040'	134	300.0	16.0	30.0		19.6	F	1	2	00:52	1/27/2017 9:53 PM	5.9	324.4	20:57	10
7	Appro Pilot Stn	N 17° 21.730'	E 083° 19.960'	012	13.2	12.0	72.0		61.6	DS	2	1	00:06	1/28/2017 4:45 PM	307.9	20.3	00:04	50
8	Off Pilot Stn	N 17° 34.680'	E 083° 22.880'	333	6.3	12.0	53.0		42.6	H	2	1	00:31	1/28/2017 5:51 PM	320.1	9.1	00:58	10
9	Viazag Pilot Stn	N 17° 40.510'	E 083° 19.820'	351	0.9	5.0	24.0		13.6	F	3	1	00:10	1/28/2017 6:23 PM	327.5	2.7	00:26	10
10	Fairway Entrance	N 17° 41.160'	E 083° 19.690'	271	1.4	8.0	20.0	0.3	9.3	DS	3	1	00:10	1/28/2017 6:33 PM	328.3	1.9	00:16	10
11	Breakwater	N 17° 41.180'	E 083° 18.200'	290	0.3	8.0	20.0	0.3	9.3	DS	3	1	00:02	1/28/2017 6:44 PM	329.7	0.5	00:05	10
12	Turning Circle	N 17° 41.280'	E 083° 17.520'	241	0.2	3.0	19.0	0.0	8.6	DS	3	1	00:03	1/28/2017 6:46 PM	330.0	0.2	00:03	10
13	UPG Berth	N 17° 41.190'	E 083° 17.750'	123	0.2	0.0	19.0			DS	3	1	00:00	1/28/2017 6:50 PM	330.2	0.0	00:00	10

## Appendix 5. BW Maple Passage Plan Meeting





## Pre Departure – Passage Plan Meeting

Vessel Name: BW MAPLE

Date: 28 Jan. 2017 / 0240H LT

## Agenda:

1. Evaluation of the last voyage and passage plan
2. Presentation of the next voyage and passage plan
3. Communication / Reporting requirements during next voyage
4. Security topics
5. Officers experience related to the next voyage
6. Other

## Minutes of Meeting:

- 1) Previous Voyage was conducted satisfactorily and safely, and in accordance to the made passage plan and International Regulations.
- 2) Presentation of next voyage and passage plan Ennore to Vizag was presented. From berth vessel will navigate the fairway channel outbound from port. She will then disembark the pilot at the designated pilot station. She will then proceed north easterly heading to Vizag up to Vizag pilot station where she will pick up the pilot. After picking up the pilot, vessel will navigate the entrance fairway of Vizag straight up to berth.  
Alertness to be observed and heightened security to be exercised. Sharp look out must be maintained at all times, special mention to the traffic density and concentration of fishing boats in the outer area of breakwater in Ennore, the route up to Vizag and the entrance fairway of Vizag. Keep safe distance from crossing vessels and oil rigs/offshore installations.
- 3) Pilot will embark the vessel at berth. Pilot will contact the assisting tugs. Continuous watch on Vhf ch. 74/16 for port control and local broadcast for safety navigation in the vicinity. Relevant reporting for the whole voyage to be made accordingly.
- 4) Security level 2 to be observed in Ennore. Keep a Sharp look out and maintain anti-piracy vigilance.
- 5) Inputs from other officer's experience had been accepted related to the next voyage.
- 6) Duty Watchman to be on the bridge when numerous fishing boats are encountered or with in the vessel's vicinity. Discussed Risk Assessment.

## Appendix 6. BW Maple Port Log

PSQ03 PORT BOOK

Date	Time	Remarks
14 Jan	07:00	2. 00000000 (0.000000)
14 Jan	07:10	2. 00000000 (0.000000)
14 Jan	07:20	2. 00000000 (0.000000)
14 Jan	07:30	2. 00000000 (0.000000)
14 Jan	07:40	2. 00000000 (0.000000)
14 Jan	07:50	2. 00000000 (0.000000)
14 Jan	08:00	2. 00000000 (0.000000)
14 Jan	08:10	2. 00000000 (0.000000)
14 Jan	08:20	2. 00000000 (0.000000)
14 Jan	08:30	2. 00000000 (0.000000)
14 Jan	08:40	2. 00000000 (0.000000)
14 Jan	08:50	2. 00000000 (0.000000)
14 Jan	09:00	2. 00000000 (0.000000)
14 Jan	09:10	2. 00000000 (0.000000)
14 Jan	09:20	2. 00000000 (0.000000)
14 Jan	09:30	2. 00000000 (0.000000)
14 Jan	09:40	2. 00000000 (0.000000)
14 Jan	09:50	2. 00000000 (0.000000)
14 Jan	10:00	2. 00000000 (0.000000)
14 Jan	10:10	2. 00000000 (0.000000)
14 Jan	10:20	2. 00000000 (0.000000)
14 Jan	10:30	2. 00000000 (0.000000)
14 Jan	10:40	2. 00000000 (0.000000)
14 Jan	10:50	2. 00000000 (0.000000)
14 Jan	11:00	2. 00000000 (0.000000)
14 Jan	11:10	2. 00000000 (0.000000)
14 Jan	11:20	2. 00000000 (0.000000)
14 Jan	11:30	2. 00000000 (0.000000)
14 Jan	11:40	2. 00000000 (0.000000)
14 Jan	11:50	2. 00000000 (0.000000)
14 Jan	12:00	2. 00000000 (0.000000)
14 Jan	12:10	2. 00000000 (0.000000)
14 Jan	12:20	2. 00000000 (0.000000)
14 Jan	12:30	2. 00000000 (0.000000)
14 Jan	12:40	2. 00000000 (0.000000)
14 Jan	12:50	2. 00000000 (0.000000)
14 Jan	13:00	2. 00000000 (0.000000)
14 Jan	13:10	2. 00000000 (0.000000)
14 Jan	13:20	2. 00000000 (0.000000)
14 Jan	13:30	2. 00000000 (0.000000)
14 Jan	13:40	2. 00000000 (0.000000)
14 Jan	13:50	2. 00000000 (0.000000)
14 Jan	14:00	2. 00000000 (0.000000)
14 Jan	14:10	2. 00000000 (0.000000)
14 Jan	14:20	2. 00000000 (0.000000)
14 Jan	14:30	2. 00000000 (0.000000)
14 Jan	14:40	2. 00000000 (0.000000)
14 Jan	14:50	2. 00000000 (0.000000)
14 Jan	15:00	2. 00000000 (0.000000)
14 Jan	15:10	2. 00000000 (0.000000)
14 Jan	15:20	2. 00000000 (0.000000)
14 Jan	15:30	2. 00000000 (0.000000)
14 Jan	15:40	2. 00000000 (0.000000)
14 Jan	15:50	2. 00000000 (0.000000)
14 Jan	16:00	2. 00000000 (0.000000)
14 Jan	16:10	2. 00000000 (0.000000)
14 Jan	16:20	2. 00000000 (0.000000)
14 Jan	16:30	2. 00000000 (0.000000)
14 Jan	16:40	2. 00000000 (0.000000)
14 Jan	16:50	2. 00000000 (0.000000)
14 Jan	17:00	2. 00000000 (0.000000)
14 Jan	17:10	2. 00000000 (0.000000)
14 Jan	17:20	2. 00000000 (0.000000)
14 Jan	17:30	2. 00000000 (0.000000)
14 Jan	17:40	2. 00000000 (0.000000)
14 Jan	17:50	2. 00000000 (0.000000)
14 Jan	18:00	2. 00000000 (0.000000)
14 Jan	18:10	2. 00000000 (0.000000)
14 Jan	18:20	2. 00000000 (0.000000)
14 Jan	18:30	2. 00000000 (0.000000)
14 Jan	18:40	2. 00000000 (0.000000)
14 Jan	18:50	2. 00000000 (0.000000)
14 Jan	19:00	2. 00000000 (0.000000)
14 Jan	19:10	2. 00000000 (0.000000)
14 Jan	19:20	2. 00000000 (0.000000)
14 Jan	19:30	2. 00000000 (0.000000)
14 Jan	19:40	2. 00000000 (0.000000)
14 Jan	19:50	2. 00000000 (0.000000)
14 Jan	20:00	2. 00000000 (0.000000)
14 Jan	20:10	2. 00000000 (0.000000)
14 Jan	20:20	2. 00000000 (0.000000)
14 Jan	20:30	2. 00000000 (0.000000)
14 Jan	20:40	2. 00000000 (0.000000)
14 Jan	20:50	2. 00000000 (0.000000)
14 Jan	21:00	2. 00000000 (0.000000)
14 Jan	21:10	2. 00000000 (0.000000)
14 Jan	21:20	2. 00000000 (0.000000)
14 Jan	21:30	2. 00000000 (0.000000)
14 Jan	21:40	2. 00000000 (0.000000)
14 Jan	21:50	2. 00000000 (0.000000)
14 Jan	22:00	2. 00000000 (0.000000)
14 Jan	22:10	2. 00000000 (0.000000)
14 Jan	22:20	2. 00000000 (0.000000)
14 Jan	22:30	2. 00000000 (0.000000)
14 Jan	22:40	2. 00000000 (0.000000)
14 Jan	22:50	2. 00000000 (0.000000)
14 Jan	23:00	2. 00000000 (0.000000)
14 Jan	23:10	2. 00000000 (0.000000)
14 Jan	23:20	2. 00000000 (0.000000)
14 Jan	23:30	2. 00000000 (0.000000)
14 Jan	23:40	2. 00000000 (0.000000)
14 Jan	23:50	2. 00000000 (0.000000)
14 Jan	00:00	2. 00000000 (0.000000)

## Appendix 7. BW Maple Pilot Card

## Pilot Card

**Master / Pilot Information Exchange**

Vessel name: **BW MAPLE** Date (ETA / ETD): **28 January 2017**  
 Port: **Ennars, India**  
 NOTE: Below sections (as applicable) and boxes to be completed by Master.

**SEA PILOT**

The following have been discussed with the Sea Pilot:

☐ Bridge Team Responsibilities  
☐ English Proficiency of Crew  
☐ Intended Passage Plan  
☐ Speed required for the passage  
☐ Expected Traffic Condition  
☐ Position to Embark / Disembark Pilot  
☐ ECDIS - RCDIS mode or not (Ref NAV 06.14)  
☐ ECDIS - RCDIS mode or not

☐ Tide, Currents, Weather Forecast  
☐ Position to meet / release tug  
☐ Berth / Anchorage  
☐ Status navigational aids  
☐ Engine & Deck machinery Status  
☐ Other

Are any amendments done to pilotage passage plan and charts after discussing intended passage plan with Pilot? ☐ Yes ☒ No

Have the SQUAT EFFECTS been accounted for? ☐ Yes ☒ No

Actual minimum URG during pilotage: m Minimum URG required as per Company policy (page 2): m  
 Date: Time:  
 Master's signature: Pilot's signature:

**RIVER PILOT**

The following have been discussed with the River Pilot:

☐ Bridge Team Responsibilities  
☐ English Proficiency of Crew  
☐ Intended Passage Plan  
☐ Speed required for the passage  
☐ Expected Traffic Condition  
☐ Position to Embark / Disembark Pilot  
☐ ECDIS - RCDIS mode or not (Ref NAV 06.14)  
☐ ECDIS - RCDIS mode or not

☐ Tide, Currents, Weather Forecast  
☐ Position to meet / release tug  
☐ Berth / Anchorage location  
☐ Status navigational aids  
☐ Engine & Deck machinery Status  
☐ Other

Are any amendments done to pilotage passage plan and charts after discussing intended passage plan with Pilot? ☐ Yes ☒ No

Have the SQUAT EFFECTS been accounted for? ☐ Yes ☒ No

Actual minimum URG during pilotage: m Minimum URG required as per Company policy (page 2): m  
 Date: Time:  
 Master's signature: Pilot's signature:

**HARBOUR PILOT**

The following have been discussed with the Harbour Pilot:

☐ Bridge Team Responsibilities  
☐ English Proficiency of Crew  
☐ Intended Passage Plan  
☐ Speed required for the passage  
☐ Expected Traffic Condition  
☐ Position to Embark / Disembark Pilot  
☐ ECDIS - RCDIS mode or not (Ref NAV 06.14)  
☐ ECDIS - RCDIS mode or not

☐ Tide, Currents, Weather Forecast  
☐ Position to meet / release tug  
☐ Berth / Anchorage location  
☐ Status navigational aids  
☐ Engine & Deck machinery Status  
☐ Other

Are any amendments done to pilotage passage plan and charts after discussing intended passage plan with Pilot? ☐ Yes ☒ No

Have the SQUAT EFFECTS been accounted for? ☐ Yes ☒ No

Actual minimum URG during pilotage: 2.7 m Minimum URG required as per Company policy (page 2): 1.0 m  
 Date: 28.1.2017 Time: 02:04  
 Place: Ennars, India

**BERTH AND TUG DETAILS**

The following have been discussed with the Harbour Pilot:

☐ Intended berth and berthing prospect  
☐ Side alongside Port / Starboard  
☐ Estimated time to berth  
☐ Tug Rendezvous Position

☐ Tug Arrangement  
☐ Tug no. 1 bollard pull  
☐ Tug no. 2 bollard pull  
☐ Tug no. 3 bollard pull  
☐ Tug no. 4 bollard pull

Are any amendments done to pilotage passage plan and charts after discussing intended passage plan with Pilot? ☐ Yes ☒ No

Have the SQUAT EFFECTS been accounted for? ☐ Yes ☒ No

Actual minimum URG during pilotage: 2.7 m Minimum URG required as per Company policy (page 2): 1.0 m  
 Date: 28.1.2017 Time: 02:04  
 Place: Ennars, India

## Pilot Card

**Arrival / Departure**

Vessel Details

Vessel Name	BW MAPLE	Call Sign	982009	Year Built	2002
IMO Number	8322750	Gross Tonnage	47,000	Net Tonnage	14,000
Length	117.00 m	Beam	20.00 m	Depth	10.00 m
Draft	10.00 m	Displacement at present draft	10,000 mt		

Ship's Particulars

Length	117.00 m	Beam	20.00 m
Depth	10.00 m	Displacement at present draft	10,000 mt
Displacement at present draft	10,000 mt		

Steering Characteristics

Type of rudder	Non-ducted stern fin	Turning Circle	20.00 sec
Maximum angle	45 degrees	Adverse	4.00 sec
Transfer angle to maximum effect	20 degrees	Transfer	3.00 sec
Used over to RWD over	45 seconds	Parade	2.00 sec

Key Distances

Bridge to stern	100.00 m	Bridge to bow	100.00 m
Bridge to stern	100.00 m	Bridge to bow	100.00 m
Bridge to stern	100.00 m	Bridge to bow	100.00 m

Main Engine(s)

Type of main engine	DYWIDAG - MAN - B-W	Number of main engines	2
Number of main engines	2	Rated power	1,200 kW
Rated power	1,200 kW	Maximum power	1,500 kW
Maximum power	1,500 kW	Engine order	MAN

Engine Order

Engine Order	MAN	Speed Control	MAN
Speed Control	MAN	Full ahead	11.00 knots
Full ahead	11.00 knots	Half ahead	10.00 knots
Half ahead	10.00 knots	Stop ahead	9.00 knots
Stop ahead	9.00 knots	Dead ahead	8.00 knots
Dead ahead	8.00 knots	Dead astern	7.00 knots
Dead astern	7.00 knots	Half astern	6.00 knots
Half astern	6.00 knots	Full astern	5.00 knots

Transducer

Transducer	MAN	MAN
------------	-----	-----

## Pilot Card

**Booring Ropes / Wires**

Number	Length	Weight	Material	Remarks
1	100 m	34.00	Steel Wire Ropes	Used for mooring
2	100 m	34.00	Steel Wire Ropes	Used for mooring
3	100 m	34.00	Steel Wire Ropes	Used for mooring
4	100 m	34.00	Steel Wire Ropes	Used for mooring

SWL for Fairleads and Bins used for tugs

Location	SWL
Forward	100 mt
Aft	100 mt
Port	100 mt
Starboard	100 mt

Checked (To be completed by hand after actual checking)

<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes
<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes
<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes	<input type="checkbox"/> Ropes

Remarks

Enter your remarks

Company URG policy (Refer to Navigation manual NAV 02-01)

Location	20 knots draught	100 knots draught	100 knots draught	100 knots draught	100 knots draught
Open water	✓	✓	✓	✓	✓
Shallow water	✓	✓	✓	✓	✓
Shallow water	✓	✓	✓	✓	✓
Shallow water	✓	✓	✓	✓	✓
Shallow water	✓	✓	✓	✓	✓

## Appendix 8. BW Maple Steering Gear Checklist

## Checklist – Steering Gear Tests

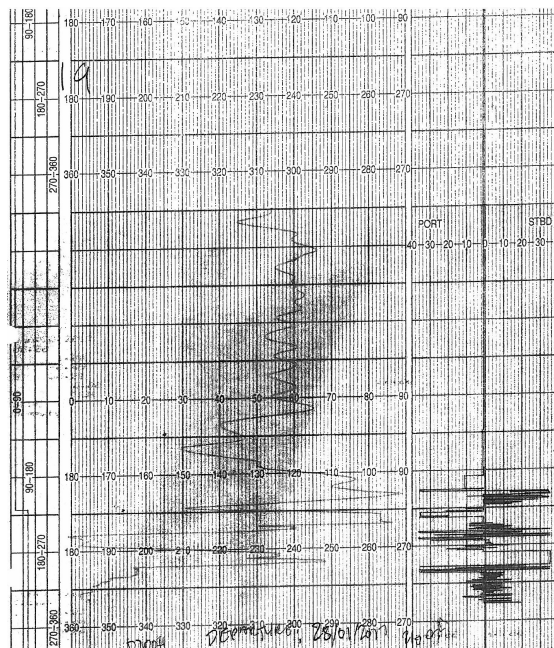


TESTS SHALL BE CARRIED OUT IN ACCORDANCE WITH REQUIREMENTS IN CHAPTER 05.00 – STEERING GEAR TESTS.  
The remarks column must be used for additional information if required. TO BE COMPLETED BY HAND – NOT BY ELECTRONIC MEANS

Port / Location:	ENNOKE, INDIA - DEPARTURE							
Master requires test to start at:	0215 Hrs.		Enter: Yes / No / NA					
1) All two way communications between steering gear room and bridge tested	YES							
2) Gyro repeater heading compared, rudder angle indicator compared	YES							
STEERING SYSTEM								
	No 1 system		No 2 system		N.F.U system 1		N.F.U system 2	
	No1Mtr	No2 Mtr	No1Mtr	No2 Mtr	No1Mtr	No2 Mtr	No1Mtr	No2 Mtr
3) 1 steering motor, Wheel amidships, rudder angle indicators and tillers positions checked	YES	YES	YES	YES	YES	YES	YES	YES
4) 1 steering motor, Wheel hard to port, rudder angle indicators and tillers positions checked	YES	YES	YES	YES	YES	YES	YES	YES
5) 1 steering motor, Wheel hard to starboard, rudder angle indicators and tillers positions checked	YES	YES	YES	YES	YES	YES	YES	YES
6) Both steering motors, Wheel amidships, rudder angle indicators and tillers positions checked	YES							
7) Both steering motors, Wheel hard to port, rudder angle indicators and tillers positions checked	YES							
8) Both steering motors, Wheel hard to starboard, rudder angle indicators and tillers positions checked	YES							
9) Both steering motors, Wheel full movement from port to starboard = timing checked (not more than 28 sec.)	YES / 17 sec		YES / 17 sec		YES / 18 sec		YES / 17 sec	
10) Both steering motors, Wheel full movement from starboard to port = timing checked (not more than 28 sec.)	YES / 17 sec		YES / 18 sec		YES / 17 sec		YES / 16 sec	
ENGINEER CHECKS AT STEERING GEAR ROOM								
11) Linkages greased and moving correctly	YES							
12) Tank levels – filled correctly	YES							
13) No leaks	YES							
14) Low level isolation system, change over and alarms	YES							
15) Each remote steering gear control system - power failure alarm	YES							
Time: 0225	Date: 28 JAN 2017	OOW	Name: [Signature]	Sign: [Signature]				
Time: 0235	Date: 28 JAN 2017	Master	Name: [Signature]	Sign: [Signature]				
Time: [Blank]	Date: 28 JAN 2017	Engineer/Electrician	Name: [Signature]	Sign: [Signature]				
Time: [Blank]	Date: 28 JAN 2017	Chief Engineer	Name: [Signature]	Sign: [Signature]				

Only one copy to be filed with the completed passage plan: Completion time / date of this check list to be logged in the Deck log book and the Engine Logbook  
DCM 01.03.a-28 rev 01

## Appendix 9. BW Maple Course Recorder



## Appendix 10. BW Maple Radar Log

DATE		TIME		HOURS IN USE	AREA OF USE	WEATHER AND VISIBILITY	REASON FOR USE, BENEFITS OBTAINED AND LIMITATIONS OBSERVED	STATE OF EQUIPMENT
ON	OFF							
24 Jun 74	0800	1200	4	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
25 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
26 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
27 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
28 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
29 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
30 Jun 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
1 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
2 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
3 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
4 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
5 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
6 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
7 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
8 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
9 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
10 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
11 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
12 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
13 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
14 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
15 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
16 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
17 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
18 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
19 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
20 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
21 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
22 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
23 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
24 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
25 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
26 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
27 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
28 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
29 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
30 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	
31 Jul 74	0800	0900	1	RESEARCH AREA	MOD. SEA / GOOD VIS.	T, P, W, S, L	30cm: 14.8-15.8, 10cm: 13.4-14.4	



## Appendix 11. BW Maple Reports Navigational Equipment

Status: Send to Shore

Responsible: Master BW Maple

### NON CONFORMITY

Report Title	Bridge Telegraph Printer to Replace due to deterioration	Report ID	MAE01599
Vessel Name	BW Maple	Report Date	01/11/2017
<b>Non-conformity</b>			
Non-conformity from	Vessel		
Description of the non-conformity	Deteriorating Telegraph Printer to replace with new one due to fading print out.		
Checklist Item			
Issued date	01/11/2017	Due date	02/01/2017
		Conditions	Malfunction Wear and tear Electrical or mechanical system
<b>Basic Causes</b>			
Description of basic causes	Deterioration due to wear & tear.		
		System factors	Lack of or inappropriate procedure
		Mental or physical factors	Lack of attitude
<b>Suggestions for Improvement</b>			
Description	Suggest to install more durable type of printer with after sales service and parts that will last for a reasonable time.		

Status: Send to Shore

Responsible: Master BW Maple

### NON CONFORMITY

Report Title	Spare HDD for the VDR	Report ID	MAE01585
Vessel Name	BW Maple	Report Date	01/02/2017
<b>Non-conformity</b>			
Non-conformity from	Vessel		
Description of the non-conformity	There is no spare HDD for the VDR available onboard.		
Checklist Item			
Issued date	01/02/2017	Due date	03/03/2017
		Conditions	Not according to regulations Rules and regulation
<b>Basic Causes</b>			
Description of basic causes	There is no spare HDD available onboard.		
Management factors	Poor orders		
Competence factors	Lack of knowledge		
<b>Suggestions for Improvement</b>			
Description	As per the FURUNO VDR instructions , The HDD to be disconnected once the data is saved after an incident.  The spare HDD will be connected if available onboard only.		

Status: Send to Shore

Responsible: Master BW Maple

### NON CONFORMITY

Report Title	Bridge Autochief C20 Panel shut down and display information was lost	Report ID	MAE01580
Vessel Name	BW Maple	Report Date	12/30/2016
<b>Non-conformity</b>			
Non-conformity from	Vessel		
Description of the non-conformity	Bridge Autochief C20 Panel shut down, display information lost.		
Checklist Item			
Issued date	12/30/2016	Due date	01/15/2017
		Conditions	Malfunction Wear and tear Electrical or mechanical system
<b>Basic Causes</b>			
Description of basic causes	Bridge Autochief C20 Panel shut down, display information lost due to wear & tear.		
		System factors	Lack of or inappropriate procedure
Competence factors	Lack of knowledge		
<b>Suggestions for Improvement</b>			
Description	To have at least one spare Autochief C20 Panel display unit on Board as per minimum requirement so that in the event of failure, this can be replaced on time.		

