

MERCANTILE MARINE OFFICE

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**MARINE ACCIDENT INVESTIGATION REPORT ON COLLISION BETWEEN MV SAMIR
AND MV GAZI AT CHITTAGONG PORT ON 11 NOVEMBER 2016**

Subject	FLAG STATE INVESTIGATION REPORT ON COLLISION/ALLISION BETWEEN M.V.SAMIR AND M.V.GAZI AT KARNAPHULY RIVER, CHITTAGONG ON 11 NOVEMBER 2016.		
Our Ref.:		Date	25 FEBRUARY 2017

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1. INTRODUCTION:

The investigation was conducted according to the provision of Chapter I - General provision, regulation 21 Casualties of SOLAS and following the guidance of Casualty Investigation Code 2008, adopted by resolution of MSC 255(84). According to the national legislation section 415 of Bangladesh Merchant Shipping Ordinance 1983, in order to carry out the inquiry into any shipping casualty, the Principal Officer of Mercantile Marine Office formed an inquiry committee consists of following members (vide official order no : 402.012.049.00.00.021.2014/5808):

- 01. Capt. Sheikh Md. Jalal Uddin Gazi - Nautical Surveyor, Mercantile Marine Office,
as Convenor
- 02. Capt. Sabbir Mahmood - Senior Nautical Instructor, BMA and Nautical Surveyor(Part time) Mercantile Marine Office, as Member
- 03. Capt. Abu Sufian - Assistant Harbour Master, Chittagong Port Authority, as Member

2. PURPOSE OF THE INVESTIGATION:

The objectives of the investigation conducted by Mercantile Marine office, Chittagong, Bangladesh is to determine the causes of the accident and damage incidental to the accident, thereby preventing future accidents and reducing damage. The main goal of such investigation is to determine whether any changes in the present regulations might be desirable.

3. PARTICULARS OF THE SHIPS INVOLVED IN THE ACCIDENT:

Sl	Particulars	MV Samir	MV Gazi
01	IMO Number	9317133	9117375
02	Name of the Ship	MV Samir	GAZI

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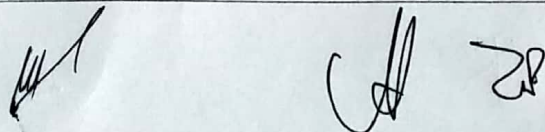
03	Flag Administration	Bangladesh	Malta
04	Type of Ship	Bulk Carrier	Bulk Carrier
05	Trading area	Unlimited	Unlimited
06	Any voyage restriction	Nil	Nil
07	Gross Tonnage	30046	15164
08	Length Overall	189.99	146.4
09	Classification Society	DNV-GL	NK
10	Registered Owner	Jahan Marine Pvt Ltd	Antoine Navigation Ltd
11	Ship manager	Brave Royal Ship Mngt Ltd	Chekka Shipping S.A.
12	Previous Names	MV Tripple Star	William
13	Previous Flag	Panama	Germany
14	Date of Contract/keel laid/Delivery	29.10.2005 Delivery dt	22/11/94, 25/05/1995
16	Date of Major conversion	N/A	N/A
17	Dead weight	52454 MT	MT
18	Hull material	Steel	Steel
19	Hull Construction	Double bottom	Double bottom
20	Propulsion type & Bunker	Diesel/MGO/HFO	Diesel/MGO/HFO
21	Nature of cargo	Cement clinker	Cement clinker
22	Building Yard		
23	Hull Number		
24	Date of total loss		
25	Number of crew on ship's certificate		
26	Number of passenger on ship's certificate	N/A	N/A
27	Number of persons on board during casualty, Crew, Passenger, Others	25	21

4. SUMMARY OF THE ACCIDENT:

4.1 Accident type: Collision/Allision

4.2 Date and Time: Around 0630 hrs Local Time on 11 November 2016 (UTC= LT+06 Hrs)

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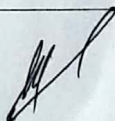
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- 4.3 **Position & Location:** The position of the collision was 22°16.81' N 091°47.82' E, while the vessel was underway in Karnaphuly river of Chittagong port and other vessel MV Gazi was berthed at Cement Clinker Jetty.
- 4.4 **Consequences:** Ship rendered unfit to proceed.
- 4.5 **Pilot on Board:** Pilot boarded at 0530 hrs LT and was on board during incident. Pilots name Capt. Md Rahmatullah Khan.
- 4.6 **Summary of the Accident:** Bulk Carrier MV Samir was scheduled to berth on 11.11.2016, as such pilot boarded and the vessel proceeded towards Karnaphuli river at 0540 hrs LT, with a crew of 25 numbers on board. The vessel was laden with 24,815 MT cement clinker and draft was forward 7.4 meter and aft 7.5 meter. At 0600 hrs LT visibility started deteriorating and reduced to dense fog. The vessel reduced speed to slow ahead at 0615 hours and same time the Chittagong VTIS advised pilot that the vessel is positioned at off track towards the starboard side, and advised to alter to the port. At 0627 vessel started swinging to the port and till the collision time of 0630 hrs the turning could not be stopped and eventually hit the jetty and then starboard bow of the MV Samir contacted with the port bow of the vessel MV Gazi, which was safely moored at Cement Clinker Jetty, pushing her (MV Gazi) almost a ship's length backward. At 0752 hrs MV Samir made fast keeping the other vessel penetrated at Cement Clinker jetty. Subsequently at 1029 hrs both vessel disconnected and safely berthed in different jetty.

5. **PROCESS AND PROGRESS OF THE INVESTIGATION:**

The investigation committee boarded both the vessel to carry the inquiry of the accident. Masters and crew members of both ship were interviewed and documents were collected. The ECDIS record from MV Samir and AIS track record of MV Gazi have been analysed as substantial evidence of incident. Statements from the pilot and other witnesses of the accident were also collected.

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6. WEATHER, SEA AND OTHER EXTERNAL FACTORS:

During the collision time the vessel was experiencing high tide which started 1.5 hrs earlier and the next change of tide was on 1015 Hrs LT toward the low tide. The rate of current was 2-3 kts at North West direction at the position of collision. The sea was calm with zero wave height. There was no wind force at Chittagong port on the day of accident. The visibility was poor (1-3 n.m.) to moderate fog (0.25 nm to 0.5 nm) during the pilot boarding time and subsequent proceeding through the river. According to the Master of Samir's statement at 0615 hrs LT the visibility was deteriorating and reduced up to dense fog (visibility less than 50 meter) within smallest period of time. The charted depth around the collision area was 22 meter and the rise of tide may be considered as 1.5 meter.

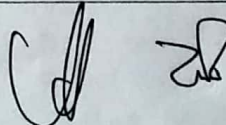
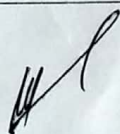
7. DAMAGE TO THE SHIP AND PORT:

Both vessels suffered significant structural damages as a result of the contact. MV Samir reported damages to the starboard bow, including the forecastle deck and to several structural members. The shell plating iwo the forecastle was holed. The port side shell plating sustained dents after she hit the jetty. MV Gazi reported damages to her port bow and forecastle area. The mooring ropes parted and the shell plating iwo the bow area was holed. At the north of the cement clinker jetty naval installations and the jetty were also damaged as reported by the Navy.

8. INJURIES TO PERSON & POLLUTION TO THE SEA:

There was no injury to any person on board and ashore and also no pollution incident reported.

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9. EVENTS LEADING TO THE ACCIDENT:

The engine movement book of the vessel MV Samir was reviewed and found that the vessel was moving with full ahead after boarding of the pilot till 0615 hrs LT, during which time the Engine was reduced to Slow ahead. At 0628 hrs the vessel was given Half Ahead and then Full Ahead so that the vessel can turn faster towards the starboard side. According the ECDIS record the vessel's speed was 10.5 knots at 0612 hrs LT, Heading was 359° with COG 007°, and the position was 22°15.49' N 091°50.15' E near the way point shown 07 number. At 0619 hrs LT the heading and course over ground of the vessel was 275° and 285° and the speed was observed as 7.9 knots. The position of that time was 22°16.19' N 091°49.45' E in between the way point leg of 9 and 10. During this time we have seen the vessel's position was starboard of the drawn course line and the drifting was also toward the same direction. According to the Master of MV Samir's statement at 0615 hrs from port control (VTIS Chittagong) the pilot was advised to come port side of the course. At 0628 hrs we have found that the vessel's heading and COG was 318°, though the charted course was 307° and the position of the vessel was port side of the charted track and the speed was 7.1 kts. Immediately after that period we have found that the vessel was given hard port and the heading and course over ground also started swinging to the port. Until 0631 hrs LT the ship's heading was swinging and settled at the last moment on 280°, while the course made good was 289°. The vessel tried during that time to swing to the starboard by increasing the speed from Half Ahead and then full ahead but could not succeed. At 0632 hrs the heading was 314° and COG was 278° and that time the vessel collided with MV Gazi and speed found reducing quickly, the vessel also stopped engine, given full astern, dropped port anchor. At 0635hrs the visibility slightly increased and found that both vessels entangled each other on bow. At 0650 hrs tug assistance was provided and finally the vessels separated at 1029 hrs LT on 11 November 2016.

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10. OTHER OBSERVATIONS:

The vessel MV Samir is fitted with two ECDIS both manufactured by Chartworld International Ltd, Cyprus and also fitted with one 9 GHz and one 3 GHz RADAR with ARPA, one AIS, one LRIT, One VDR, one Echo Sounder and one GPS as navigational aids. All equipment was operational and running during the accident. There are course recorder but the paper was not set during the maneuvering of the ship also the VDR could not provide any information and records show erratic functioning of VDR which was not reported earlier. As such the helm orders, course alterations and other actions could not be confirmed.

During the accident the Bridge was manned by Master, 3rd Officer and one AB, who was engaged in hand steering. Chief officer was keeping look out from the forward station.

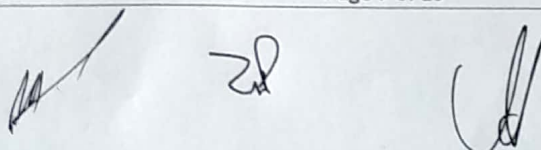
After reviewing passage plan and interviewing the second officer it was found that the passage plan was prepared in ECDIS berth to berth. It was observed that the way point 10 to 11 leg was not correctly drawn and was not in the middle of the navigable water.

The ECDIS setting of MV Samir was checked and found the chart setting as per following:

Max Draft	6.4	m
UKC	1	m
Safety Vertical clearance	30	m
Safety Contour	11	m
Safety Depth	11	m
Deep Contour	13	m
Starboard side	10	°
Port Side	10	°
Time	2	Min
Turn off if SOG≤	2	kts

The maneuvering characteristics of MV Samir was reviewed and found as follows:

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Time and Distance to stop in Normal Load			Engine Speed	
Engine Order	Time	Distance	RPM	Speed
Full Ahead	12.7 min	1.3 nm	85	11.1
Half Ahead	11.0 min	1.0 nm	60	8
Slow Ahead	7.9 m	0.5 nm	50	6.7
Dead Slow Ahead	6. min	0.4 nm	40	5.4

The certificate of competency of all officers were verified and found all valid and in order. According to the Safety Equipment Certificate vessel is fitted with ECDIS to comply with SOLAS requirement of providing nautical charts. The vessel also maintained second ECDIS as back up according to the regulation.

Neither the Master and nor the navigating officer (2nd Officer) had any approved Generic ECDIS training. All officers had the type specific training conducted by the trainer of the company. Also the ECDIS equipment was type approved by DNV and China Classification Society and United States Coast Guard.

11. ANALYSIS OF FINDINGS:

11.1 It is well evident that, the officers of the vessel M.V. Samir were not properly qualified and capable to use ECDIS to maintain safe navigation watch. The safety contour was set in such a manner that the whole river passage was shown as unsafe passage. The deep water contour line, shallow contour line were not shown in the chart as all the parameters were set in same range. The original contour line was 0-5 m, 5-10 m, 10-20m and above 20 meter.

11.2 As the chart setting was not correct, the 2nd officer while doing the passage plan, could not find out the width of the navigable water of the channel, as such the route was not

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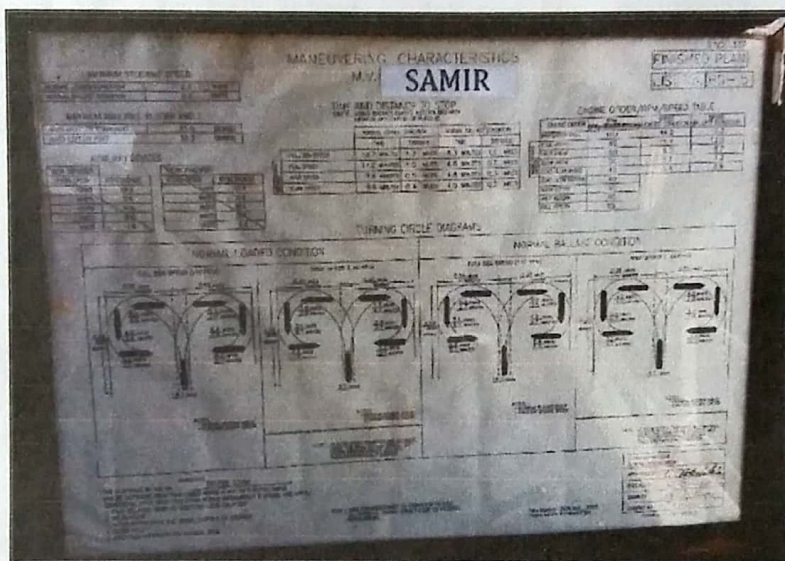
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always at the middle of the navigable water. Even in way point 10 to 11, the course line was actually very close to the shallow water.

- 11.3 The vessel did not maintain safe speed in the prevailing condition and restricted visibility.



- 11.4 During restricted visibility the pilot was also maneuvering the vessel with the help of ECDIS where the chart setting and course laid up was not correct. It was also observed that the Chittagong Port pilot was not properly trained to navigate a vessel with the help of ECDIS.

- 11.5 From 0628 to 0631 hrs the vessel's heading swung 38° to the port, which is nearly abeam to the general direction of the current flow. As such the vessel's tendency was to swing out to head the tidal stream, the vessel could have been stopped and tried full astern to avoid contact or even the impact could have been minimized.

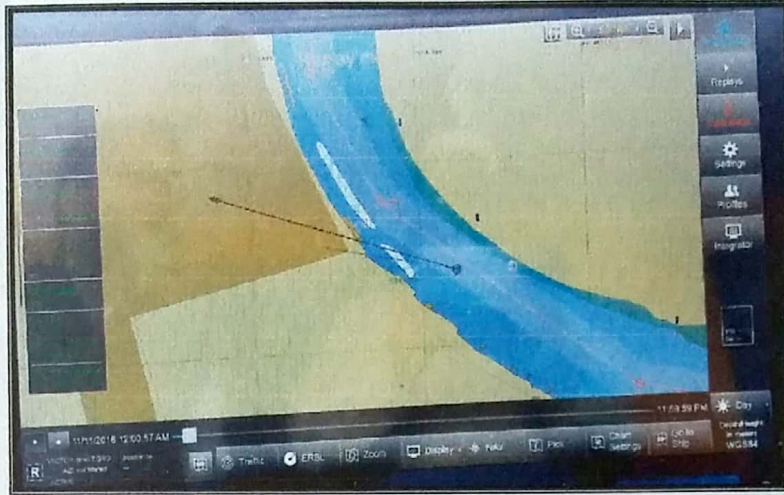
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11.6 Prudent use of RADAR was not done (From the statement and practice of the ship's crew it was observed that in spite of the restricted visibility the prudent use of RADAR was not done to avoid the accident). The location of radar equipment may have discouraged the officers to make best use of it.



11.7 The vessel MV Samir's LOA was 189.99 meter. The visibility criterion is nearly common phenomenon for the specific winter season and in early morning time in the Karnaphuly

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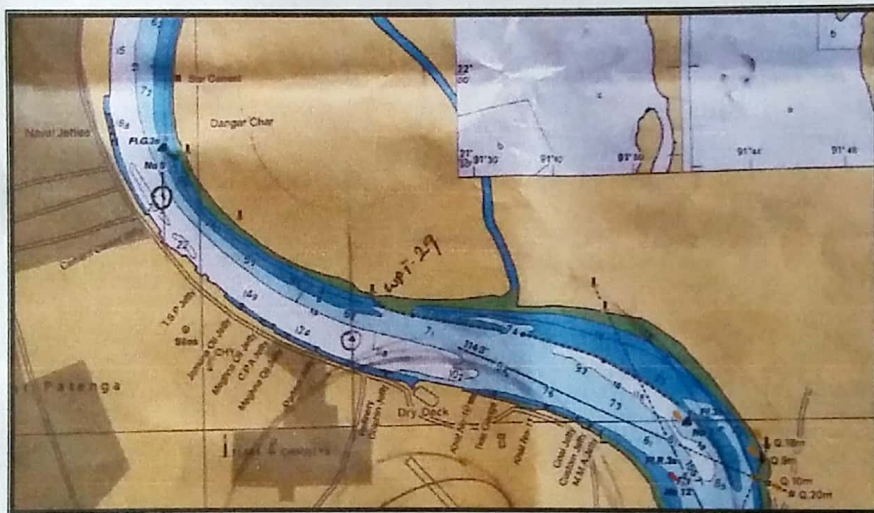
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river. Initial pilot boarding time was scheduled at 0700 Hrs, however, boarding time was revised and pilot boarded at 0536 Hrs. No risk assessment was carried out to handle a vessel like MV Samir which is at the max limit for vessels handled by Chittagong port. There was no escort tug while the vessel was moving in restricted visibility.

- 11.8 It was also observed that there is no lateral buoy mark in between Buoy No 7 and No 9, where the distance is about 1.8 nautical mile and the river also bends to the starboard direction.



12 **PROBABLE CAUSE OF THE INCIDENT:**

It is probable that the collision accident occurred due to the wrong passage plan and wrong settings of the ECDIS by the vessel MV Samir and during restricted visibility the vessel did not take appropriate actions required according to the International Regulations for Preventing Collisions at Sea.

13. **SAFETY RECOMMENDATIONS:**

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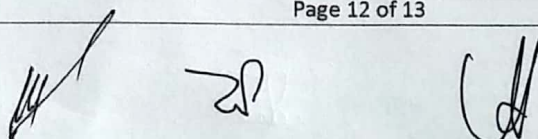
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The following measures can be recommended to help prevent recurrence of similar accidents :

- 13.1 In vessels fitted with ECDIS, ***all navigating officers including master should have appropriate generic and type specific ECDIS training from recognized organization.***
- 13.2 Risk assessment to be carried out while handling bigger vessels with special consideration to the state of visibility and the maneuverability of the vessel in the prevailing condition.
- 13.3 According to the SPECIFICATIONS FOR CHART CONTENT AND DISPLAY ASPECTS OF ECDIS the IHO publication S-52 para2.2.7 it is mentioned that, "the navigator should be able to see the display clearly, and to reach the controls, from his normal conning position, - it is an advantage to locate radar and ECDIS side by side". In the above case analysis it was observed that both RADARs were placed beside one ECDIS, which will reduce the productivity of RADAR by restricting many user. Also it should be mentioned that the RADAR watch can not be substituted by the use of ECDIS. ***As such there is scope of more study on ergonomics and implementation of new regulation to find out the best possible location for both ECDIS and RADAR so that both equipments may be used judiciously to avoid grounding and collision by the Master, Pilot or Watch keeping officers.***
- 13.4 The Pilots of Chittagong Port Authority are also required to be properly trained to use ECDIS. VTMS to be manned with properly trained and qualified personnel for monitoring and ensuring safe movement of vessels in the Karnaphuli river.

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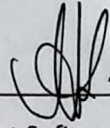
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13.5 The lateral buoy mark may be increased for all critical areas including not more than a distance of 0.5 nautical mile apart within the Karnaphuly river for the sake of safe navigation in restricted visibility and night navigation.

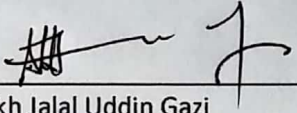


Capt. Sabbir Mahmood
Senior Nautical Instructor, BMA



Capt Sufian
Assistant harbour Master, CPA-as member

Nautical Surveyor(addl Charge) MMO-as member



Capt. Sheikh Jalal Uddin Gazi
Nautical Surveyor
Mercantile Marine Office- as Convenor

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