Annual Report on Marine Traffic Accidents （2014）

Maritime Safety Administration of

the People's Republic of China

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Part 1-The overview of marine traffic accidents in 2014

In 2014, a total number of 260.0 marine traffic accidents of transportation ships happened, resulting in 247 fatalities, 141 ships sank and direct economic loss of RMB 259,000,000; being compared with 2013, each above number decreased by 0.6%, 6.8%, 0.7% and 32.5% respectively. Of all the accidents in 2014, 45.5 cases were very serious accidents, 134.5 cases were serious accidents.

In 2014, there was 1 major marine traffic accidents of transportation ships that caused 10 people dead or went missing; there were 29.5 accidents that each caused 3 to 9 deaths, resulting in 127 dead or missing in total; 130.5 accidents that each caused 1 or 2 dead or missing, resulting in 110 dead or missing in total.

In 2014, the transportation ships of enterprises directly under central government got involved in 3.0 accidents, resulted in 3 dead or went missing, 3 ships sank, direct economic loss of RMB 16,470,000. Being compared with 2013, the above 4 index of 2014 decreased by 60.0%, increased by 3 people, increased by 3 ships and increased by 33.9% respectively.

In 2014, the rural privately operated transportation ships involved in 128.5 marine traffic accidents, resulting in 141 dead or missing, 73 ships sank and direct economic loss of 94,977,000; being compared with 2013, the above 4 numbers decreased by 3.4%, 19.9%, 3.9% and increased by 39.3% respectively; these above 4 accident numbers of rural privately operated transportation ships account for 55.4%, 69.8%, 57.0% and 44.9% of the each overall numbers of 2014 respectively.

In 2014, the passenger ships, passenger ferry ships, ro-ro passenger ships and high-speed passenger ships got involved in 6.0 marine traffic accidents, causing 21 dead or missing, 5 ships sank and direct economic loss of RMB 560,000; being compared with 2013, these 4 numbers decreased by 14.3%,

44.7%, 27.5% and 91.5% respectively. Meanwhile, each number accounts for 2.3%, 8.5%, 3.5% and 0.2% of the overall accident numbers in 2014 respectively.

According to incomplete statistics, in 2014, the non-transportation ships involved in 52.5 marine traffic accidents, 47 ships sank and 134 people died or went missing; being compared with 2013, the numbers increased by 12.9%,4.4% and remained same respectively.

26 ship pollution incidents were reported in 2014, with a total spilled pollutants of 35.36 tons; 12 of the incidents each of which caused more than 0.1 ton of spillage, led to a total spill amount of 34.57 tons; 2 of the incidents each of which caused more than 10 tons of spillage, led to a total spill amount of 25 tons; 2 of the incidents were chemical pollution, total spilled substance was 0.16 tons.

Part 2- Statistics of marine traffic accidents in 2014

2.1 Instructions

2.1.1 All the data in this report are sourced from provincial MSAs' submissions, from 26th of December 2013 to 31st of December 2014, and collected on Jan 15th ,2015,later adjustments of data are not included;

2.1.2 Table 1 and Figure 1 are the analysis of marine traffic accidents of China-flagged transportation ships reported by each statistical unit in 2014.

2.1.3 Table 2, 3, 4 and Figure 2, 3, 4 are based on the analysis of about 1344 accidents' Quick Reports submitted by each statistical unit, including some minor accidents, via the Maritime Accidents Investigation and Analysis System (hereinafter refer to as MAIAS). The uncompleted data inputted by the local MSA may lead to different results in diverse statistical ways.

2.1.4 Ships' types in Table 2, 3, 4 and Figure 2, 3, 4 are categorized as following:

(1) Passenger ships include passenger ships, ferry ships, high speed crafts and other passenger ships;

(2) Dangerous cargo ships include oil tankers, liquefied gas tankers, chemical tankers and other dangerous cargo carriers;

(3) Container ships include some multi-purpose ships and bulk carriers that were carrying containers at time of accidents.

(4) General cargo ships include dry-cargo carriers and general cargo ships etc, except ships that were carrying sand or rock at time of accidents.

(5) Sand carriers include all ships that were carrying sands or rocks at time of accidents.

(6) Tug and tow include tugboats and barges, etc.

(7) Others mainly refer to non-transportation ships, unidentified hit and run ships and engineering ships, etc, except fishing vessels.

2.1.5 In part of the analysis of registry ports, numbers of accidents, fatalities and ships sank are compared separately between each registry province.

2.1.6 Table 3 referring to collision accidents that involved 3 or more ships, only the very two initially involved 2 ships are taken into account in this annual report for the sake of statistical convenience.

2.1.7 Accidents of single fishing vessel or military vessel, and collisions between fishing vessels or between military vessels are excluded in this

annual report.

2.1.8 Very serious accidents in Table 7 are defined by IMO as the accidents that cause ships' total loss, fatalities or serious pollution.

2.1.9 The analysis of accidents' main causes is based on the information of accidents the investigations of which are already concluded, the information of cases that are not concluded yet is not included in analysis in this report. Due to the delay of certain cases' submission, it is possible some accidents' causes are not included here.

2.2 **Comparison of the 6 major safety indicators of marine traffic accidents of China-flagged transportation ships.**

(见 EXCEL2014-1 六项指标分析表)

2.3 **Statistics of diverse ship types involved in each kind of accidents.**

见 EXCEL2014-2 各同事故种类涉及各种船舶艘数分析

2.4 **Statistics of ship types involved in collisions.**

见 **EXCEL2014-3** 碰撞事故船舶种类分析

2.5 Statistics of ship types involved in accidents during each watch-time period.

见 **EXCEL** 表格 **2014-4** 各事故种类不同时间段发生情况统计（件）

2.6 Statistics of accidents of non-transportation ships.

见 EXCEL2014-5 非运输船舶水上交通事故分析

2.7 Statistics of non-five-starred-Red-flagged **ship involved in accidents in China coast in last 5 years.**

见 EXCEL2014-8 近五年涉外事故统计

2.8 Monthly distribution of the 4 safety indicators of 2014 in comparison with 2013

见 EXCEL2014-6 事故四项指标全年分布图

2.9 Statistics of registry ports of Chinese transportation ships involved in accidents

见 EXCEL2014-7 按照船籍港划分事故船舶情况

2.10 The 6 major accident types and their 10 top causes

见 **Excel2014-9** 事故主要原因分析

Part 3- General analysis

3.1 Among the various accident types, collision is still the main accident type.

Among the reported marine traffic accidents, the number of collisions accounts for 55.7% of the total number of all accidents, followed by 14.7 % of contact, 8.9% of foundering and 5.9% of grounding. Being compared with previous years, ships involved in foundering and fire accidents increased somehow in 2014, by20% and 12% respectively than 2013; ships involved in other types of accidents decreased by certain degree, the biggest reduction type is grounding, followed by wave damage, foundering, contact, others and collision.

In terms of ships' types, the ordinary cargo ship is still the main type involved in accident. As described earlier, the total amounts of maritime traffic accidents, fatalities and vessels sunk of above minor accident grade involving passenger ships are all decreased in comparison with last year judging from the Table 2, however, the amounts of passenger ships referred to accidents are increased by 50%, the highest growth ship type among all accident ships. The amounts of dangerous cargo ships involved in accident diminished by 8.8%, container ships diminished by 7.6%, ordinary cargo ships diminished by 0.4%, bulk carriers diminished by 5.1%, tugs and tows diminished by 50.9% and fishing vessels diminished by 2.9%.

Among all the ships involved in collisions, 404 are ordinary cargo ships, account for 49.0%; secondly is fishing vessels, 84 ships, account for 10.2%; following are dangerous cargo ships (9.0%), containerships (7.5%) and sand carriers (5.8%) and etc. Being compared with 2013, among the ships involved in collisions, the passenger ships increased the most by 66.7%, tugs and tows decreased the most by 50.0%, followed by sand carrier decreased by 25.0%. Dangerous cargo ships in collisions decreased substantially as well by 14.9%.

3.2 Analysis of occurring time shows 2000-0400 is the most

accident-concentrated time.

Like previous years, 0000-0400 has seen most ships got involved in accidents, the number is 268, accounts for18.6% of the total amounts; secondly is 2000-2400, has seen 259 ships involved in accidents, accounts for 17.9%; the next is 0800-1200, 1200-1600 ships, accounts for 8.7%. It is obvious that the night time (2000-2400 and 0000-0400) has the most accidents, account for 36.5% of all accidents with ascertained occurrence time.

In term of accident types, 43.1% of collisions happened during 0000-0400 and 2000-2400; while, 43.7% of contacts and rock-strikings happened during 0800-1200 and 1200-1600; 61.5 of founderings happened during 0000-1200; 24.2% of grounding happened from 2000-2400.

3.3 The non-five-star flagged ships involved in accidents mainly are from flag of convenience.

It can be seen from Table 6 and 7 that the number of foreign ships involved in accidents in China has always been going up, increased by 18.6% in 2014 from 2013. In the last 5 years, about 10 flags of convenience including Panama, Liberia and Cambodia had more of their ships than others involved in accidents in China waters, account for 56.2% of all the foreign ships that had accidents in China coastal waters. In the last 5 consecutive years, Panama had the largest amount of ships involved in accidents, 129 ships in total, average 23 every year, accounts for 26.1% of all ships of all 27 overseas countries or regions. Besides, the ships of countries and regions close to China relatively have more accidents, i.e. Hong Kong, Vietnam, Singapore and South Korea etc, which accounts for 25.1% of all non-five-star flagged ships. It can be seen from Table 7 that though the amount of accidents of foreign ships increased obviously, the amount of very serious cases, collisions with fishing vessels and fish men fatalities did not change much. In addition to above, several hit-and-run collisions happened between foreign ships and fishing vessels in 2014.

3.4 According to the monthly distribution, fatalities had its highest numbers

in May, August and December.

As Figure 6 shows, in 2014, both the amounts of the accidents and its fatalities were mainly concentrated in May, August and December. The casualties caused 3 plus even 10 plus fatalities occurred in these three months. Weather is normally turning warm in May as summer comes close, operators are prone to fatigue and tiredness; last August was shortly after the Intense Safety Inspection Campaign Month, the amounts of accidents and losses surged backwards; December is the cold and windy season in northern China. Rough sea condition becomes the main reason of maritime accidents in December. The amount of ships that sank in each month was relatively stable, about 12 every month. But the monthly direct economic losses had large fluctuations, August was the outstanding month. The over year round direct economic losses decreased in 2014. The reasons are: firstly due to fact that no large-tonnage ship sunk, secondly due to the data submission defect of each statistic unit. Some units submitted their supplemental direct economic losses data at later time, leading to the losses could not be incorporated in the total amounts.

3.5 According to the analysis of vessel registry provinces, they are mainly concentrated in Jiangsu, Zhejiang, Anhui, Guangxi, Hubei and Hunan provinces.

As the Table 8, Figure 8, 9 and 10 shows, in terms of either the amount of accidents, or its fatalities, slightly unlike previous years, the accident vessels are mainly registered in the aforesaid 6 provinces. Guangdong-registered ships had quite a number of accidents; however the resultant fatalities decreased somehow. Jiangsu-registered ships involved in more accidents with more fatalities, most of those accidents occurring in river waters. While the Hu'nan and An'hui provinces registered inland ships encountered accidents mainly in coastal waters, which are not in compliance with the ships' approved trade area.

3.6 According to the analysis of accidents causes, human factor is still the most important cause.

According to the revealed causes of the 6 major accident types, the top ten causes for collisions and rock-strikings are all related with human factors, the causes for the other 4 accident types are related with conditions of ships themselves and navigational environment. Regarding collisions and contacts, failure to maintain proper lookout, and improper actions are the most common factors. Regarding founderings, other human factors, together with rough sea, conditions of ships and navigating in rough sea are the most important factors. Referring to fires, aged electric appliances, bursting of fuel pipes and mismanagement of heat sources are the most important factors. Concerning groundings, being unfamiliar with accident waters is the most important factor. Contact is still caused by the failure of maintaining proper lookout.

Part 4- The accidents investigation and handling in 2014

4.1 Administrative investigations into marine traffic accidents conducted by the headquarter of China MSA.

4.1.1 At about 0222 on 5 May, the Marshal Island flagged containership MOL MOTIVAOR with 78316 GT, M/E Power of 57200 KW, 79283 deadweight, Length of 302 m and IMO No. of 9475624, on her way carrying 3080 Teu from Hong Kong to Shenzhen, collided with Chinese bulk carrier Zhong Xin 2 with GT of 2981, M/E Power of 1765 KW, deadweight of 5062, length of 96.9 m, on route from Hebei to Hainan, in the second precautionary area of Zhujiangkou, as a result, MV Zhong Xin 2 sank, 1 of her 11 crews was rescued, 9 died, and 1 went missing.

4.1.2 At about 2340 on 29 October, Hong Kong flagged bulk carrier Silver Phoenix with GT of 40489, M/E Power of 8550 KW, on her route from Guangzhou to Yantai, collided with Chinese fishing vessel Zhe Sheng Yu 05885, resulted in Zhe Sheng Yu 05885 sank, 13 missings.

4.2 Safety Investigations carried out by China MSA.

4.2.1 At about 0830 on 29 December 2013, Cambodia flagged general cargo ship Sae Byol owned by the Dalian Jinyang Shipping Ltd., on her route from Panjin, China to North Korea, stranded on rock at position approximately 38° 52′ .2N/121° 00′ .8E close to Lvshun Haimao island. As a result of the accident, Sae Byol was a total loss, no fatality or injury happened. It is a very serious casualty according to IMO Casualty Investigation Code. At the request of flag state, China MSA conducted a safety investigation on behalf of flag state.

4.2.2 At about 2040 on 21 May 2014, Chinese tanker Zhongran 53 owned by the Zhongran (Dalian) Shipping Ltd., on her route from Zhangjiagang China to South Korea in light ship, the on board air-conditioning compressor exploded in position approximately 33° 30′ .57N/126° 03′ .68E close to Jeju Island South Korea, caused two crew members died. China MSA carried safety investigation as the coastal state into this very serious casualty according to IMO Casualty Investigation Code.

4.3 International communication and cooperation

4.3.1 Attended the first session of the Sub-Committee on Implementation of IMO Instruments, participated the workgroup during the meeting.

4.3.2 Participated the Third International Marine Accidents Safety Investigation conference hosted in Korea by KMST, gave a keynote presentation.

4.3.3 Hosted the 10th Marine Accident Investigation Cooperative Meeting between China MSA and KMST.

4.3.4 Continued the investigator-exchange program with Korean Maritime Safety Tribunal, sent investigators over to Korea and received investigators from KMST.

4.3.5 Being entrusted by Cambodia and other flags, carried out safety investigations on their behalf.

4.3.6 Pariticipated EMAIIF10 in Netherlands, MAIIF23 and MAIFA17.

4.4 Information and science technological study and research

4.4.1 Continued and completed the research of *Practical Matters Regarding Electronic Evidence Collecting of Marine Accidents*.

4.4.2 Continued and completed the research of *Trace Paint X-Ray Fluorescence Spectrometry in Marine Collision Accidents*.

4.4.3 Started the Feasibility Study of Crews' Life Insurance.

4.4.4 Started the second phase study and research of the *Accident Statistics and Analysis Informational System*.

4.4.5 Assisted the revision of Maritime Traffic Safety Law and Maritime Traffic Accident Investigation Regulation.

Part 5-Safety issues or safety alerts

5.1 Middle and minor-size ships are the main ships that caused fatalities and injuries.

Analysis of accident ships in 2014 shows they are mostly middle or minor-size ships. 6 accidents with fatalities are caused by ships of 3000 and more gross tonnage, lead to 15 deaths or missings; 24 accidents are caused by ships with gross tonnage between 1000 and 3000, lead to 71 deaths or missings; 13 accidents are caused by ships with gross tonnage between 500 and 1000, lead to 28 deaths or missings; 20 accidents are caused by ships with gross tonnage between 300-500, lead to 37 deaths and missings; ships with gross tonnage less than 300 contributed 53 accidents and 96 deaths or missings. Among those accidents ships with gross tonnage less than 3000, parts of them are caused by river ships navigating beyond permitted waters, mainly happened in waters around Bohai Sea, Minjiang Entry of Fujian Province and coastal waters of Shandong; parts of them are caused by sea-going ships which are navigating in permitted area, however caused by insufficiently managed or manned etc. In addition to the above, the owners of these ships disregarded the safety of lives, instructed ships crews to avoid inspections and turned off AIS installation etc to evade safety supervisions, undertake illegal activities on sea. Therefore,

Maritime Safety Administrations at all levels shall strengthen their patrol at sea, adopt the policy of focusing on cracking down on small ships trading beyond permitted water, which normally have insufficient manning and other serious violations.

5.2 Preventing passenger ship occurring accident is still the top priority of major accident prevention.

Being compared with previous years, passenger ship accidents in 2014 decreased by 14.2%, 44.7% and 16.6% respectively in term of accident number, fatalities and ships sank. However, due to the large number of people on board and the potential of extremely severe losses of passenger ships, and the social impact of the Ferry Sewol accident in South Korea, the whole society has given enormous attention and shown high sensitivity to passenger ship accidents in 2014.

In 2014, there were still several cases of passenger ship have accident with large number of passengers onboard, though with no fatality ensued eventually; they revealed the weak links within the safety management chain. On 2 August 2014, the Korea flagged Ro-ro passenger ship Sino-Korea Star with 104 passengers on board, contacted with pier when she was entering the Lianyungang port and had a black out; on 19 October 2014, passenger ship Chang Hang Jiang Shan 11 with 539 passengers onboard, collided with a cargo ship in Changjiang River. These cases either show some passenger ships were not sufficiently maintained, or some crews were not sufficiently rested, lead to the unseaworthiness of ships.

5.3 Collision prevention between merchant ship and fishing vessel still needs to be strengthened.

In 2014, 84 collisions between merchant ship and fishing vessel were reported, with 73 fatalities, 26 ships sank, decreased by 12.5%, 10.9% and 18.7% respectively than 2013. Despite the decreases in numerical terms, collision casualty of merchant ship and fishing vessel is still a major risk; there was one case that caused more than 10 fatalities in 2014. The reported accidents were

mainly occurred in the East China Sea and the Yellow Sea, 55 pieces in total amounts, leading to 53 deaths, 19 vessels sunk. Most of collisions were happened in night time, 43 pieces in total number, causing 46 deaths and 15 vessels sunk. Cause analysis shows these collisions are mainly caused by failure to keep watch on drifting fishing vessels, failure to keep proper lookout on merchant ships and etc.