



Report of investigation  
into the fatal accident  
on board the Hong Kong registered ship  
*m.v. "Winner"*  
in the position  $12^{\circ} 46.15' \text{ S}$ ,  $46^{\circ} 48.0' \text{ E}$   
on 9 March 2006



## **Purpose of Investigation**

This incident is investigated, and published in accordance with the IMO Code for the Investigation of Marine Casualties and Incidents promulgated under IMO Assembly Resolution A.849(20). The purpose of this investigation conducted by the Marine Accident Investigation and Shipping Security Policy Branch (MAISSPB) of Marine Department is to determine the circumstances and the causes of the incident with the aim of improving the safety of life at sea and avoiding similar incident in future.

The conclusions drawn in this report aim to identify the different factors contributing to the incident. They are not intended to apportion blame or liability towards any particular organization or individual except so far as necessary to achieve the said purpose.

The MAISSPB has no involvement in any prosecution or disciplinary action that may be taken by the Marine Department resulting from this incident.

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## **1. Summary**

- 1.1 On 9 March 2006, while the bulk carrier m.v. "*Winner*" was en route from Brazil to Singapore, a crewmember who was working inside the forepeak tank was found fallen down to the tank bottom. The crewmember was killed in the accident.
- 1.2 No one witnessed how the accident happened. Based on the available evidence, it was probable that the crewmember slipped and stumbled over the guardrail and fell down to the bottom of the tank.
- 1.3 Following contributory factors were identified in the investigation:
  - a. The deceased was inexperienced and not adequately supervised to work inside the F.P.T. which was considered a dangerous working area. People are vulnerable to the risk of falling from height particularly in rolling and pitching conditions;
  - b. The working area was slippery and inadequately illuminated;
  - c. The safety belt had not been attached to any secure point; and
  - d. The Safety Management System had not been effectively implemented, requirements in the STCW Convention and COP were not properly followed.

## 2. Descriptions of *the Vessel*

### 2.1 Particulars of m.v. "*Winner*"

Port of Registry:	Hong Kong
IMO No.:	8213627
Official No.:	HK-1534
Call Sign:	VRBB2
Type of Ship:	Bulk Carrier
Year Built:	1984
Name of Builder:	Hitachi Zosen Corporation Ariake Works, Japan
Management Company:	Cosco Wallem Ship Management Co., Ltd.
Classification Society:	American Bureau of Shipping
Length:	278.00 metres
Breadth:	47.50metres
Moulded Depth:	24.30 metres
Gross Tonnage:	93,000
Main Engine:	B&W 6L80MCE
Propulsion Power:	13,129.6 kW

"*Winner*" is a 9-hold bulk carrier built in 1984 by Hitachi Zosen Corporation Ariake Works in Japan. *The Vessel* was owned by Jiali Ocean Shipping Group Limited and managed by Cosco Wallem Ship Management Co., Ltd.



Fig.1: The bow of the bulk carrier "*Winner*"

### **3 Sources of Evidence**

- 3.1 Detailed incident report from the Master of *m.v. "Winner"*
- 3.2 Ship's records, drawings and plans provided by Cosco Wallem Ship Management Co., Ltd.

#### 4. Outline of Events

- 4.1 Bulk carrier "*Winner*" (thereafter referred as *the Vessel*) with 170,692 tonnes of iron ore departed Sepetiba, Brazil on 16 February 2006. *The Vessel* was en route to Singapore for taking bunker and then to Yantai, China for discharging cargo.
- 4.2 On the afternoon of 9 March 2006, *the Vessel* was proceeding to Singapore on a north-easterly course in position 12°46.15' S, 46°48.0'E at a speed of 11.8 knots. A team of three crewmembers comprising the Bosun and two Ordinary Seamen (OS1 and OS2) were carrying out maintenance work inside the forepeak tank (F.P.T.)
- 4.3 At about 1545, the crewmembers were working on No. 1 starboard stringer inside the F.P.T. The Bosun and the OS1 were preparing paint rollers near the starboard inner side shell of the ship and each of them got a portable light. The OS2 was alone sweeping off the debris on the stringer near the outer edge (see fig.2). However, all the two portable lights were being used by the Bosun and the OS1 at about 5 metres away from the OS2.
- 4.4 At about 1600, another Ordinary Seaman (OS3) came down from the main deck to the F.P.T. to assist the team there. He noted that only the Bosun and the OS1 were working on the stringer but the OS2 was not there. They looked around and could not find the OS2. They then informed other crewmembers to the F.P.T. and started searching. They finally found the OS2 lying unconsciously at the bottom of the F.P.T. at about 15 metres below the working position.
- 4.5 The crew immediately reported the incident to the Master. All deck crew mustered and proceeded to the scene for rescue. However, the OS2 was certified dead by the Chief Officer.

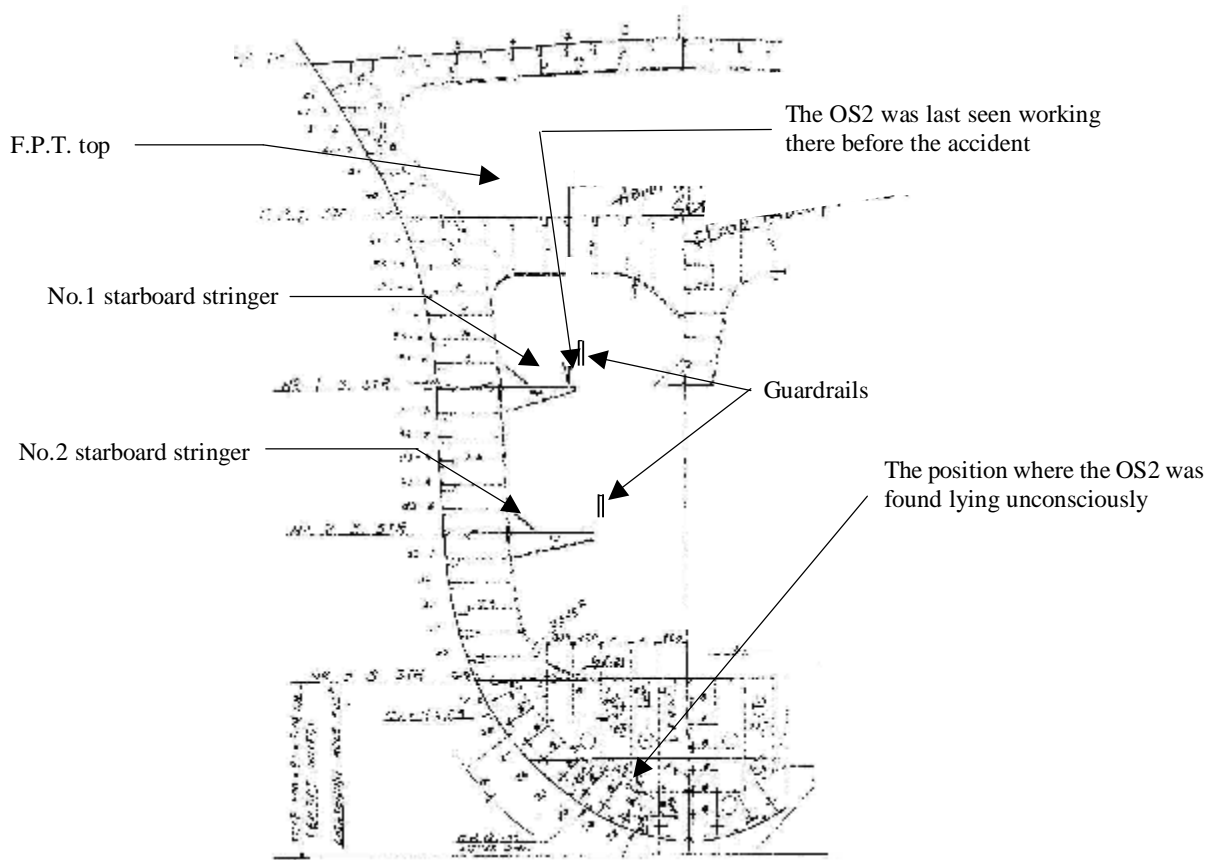


Fig.2: The positions of the OS2 before and after the accident.

## **5. Findings and Analysis**

### **Weather conditions**

- 5.1 *The Vessel* was proceeding at her full sea speed of about 11.8 knots on a course of 43°T. The wind was from the north west at force 5, and the sea was moderate with wave height of about 1.5 metre. Apparently, *the Vessel* would experience occasional pitching and rolling to certain extent.

### **Preparation for entry of the F.P.T.**

- 5.2 The crewmembers pumped out the ballast water out of the F.P.T. for some days. They had also opened the manholes to ensure good ventilation of the tank. The atmosphere inside the F.P.T. was certified safe by the Chief Officer.

### **The working environment of the F.P.T.**

- 5.3 The edge of the stringer plate was protected by guardrails. The guardrails consisted of a top-rail and a mid-rail of height about 80 cm and 40 cm respectively which however might not sufficient to prevent people falling over. *The Vessel's* pitching and rolling movements would be particularly prominent in the F.P.T. The floor of the stringer plate was wet and muddy. Slip might arise when personnel walked on there. Power ventilation was provided throughout the work inside the F.P.T.

### **The illumination**

- 5.4 As the F.P.T. was an enclosed area, natural illumination could not reach the F.P.T. The three crewmembers used two portable lights to illuminate the working area. The lights were being used by the Bosun and the OS1 who were working at about 5 metres away from the OS2. Therefore, the working area of the OS2 was under poor illumination.

### **Medical Fitness of the OS2**

- 5.5 The OS2 received pre-sea medical examination prior joining *the Vessel*. He was medically fit to perform the duties as an Ordinary Seaman.

### **Fatigue**

- 5.6 After lunch time, the OS2 carried out maintenance work inside the F.P.T. from 1330 to 1515. He continued his work at 1545 after a 30-minute break. The accident happened soon after the break. It appeared that the OS2 had taken adequate rest before the work. Fatigue is not considered as a contributory of the accident.

### Work of the OS2 inside the F.P.T

- 5.7 The three crewmembers were carrying out maintenance work inside the F.P.T. All of them were at some distance apart. The Bosun and the OS1 were working near the shipside shell while the OS2 was assigned to sweep off the rust debris close to the outer edge of the stringer. (See figure 3)

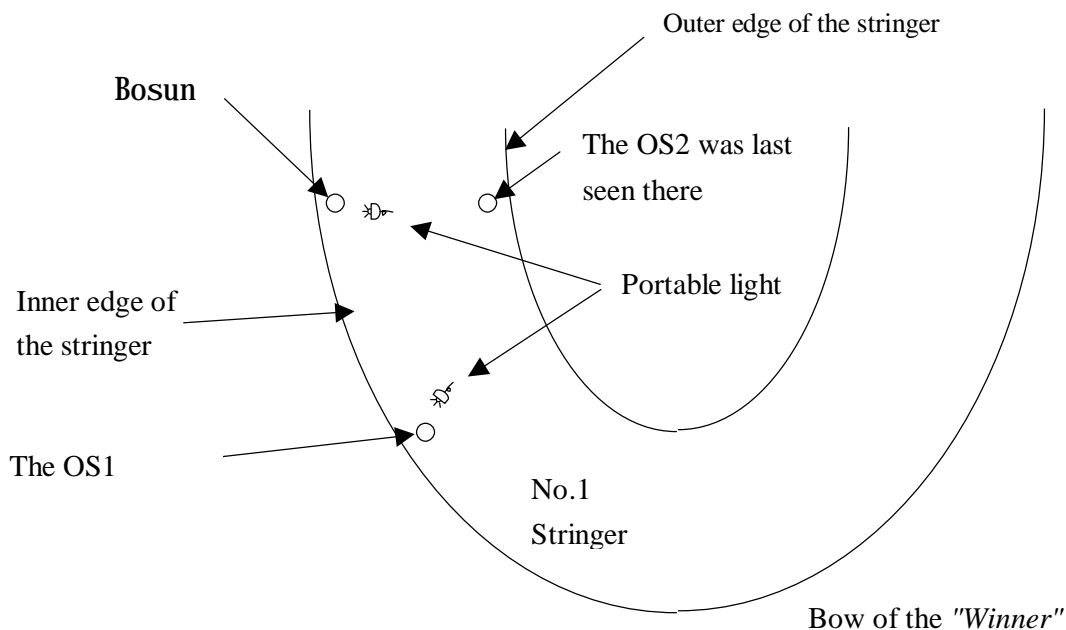


Fig. 3: The positions of the working team prior to the incident

### Working experience of the OS2

- 5.8 The OS2 was a male Chinese national of age 28. He received pre-sea nautical training and possessed a "Certificate of Professional Training for Seafarers" issued by The People's Republic of China on 7 July 2005. He joined *the Vessel* on 25 December 2005. It was the first ship he sailed on and his total sea experience was less than four months.

### Personal protective equipment

- 5.9 The OS2 was wearing a pair of safety shoes and a safety harness. However, the safety belt of the safety harness had not been secured to the guardrail or any anchor point.

### Supervision of inexperienced crewmember

- 5.10 The work place of the OS2 inside the F.P.T. is a high risky area as it was poorly

illuminated, near the outer edge of the stringer and the floor was slippery. The OS2 was left working on his own without proper supervision by the Bosun or an Officer. Apparently the OS2 was not provided with a safe working environment in a high risky area. Referring to chapter 15, section 15.2.2 of the "Code of Safe Working Practices for Merchant Seamen" (COP), it stipulated that personnel with less than 12 months experience at sea, should not work aloft unless accompanied by an experienced person or otherwise adequately supervised. It appeared that the COP on the caring of inexperienced crew had not been properly followed.

- 5.11 Furthermore Section A-I/14 of the Code of Standard of Training, Certification and Watchkeeping (STCW Convention) stipulated that the ship's management company should ensure a newly employed on board the ship are given a reasonable opportunity to become familiar with the shipboard equipment, operating procedures and other arrangements needed for the proper performance of their duties, before being assigned to those duties. If the OS2 was not familiar with the shipboard equipment and operating procedures, he should not be assigned to work in any risky workstation. The ship's Master and Officers on board appeared unaware of the seriousness of situation in supervising the crewmembers. There is evidence that the management company did not ensure that the requirements of working aloft in the ship safety manual had been effectively implemented.

#### **Probable cause of the accident**

- 5.12 At the time of the accident, the OS2 was working alone and no one witnessed how he fell down to the bottom of the F.P.T. Based on the physical findings on the scene, due to insufficient lighting and slippery floor in the area, the OS2 was believed to have slipped and stumbled over the guardrail and fell into the bottom of the F.P.T.

#### **Post-mortem examination**

- 5.13 Post-mortem examination of the body was conducted by Police of Yantai, China on 4 April 2006, the cause of death was certified as "Fall from Height".

## 6. Conclusions

- 6.1 On 9 March 2006, while the bulk carrier m.v. "*Winner*" was on voyage from Brazil to Singapore in the position 12°46.15' S, 46°48.0'E , an ordinary seaman fell into the bottom of the forepeak tank. He was killed in the accident.
- 6.2 At the time of the accident, the ordinary seaman (OS2) was sweeping the rust debris on the stringer No. 1 inside the forepeak tank. His body was discovered by a crewmember at the bottom of the F.P.T. below his working position. Due to the absence of witness, the exact cause of the accident could not be established. Based on the available evidence, it was probable that the Ordinary Seaman slipped and stumbled over the guardrail and fell down to the bottom of the tank.
- 6.3 The investigation has also identified the following factors that had contributed to the accident:
  - a. The deceased was inexperienced and not adequately supervised to work inside the F.P.T. which was considered a dangerous working area. People are vulnerable to the risk of falling from height particularly in rolling and pitching conditions;
  - b. The working area was slippery and inadequately illuminated;
  - c. The safety belt had not been attached to any secure point; and
  - d. The Safety Management System had not been effectively implemented, requirements in the STCW Convention and COP were not properly followed.

## **7. Recommendations**

- 7.1 A copy of this report should be sent to the concerned parties such as the Master and the Operator of *the Vessel*, advising them the findings of this incident and urging them to observe the following safety precautions in order to prevent recurrence of similar accident.
- a. Personnel working inside the F.P.T. should exercise caution to safeguard against the risk of fall;
  - b. Workplace should be adequately illuminated; and
  - c. Safety belt should be attached to an anchor point when working aloft.
- 7.2 The company should ensure that safety management system is effectively implemented and applicable rules and codes are followed. In particular that
- "Crewmember with little experience should not be assigned to work any high risk task unless supervised by an experienced person."*
- 7.3 A Merchant Shipping Information Note should be issue to promulgate the lessons learnt in the incident.

## **8. Submissions**

- 8.1 In the event that the conduct of any person or organization is commented in an accident investigation report, it is the policy of the Marine Department to send a copy of the draft report to that person or organization for their comments.
- 8.2 The draft of the report was sent to the Master and management company of *the Vessel* for consultation, no comment was received from them.