



**The Bahamas
Maritime Authority**

THE COMMONWEALTH OF THE BAHAMAS

GENTING DREAM

IMO Number: 9733105

Official Number: 7000726



**Report of the marine safety investigation
into a 10-year-old passenger fatality
on 18th November 2019**

Genting Dream – Marine Safety Investigation Report

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1 GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AB	Able Body Seaman
AED	Automated External Defibrillator
BMA	The Bahamas Maritime Authority
BMJ	British Medical Journal
CCTV	Closed-Circuit Television
CPR	Cardiopulmonary Resuscitation
kW	Kilowatts
m ³	Meter cube
m	Meters
mm	Millimeters
PA	Public Address
pH	Potential of Hydrogen
SMS	Safety Management System
UTC	Universal Time Coordinated
VIP	Very Important Person
vs.	Versus

All times noted in the report are given in the style of the standard 24-hour clock without additional annotation and as local time in Langkawi, Malaysia, which was UTC +8.

2 SUMMARY

The Bahamas registered passenger ship Genting Dream was undertaking a four days and three nights cruise with 3275 passengers and 1844 crew members onboard. The vessel departed Singapore on 17th November 2019 and was calling at Langkawi, Malaysia and Phuket, Thailand. The vessel was scheduled to return to Singapore on 20th November 2019.

On 18th November 2019 at 1706 hours, while the vessel was alongside Langkawi, a 10-year-old passenger along with his mother, sister and other companions entered the pool area on deck 16.

Over the course of the next 30 minutes the victim entered the hot tub and pool area on deck 16 multiple times, accompanied by his younger sister (7-year-old). Upon entering the main pool, the victim began to struggle, this went unnoticed until six minutes later when the victim's sister observed her brother was submerged, face down and motionless. One of the on-duty Deck Steward recovered the victim from the water and commenced CPR before being relieved by the ship's medical team. Resuscitation was unsuccessful and at 1840 the victim was declared deceased by the ship's Doctor.

The investigation identified a number of human factors discussed within the report and the following causal factors contributing to the incident:

- Swimming pool safety information not followed or enforced.
- Risk assessment identifying the hazards associated with the use and operation of the main pool was not conducted.
- The policy and procedure for safe operation of swimming pools was not sufficiently implemented.

The investigation also found that the pool safety information was inaccurate and misleading.

Contained within this report are a number of recommendations for Genting Cruise Lines Ship Management and The Bahamas Maritime Authority aimed at preventing recurrence.

3 DETAILS OF INVOLVED VESSEL AND OTHER MATTERS

3.1 Details of the vessel

Genting Dream is a passenger ship built in Meyer Werft shipyard in Papenburg, Germany on 12th October 2016.

The vessel had the following principal particulars:

Call sign	C6BO5
IMO number	9733105
Built	2016
Length overall	335.35 metres
Length between perpendiculars	302.90 metres
Breadth moulded	39.7 metres
Propulsion power	41000 kW
Gross registered tonnage	150695 tons
Net registered tonnage	138107 tons
Propeller Type	Fixed

At the time of the incident, the vessel was owned by Genting Dream Limited and managed by Genting Cruise Lines Ship Management Sdn. Bhd.

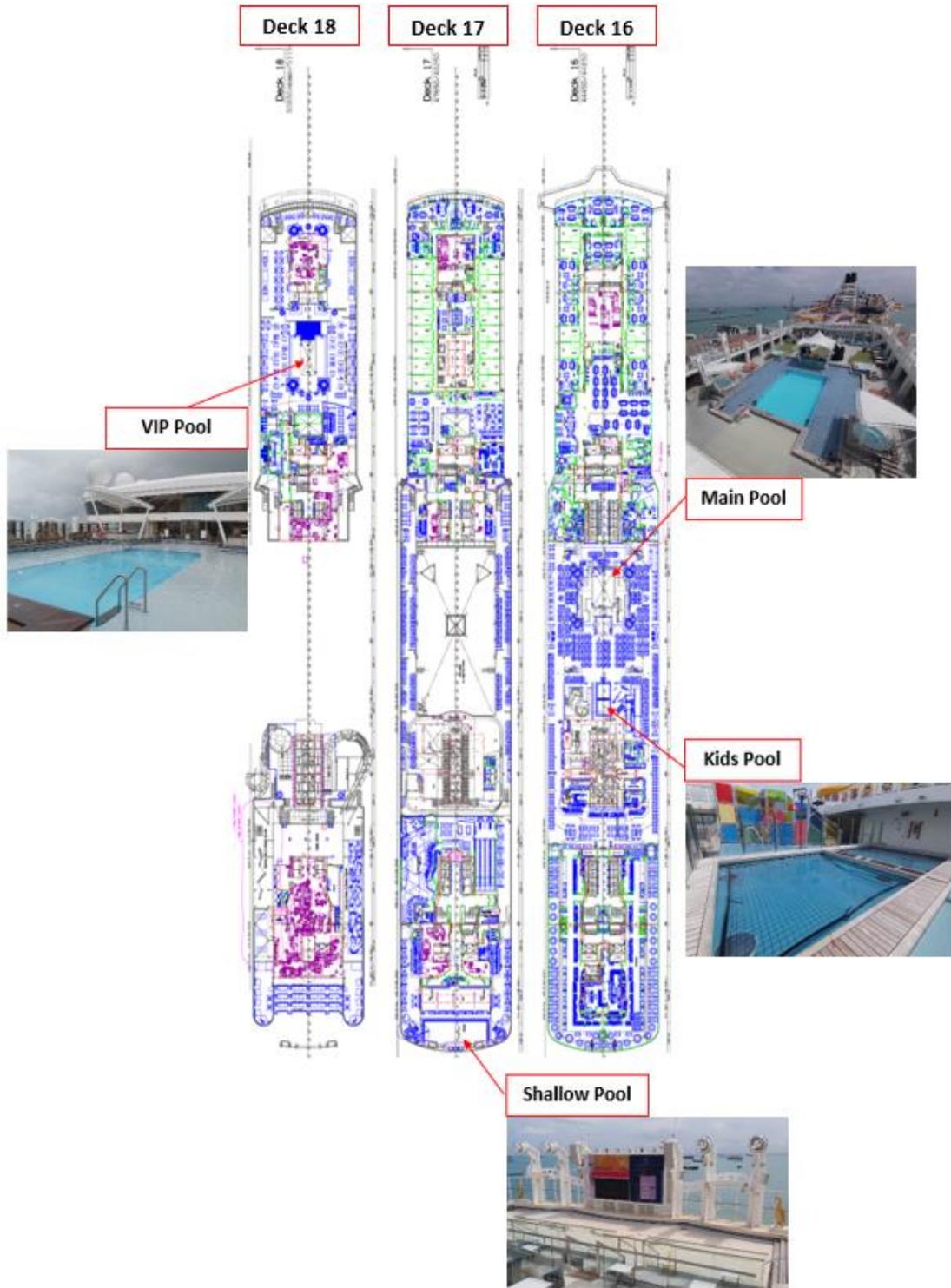


Figure 1: Location of open-deck pools onboard

3.2 Vessel Certification

Genting Dream was first registered with the Bahamas Maritime Authority (BMA) in 2016 and was classed with DNV GL Classification Society. At the time of the

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incident, the vessel complied with all statutory and international requirements and certification.

The vessel was subjected to a Bahamas Maritime Authority Annual Inspection at Singapore on 11th January 2019. No deficiencies or observations were identified.

The vessel had a Port State Control Inspection at the port of Puerto Princesa, Philippines, on 12th June 2019 with no deficiencies identified.

3.3 Open-deck pools onboard

There are four open-deck pools on the vessel. Table 1 describes the size and location of each.

Pool Name	Location on vessel	Maximum operating depth	Operating volume ¹
VIP pool	Deck 18	1.55 m	92 m ³
Main pool	Deck 16	2.00 m	185 m ³
Kids pool (total of two basins)	Deck 16	0.28 m	16 m ³
Shallow Pool ²	Deck 17	0.05m	23 m ³

Table 1: Open-deck pools location, depth and volume

3.4 Vessel's Main Pool

The vessel's main pool and four hot tubs³ were located at deck 16, with one hot tub located at each corner of the pool. The main pool and hot tubs were open for all passengers onboard, between 0700 hours until 2300 hours.

¹ Source: MEYER WERFT's manual: Diagram of Water Treatment Systems for Pools and Jacuzzis

² The shallow pool was usually kept dry when not in use and was maintained at approximately 0.05 m during events or passenger parties.

³ Referred as 'Jacuzzi' in the MEYER WERFT's manual.

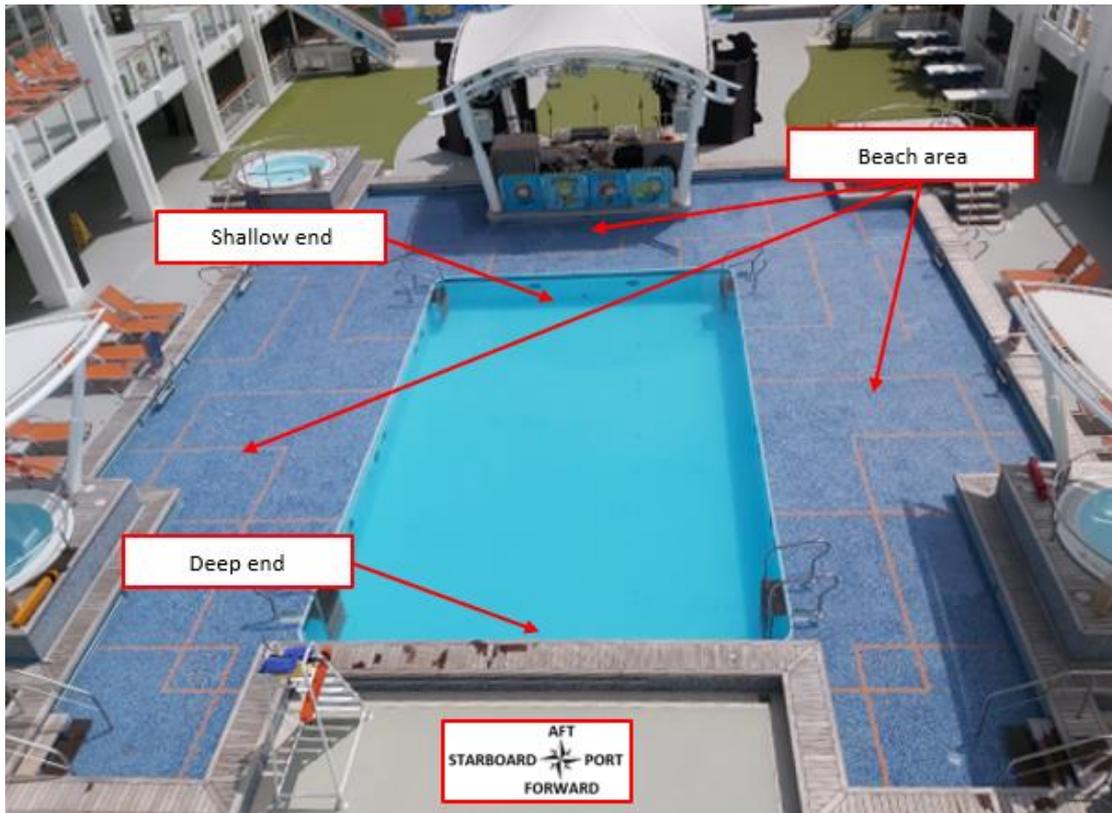


Figure 2: Main pool on deck 16

The main pool had a beach area covering three sides of the pool. The water level in the beach area was usually maintained at about 0.10-0.15 m. At the time of the investigation, the level was observed to be about 0.17-0.18 m due to heavy rainfall.

The main pool depth increases going forward from aft. Including the beach area, the aft part of the pool was 1.82 m deep and the forward part was 2.02 m.

The water treatment system and controls for the pool are located on deck 15 and the main pool temperature was set at 28°C.

4 NARRATIVE OF EVENTS

On 17th November 2019, the 10-year-old passenger boarded the vessel with his mother and sister in Singapore for a four days and three nights cruise to Langkawi and Phuket. The family of the victim was traveling with a group including three more adults and two children.

At 1700 hours, the vessel departed Singapore, with a total of 3275 passengers and 1844 crew members. The vessel was scheduled to return to Singapore on 20th November 2019.

On 18th November 2019, at 1706 hours, while the vessel was alongside Langkawi, Malaysia, the victim entered the main pool area on deck 16 along with his mother, sister and the rest of the travel companions.



Figure 3: CCTV footage screenshot of the victim entering deck 16

At 1708 hours, the victim went to the port side forward hot tub while his mother remained in the vicinity.



Figure 4: CCTV footage screenshot of the victim entering forward port side hot tub

At 1709 hours, the mother of the victim went to the starboard side of the pool area to take some towels and returned to the vicinity of the port side hot tub at 1710 hours.

At 1711 hours, the victim exited the hot tub and went towards the forward port side of the main pool.



Figure 5: CCTV footage screenshot of the victim exiting the forward port side hot tub

At this moment, the mother and her adult companion were at the port side of the pool near the sun chair area. At 1712 hours, the victim and his sister were observed running across the beach area of the main pool towards the aft starboard side hot tub and entered the hot tub.



Figure 6: CCTV footage screenshot of the victim and his sister going towards the aft starboard side hot tub

A few moments later, at 1715 hours, the victim's mother and her companions moved to the starboard side pool deck area and sat at the seating area.



Figure 7: CCTV footage screenshot of the location of the victim's mother and her adult companions arriving at starboard side pool deck area

At 1716 hours, the victim and his sister, along with another child, entered the forward port side hot tub. A minute later, a child who was in the hot tub stood at the gutter of the hot tub and jumped into the hot tub. At this time, the Deck Steward on the highchair observed the child and blew his whistle to caution her.

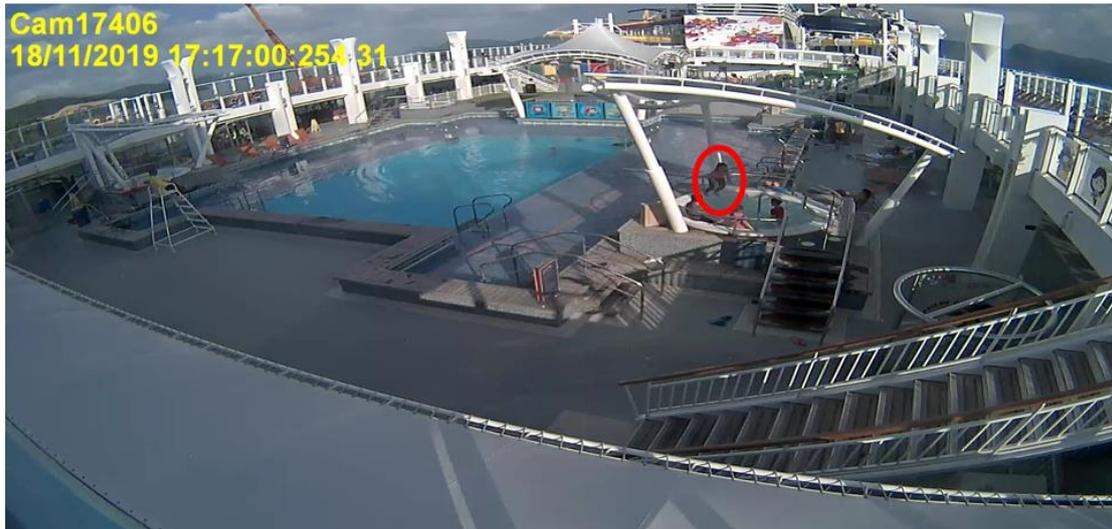


Figure 8: CCTV footage screenshot of a child jumping into the hot tub

At 1722 hours, the victim, his sister and other children moved to the forward starboard side hot tub.

At 1728 hours, the victim exited the forward starboard side hot tub and went towards the main pool. He entered the beach area of the pool at the forward, port side entrance before walking aft, and entering the main pool on the port side, aft.

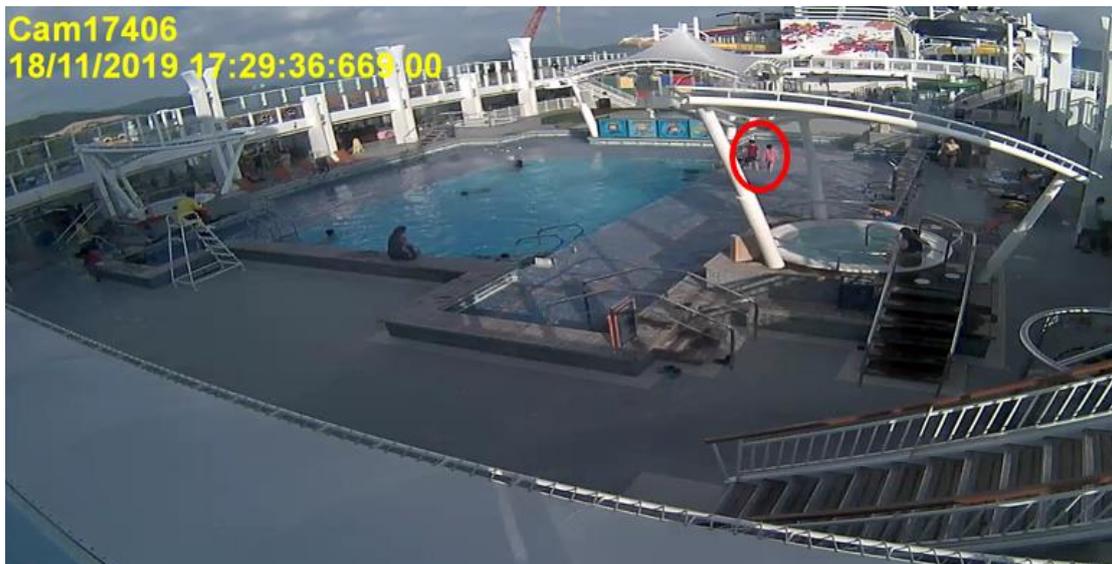


Figure 9: CCTV footage screenshot of the victim entering the main pool, port side aft.

The victim held onto the edge of the pool while he was inside the pool. A minute later, he came out of the pool and re-entered from aft and held onto the edge.

Between 1730 hours and 1734 hours, the victim exited the main pool four times and sat near the edge of the beach area. He re-entered the pool a few moments later and held onto the edge of the pool while he was inside.

At 1734 hours, the victim exited the pool from aft port side. He walked a few steps forward and re-entered the pool.

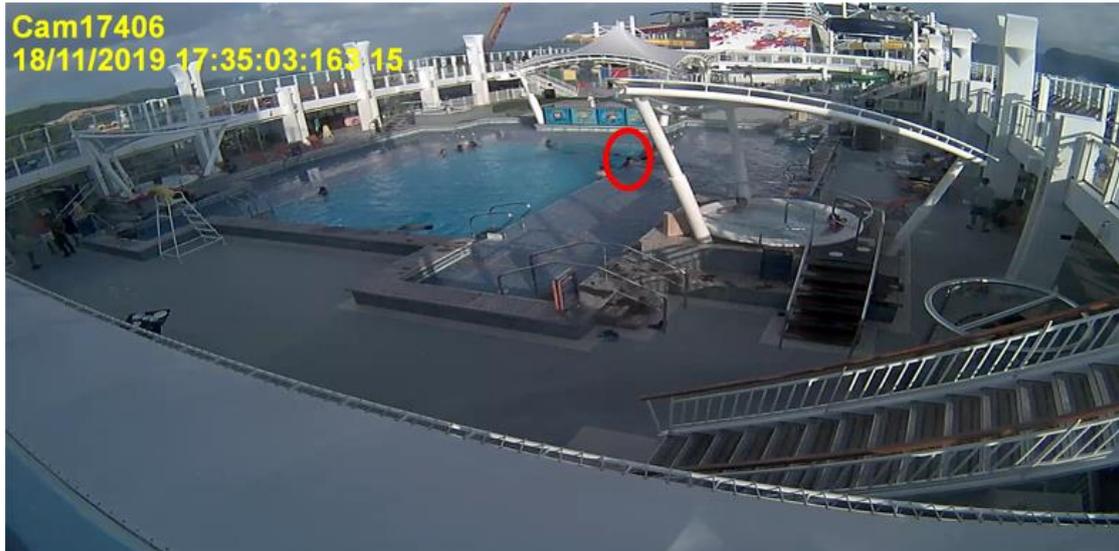


Figure 10: CCTV footage screenshot of the victim entering the main pool

Subsequently, the victim exited and went towards the aft side of the pool and came back to the same location.

At 1735 hours, the victim entered the pool again. From CCTV footage, it was seen that the victim was out of reach of the edge of the pool and submerged in the water with continuous struggles. At this time, there were at least 12 of passengers in the immediate vicinity however the victim's plight went unnoticed.

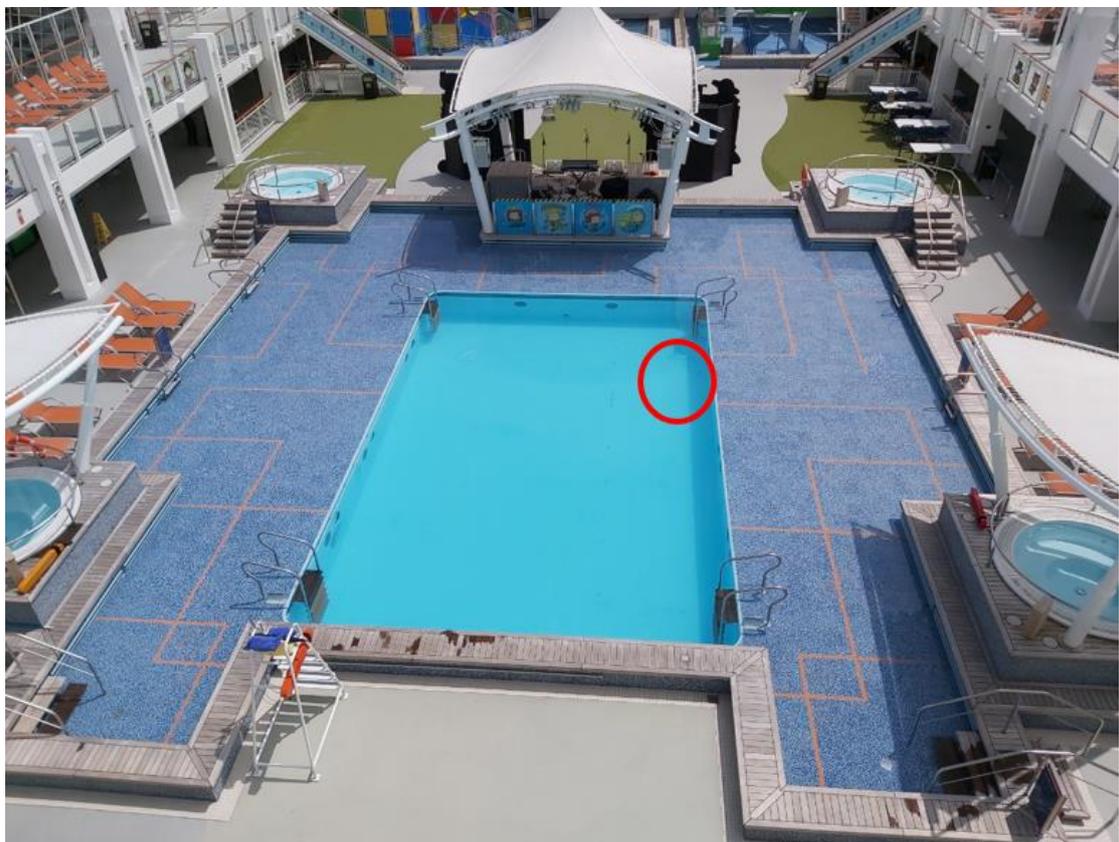


Figure 11: Approximate location of the victim at the time of the incident

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At 1738 hours, the victim had stopped moving and he was submerged underwater.

At 1741 hours, the victim's sister noticed him and went towards him. About 40 seconds later, the Deck Steward who was seated on the highchair observed the situation and ran towards the location of the victim.

The Deck Steward pulled the victim out of the pool and took him towards the towel area to commence first aid. The Deck Steward initiated Cardiopulmonary Resuscitation (CPR) and the other on-duty Deck Steward called the bridge to notify the duty officer of the incident.

At 1743 hours, “Mr. Bluebird⁴ to deck six kids’⁵ pool” was announced on the PA system.

At 1745 hours, the Safety Officer, Safety Manager and two duty Nurses arrived at the location with medical equipment. A minute later, the ship's Doctor also arrived at the location and found the victim not breathing and no pulse . The Doctor continued with CPR efforts. The Automated External Defibrillator (AED) was connected to the victim and resuscitation was synchronized with the AED machine. Intra venous access was established and the Nurses continued the suction process of removal of the vomitus due to CPR compressions.

At 1802 hours, the victim was placed on a stretcher and transferred to the ship's clinic.

At 1840 hours, the victim was pronounced dead by the ship's Doctor.

The post-mortem report identified drowning⁶ as the cause of death.

⁴ Mr. Bluebird is the code for such incidents onboard requiring immediate medical assistance.

⁵ The location used in the announcement on PA system was incorrect. This error in announcement would not have delayed the medical team's response time as the kids' pool was on same deck and behind the main pool.

⁶ Drowning is the process of experiencing respiratory impairment from submersion or immersion in liquid. (Source: [BMJ Best practice](#))

5 ANALYSIS AND DISCUSSION

5.1 Main Pool: Depth Markings and Design

The main pool has four entrances with ladders: two on the starboard side and two on the port side. Each entrance has depth markings next to the respective ladder.

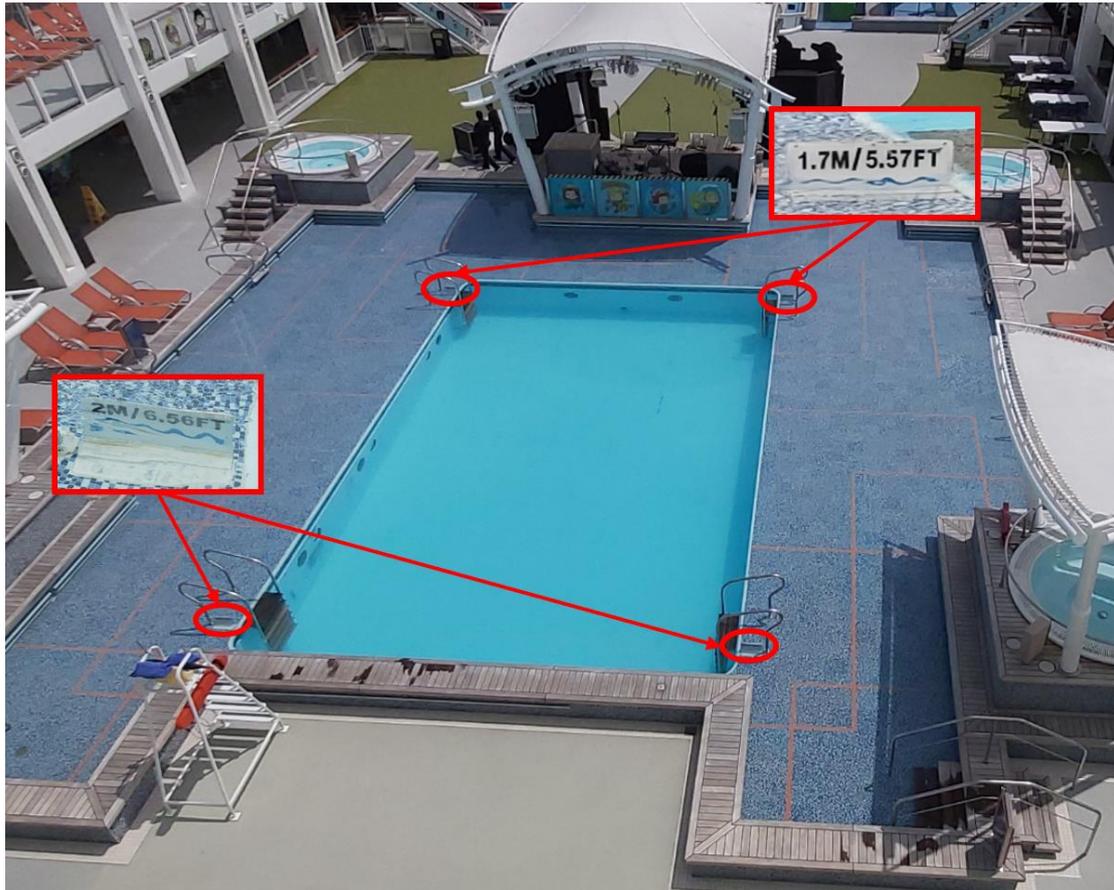


Figure 12: Depth markings on the main pool

At the time of the investigation, the depth markings of the pool were found to be inconsistent with the actual depth of the pool.

Pool's safety information was displayed on boards and these were placed on four locations in the vicinity of the main pool (as seen in figure 16).

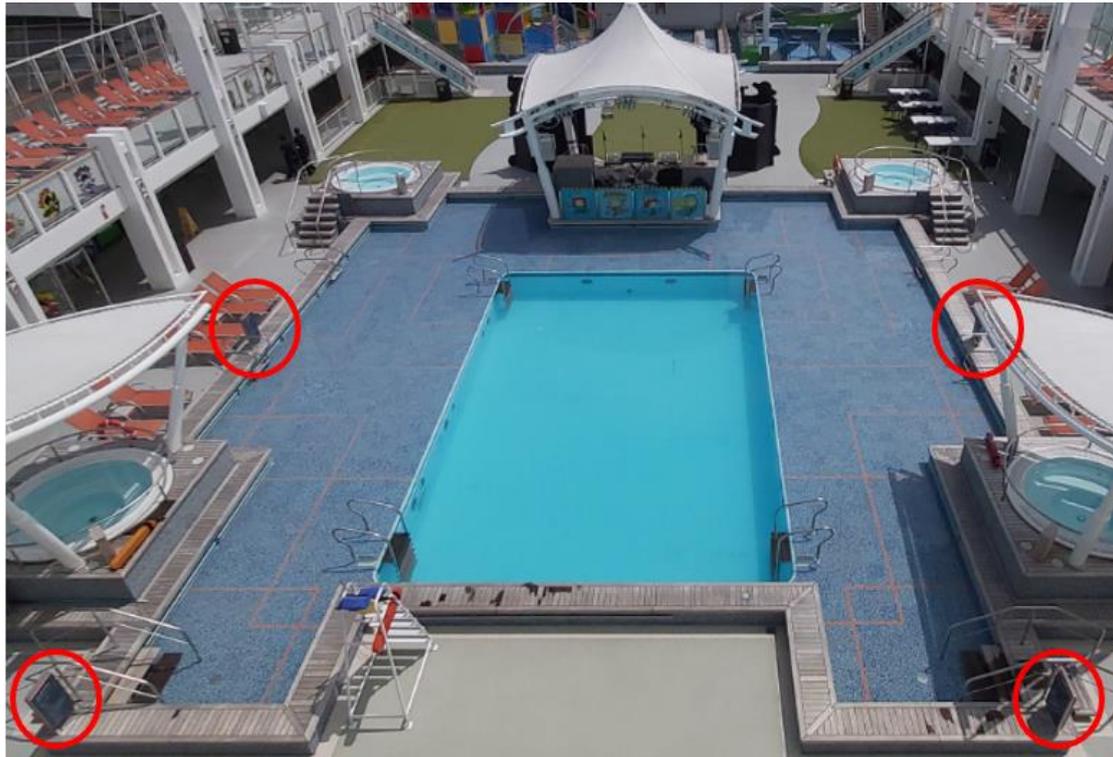


Figure 13: Locations of main pool safety information

The safety information also had a pictogram with the depth of the pool indicated on it. These depth markings were also found to be inconsistent with the actual depth of the pool.



Figure 14: Main pool depth markings on the safety information

Actual pool depths were taken at the time of the investigation. The depths are tabulated below (Table 2) along with the depth markings at the pool entrances and depth markings on the safety information.

Location	Depth markings value at the main pool	Depth markings on safety information	The actual depth of the main pool not including the beach area ⁷	The actual depth of the main pool including the beach area
The shallow end of the pool	1.7 m	1.46 m	1.65 m	1.82 m
The deep end of the pool	2.0 m	1.90 m	1.85 m	2.02 m

Table 2: Values of depths as indicated on markings next to the main pool and on safety information vs actual depth of the main pool

The depth markings next to the pool entrances and the depth markings on safety information were both different from the actual depths of the pool. The actual depths

⁷ The beach area depth was 0.17 m at the time of investigation.

of the pool (including the beach area) were identified to be 1.82 m at the shallow end and 2.02 m at the deep end.

The reported height⁸ of the victim was 1.20 meters. The depth of water in the vicinity of recovery was about 1.8 m deep. He was therefore unable to touch the bottom and was seen on CCTV holding onto the side of the pool in the minutes leading up to his drowning. It was not determined if the victim was a competent swimmer, however, the CCTV showed that when the victim became separated from the edge of the pool he was unable to independently maintain positive buoyancy.

5.2 Main Pool Safety Information Location and Design

The safety information was written on both sides: facing the pool and facing the sun chairs and seating area. The pool safety information had pictograms and text in Chinese and English.

The pictograms were for:

- Pool depth
- Maximum capacity
- Proper swimwear to be worn in the pool
- No diving
- No running

Text in Chinese and English were:

1. There is no lifeguard on duty.
2. Shower before entering pool.
3. No jumping or diving.
4. No diapers or swim diapers allowed.
5. Children under the age of 12 years must be accompanied by an adult.
6. Do not use while under the influence of alcohol or immediately after a meal.
7. Pregnant women, elderly persons, those suffering from heart disease, high or low blood pressure, anyone using anticoagulants, vasoconstrictors, stimulants, hypnotics, narcotics, tranquilizers and those who are immunocompromised, are warned against using the pool.
8. Observe a reasonable time limit in the pool to avoid nausea, dizziness and fainting.
9. No beverages, food or glassware is allowed in the pool.
10. Chlorine may cause swimsuits and treated hair to discolour.
11. Please use handrails when exiting or entering the pool area.
12. Temperature is normally set to 25°C (77° F), and never above 38°C (100° F).
13. Pools are washed and water changed routinely.

⁸ The victim's exact height was not recorded after the incident and his height was also not contained in the post-mortem report provided by the forensic medical specialist from Sultanah Bhaiyah Hospital, Malaysia. The Company's internal investigation report contained the height of the victim to be 1.20 meters, which aligns with crew's estimation onboard and observed height from the CCTV footage.



Figure 15: Dimensions of main pool safety information

The safety information board had a height of 0.72 m and a width of 0.42 m. The font size of the text is 5 mm (14 pt⁹).

⁹ A computer point (pt) is the smallest unit of measure in typography.

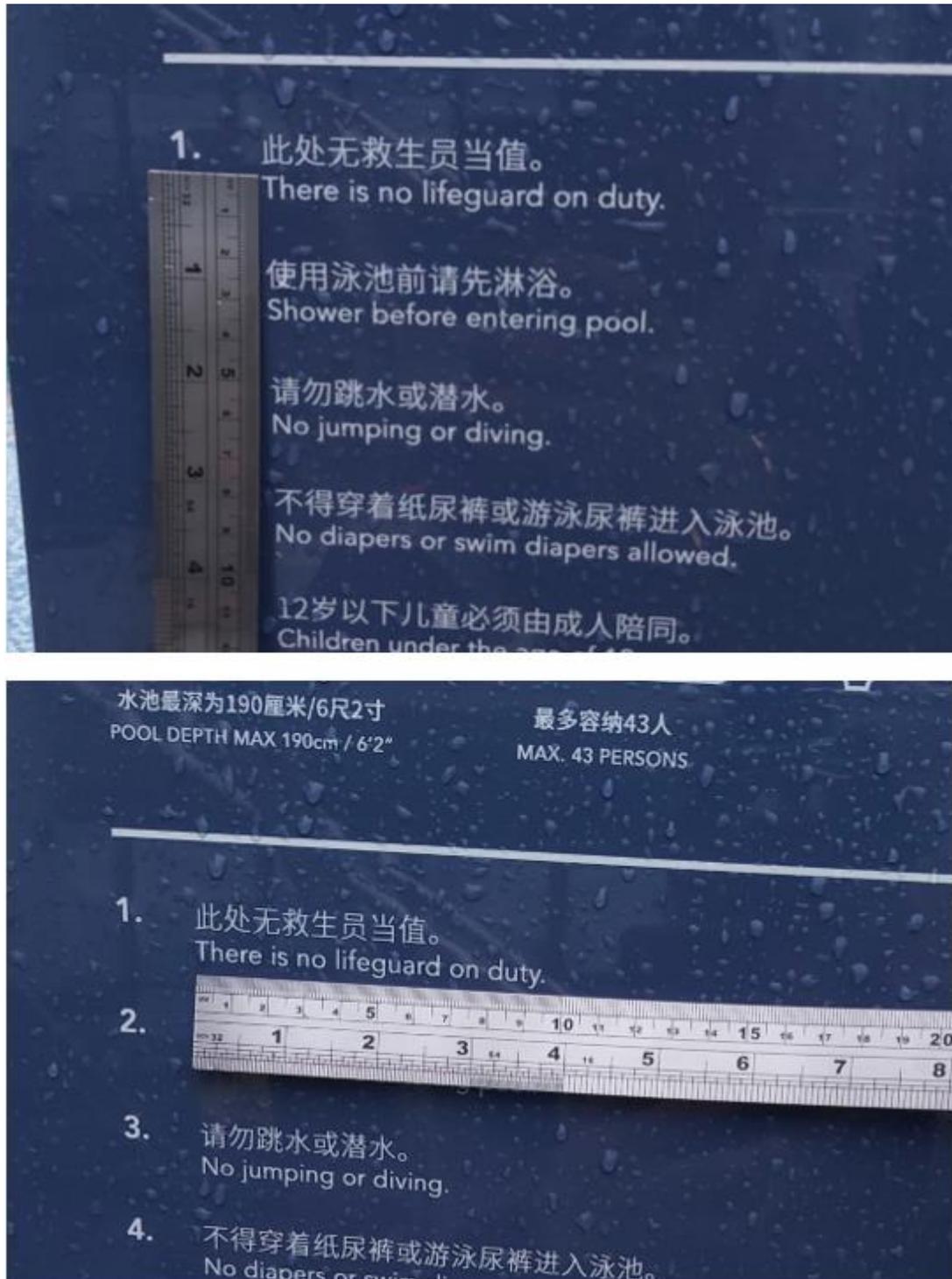


Figure 16: Size of text on the safety information

To read the safety information, a reader will need to stand within a distance of one meter¹⁰ of the safety information board, as it was not readable from a distance.

The pictogram of the maximum number of people allowed in the pool depicted people standing in the pool with the water level at waist height. If seen from a distance, this can give a perception to a reader that the water depth was no deeper than waist height.

¹⁰ Source: www.hse.gov.uk/comah/sragtech/techmeassigns.htm

The Guidelines for safe recreational water environments (volume 2: swimming pools and similar environments world health organization 2006) states: ‘Warning signs, in particular, should be simple to understand and display a clear message. Many national organizations have adopted descriptive standards for warning and information signs, and the International Organization for Standardization (ISO) has adopted a standard for safety signs (not specifically swimming pool related) to try to avoid a proliferation of symbols that could cause confusion rather than send a clear message (ISO, 2003)’.

The pictogram on safety information showing the depth of the main pool had the markings indicating the shallow end and deep end of the pool. This pictogram did not correspond to the main pool’s actual depths. For example, the safety instruction on forward port side of the main pool, when seen from a direction facing the main pool, corresponds to the deep end which is opposite to the reality (refer to Figure 20).

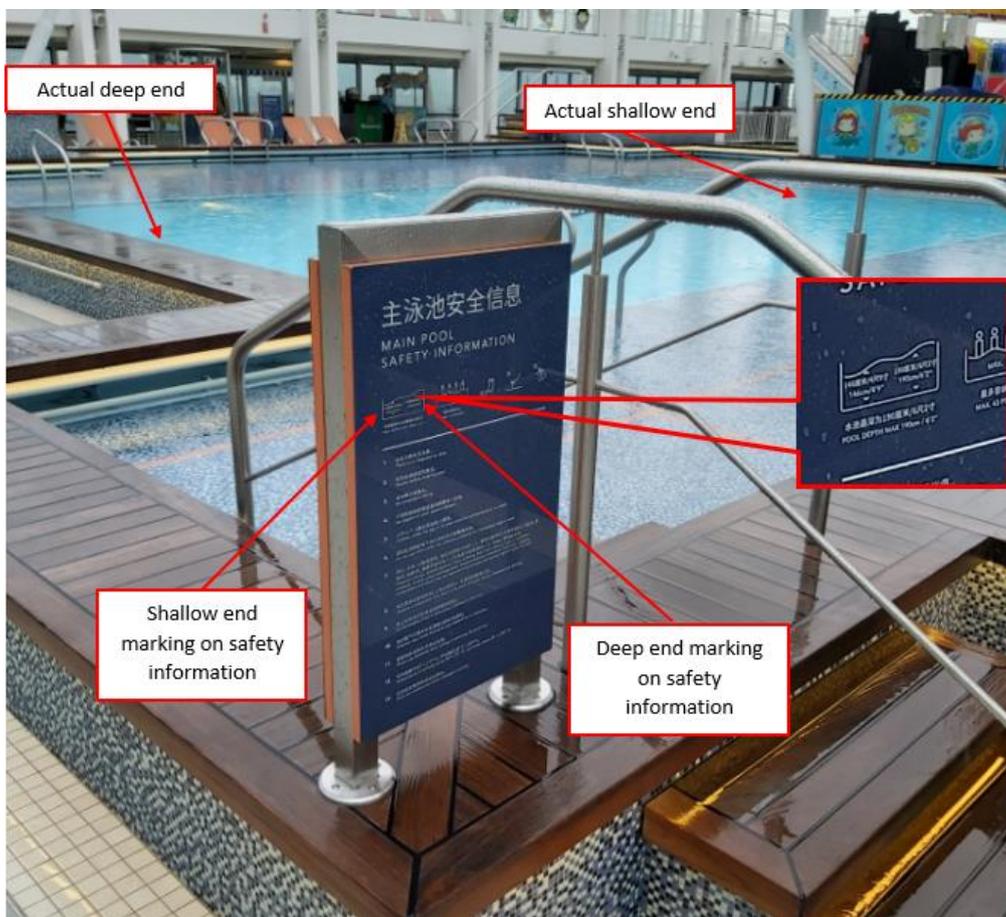


Figure 17: Marking of the shallow and deep end of the pool on safety information vs. actual shallow and the deep end of the pool

Either one side of all four safety instructions had the pictogram for the main pool’s depth corresponding to the wrong direction compared with actual depths of the main pool.

5.3 Regulations for pool operation and lifeguards

There are no specific international regulations for the safe operation of swimming pools on ships. However, there are safety guidelines for operation and use of swimming pools ashore, such as in the United Kingdom and in Singapore, that provides practical advice and technical information on health and safety in swimming pool design and pool water treatment. These were referred for the investigation in lieu of any specific international or national (issued by the Bahamas or Singapore (vessel current operating environment)) guidelines for the safe operation and use of swimming pools onboard ships.

The United Kingdom's Health and Safety Executive¹¹ (UK HSE), Health and safety in swimming pools, recommends making the pool users aware of the main hazards and risks and states: *'Any pool will be safer if swimmers are aware of potential hazards and act responsibly. As far as reasonably practicable, the hazards should be brought to swimmers' attention as soon as possible.'*

Onboard Genting Dream, the pool's safety information boards were only available at the four locations around the pool. No signage or information was available in guest areas or passenger cabins to provide information with regards to the pool or highlight the hazards related to the pool. Accurate and readily available safety information is crucial for the passengers accessing the pool, to make them aware of the potential hazards and risks.

The UK HSE includes the guidelines to ensure the pool users' safety and provides a list of identified issues that had resulted in pool-related fatalities or serious injuries. Among the various listed issues, *'Inadequate, inappropriate or no supervision'* and *'Absence of, or inadequate response by, lifeguards in an emergency'* were identified as the factors contributing to the fatalities or serious injuries. It also provides the importance of recording and considering the incidents or near miss at the pool to ensure that safety arrangement remains relevant.

The UK HSE highlights the importance of constant supervision of the pool and states: *'constant poolside supervision (watching the water) by lifeguards provides the best assurance of pool users' safety'*. Further, it outlines the responsibility of the pool operator in ensuring that there are enough competent lifeguards who are effectively organised and are diligent in their duties.

The Singapore Sport Council has a water surveillance guide¹², which also includes the importance of having effective water supervision and the guidelines for maintaining vigilant water surveillance. It states: *'Effective water surveillance requires lifeguards to monitor the aquatic environment, supervise swimmers, inform swimmers of potential injury and take necessary measures to prevent injuries.'* The guide aims to empower the ability of the surveillance of lifeguards in an aquatic environment.

The Deck Stewards stationed at the swimming pools and monitoring the pool played a crucial role in ensuring the safety of the passengers accessing the pools onboard.

¹¹ 4th edition published 2018 (HSG179)

¹² Applicable to swimming pools operated ashore in Singapore.

5.4 Deck Stewards' Duties and Responsibilities

The Deck Stewards were part of the housekeeping department and reported to the Public Area Supervisor onboard (Appendix: I). The vessel had a total of eleven Deck Stewards onboard. During operating hours of the main pool, three Deck Stewards were on-duty at all times in the vicinity of the main pool, as per their daily duty schedule.

The Deck Stewards wore a yellow t-shirt as part of their uniform with 'Dream Cruises' written on the back in English and Chinese. The yellow-coloured t-shirt distinguished them from the rest of the staff on the pool deck working in a restaurant or as cruise staff allocated at the water slides.



Figure 18: Deck Steward's uniform

The work description for Deck Steward in the Company's SMS outlines the responsibilities of the Deck Steward (Appendix: II). The Deck Steward's responsibility broadly covers housekeeping duties, monitoring the pool and recording any incidents or near-miss related to the pool.

The time spent on housekeeping duties vs. monitoring the pool was dependent on how busy the pool was. The stewards considered pool to be busy when about 15 or more people were in the pool. However, there were no documented guidelines available for the Deck Stewards to follow as to when to consider the pool as busy and stop housekeeping duties to focus exclusively on monitoring of the pool.

At the time of the incident, there were 18 people in the pool. At this time, one Deck Steward was seated on the highchair, one Deck Steward was standing next to the highchair facing the main pool and the third Deck Steward entered the male washroom area on the pool deck.



Figure 19: CCTV footage screenshot of the main pool at 1740 hours

The highchair was not manned by the Deck Stewards at all times. On the day of the incident, one of the Deck Steward's went up and sat on the highchair at 1707 hours. He was seated their holding a rescue tube for 35 minutes, until he observed the victim in distress. There was no policy available onboard providing guidance on the location of Deck Stewards around the pool (including on the highchair) and the duration at which they should change their location to ensure vigilance while monitoring the pool.

The work description and responsibilities of the Deck Steward includes:

- *Constantly monitors the activities in the pool and Jacuzzi areas, in particular when children are in the area.*
- *Ensure the ship's rules and regulations for the water slide, pool and Jacuzzi are followed.*
- *Report any incidents, accidents or near accidents to Public Area Supervisor, Assistant Executive Housekeeper, Staff Captain, Safety Manager and Doctor.*

The Deck Stewards recorded all the pool rescue incidents in a register notebook kept near the towel station. The Public Area Supervisor and Assistant Executive Housekeeper reviewed and acknowledged the entries made by the Deck Stewards. The Assistant Executive Housekeeper also maintained an incident report of each recorded incident.

Any passenger(s) rescued from the pool and requiring medical attention were taken to the ship's hospital and Safety Manager was responsible for maintaining a record of all such incidents onboard.

The Public Area Supervisor and Assistant Executive Housekeeper were part of the housekeeping/hotel department and they performed a safety-critical function responsible for incident reporting. While regular reports were maintained, no actions

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were identified or implemented as part of lessons learnt from the previous reported incidents at the pool.

The following lifesaving and rescue equipment were available in the vicinity of the main pool:

- Three rescue tubes - one usually placed on highchair and two in the vicinity of the duty Deck Steward.
- One shepherd's hook - located on the forward side of the main pool.
- Two lifebuoys - located on aft port side and forward starboard side of the main pool.



Figure 20: Rescue tubes available at the main pool

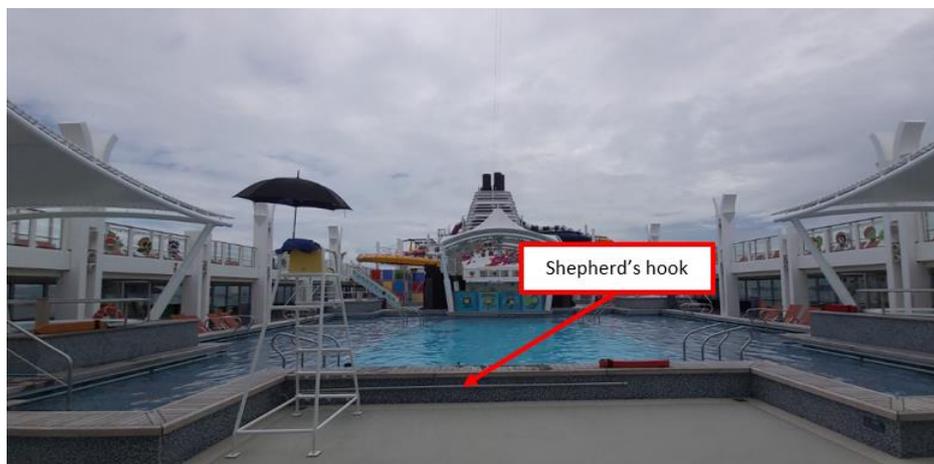


Figure 21: Shepherd's hook available at the main pool



Figure 22: Lifebuoys available at the main pool

The Deck Stewards either verbally cautioned the pool users or used their self-owned whistles to get the pool users' attention if required. The cruise staff stationed at the water slides had whistles provided by the Company. However, the Deck Stewards carried their self-owned whistle as a good practice and were not mandated by the Company to carry one as part of their uniform. The use of a whistle was solely based on good practice onboard and Deck Stewards' previous experience. There was no Company policy or standardized safety guidelines available onboard on the usage of the whistle or any other medium to attract the attention of the pool users.

The main pool safety information stipulates: '*Children under the age of 12 years must be accompanied by an adult*'. To implement this, the on-duty Deck Stewards usually were required to guess the age of a child accessing the pool to identify if the child needs to be accompanied by their guardian, as there was no way to determine the actual age when the passengers were accessing the pool. At the time of the embarkation, passenger information (including age) was collected. This information was not available to the Deck Stewards in the vicinity of the pool, hence, there was no way for Deck Stewards to determine an individual's age.

The safety information included a pictogram for 'no running'. However, between 1708 hours and 1735 hours, the victim and his minor companions were observed to be running in the beach area at various instances. The Deck Steward did not take any action to caution the victim or his companions at any instance while they were running.

The victim was last seen to enter the pool at 1735 hours and was observed to be struggling for three minutes. None of the Deck Stewards or passengers in the vicinity observed the struggling victim. It was only after six minutes after entry into the pool, the victim's sister observed the victim submerged in the pool which drew the attention of the Deck Steward who was on the highchair and subsequently went towards the pool for rescue.

5.5 Pool Operating Procedure and Risk assessment

The Company's¹³ SMS contains a 'Pool and Jacuzzi' procedure, which provided the guidelines for maintaining a bacteria-free and healthy environment in the swimming pools and hot tubs. The procedure provided guidelines for general cleaning requirements, maintenance of the chlorine/bromine level, pH level and the checks/data logging requirements for the pool and hot tubs.

The International Management Code for the safe operation of ships and for pollution prevention (International Safety Management (ISM) Code) section 1.2.2.2 requires '*Safety-management objectives of the Company should, inter alia; assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards.*' The risk assessment is a tool to identify the potential hazards to establish appropriate safeguards to eliminate the risks. The outcome of an adequate risk assessment can be used to generate an operating procedure outlining the general operational requirements, the safety of guests using the pool and emergency action plan for the pool. Further, the outcome of risk assessment can also be used to identify and adapt new technologies and solutions available to mitigate the identified hazards and eliminate the risks.

The UK HSE provides the guidance to conduct the site-specific risk assessment to identify the measures to ensure pool users' safety. The risk assessment must not only include the physical hazards, but those hazards relating to swimmers and swimming-related activities. When assessing the need for supervision, the operator should consider: local circumstances, the pool structure and equipment and the way the pool is used and the characteristics of those who may use it.

To identify the level of supervision required for a pool, the UK HSE provides guidance on factor to consider while conducting the risk assessment. It states: '*A risk assessment must be undertaken to determine the level of supervision required. Consider the following when carrying out your risk assessment:*

- *the nature of the pool (public, school, hotel, holiday park etc);*
- *pool design (for example layout, access from changing rooms);*
- *pool water area;*
- *pool depth;*
- *abrupt changes in depth;*
- *pool and pool hall features (for example glare, reflections, blind spots);*
- *the demographic and ability of pool users, if known;*
- *occupancy levels;*
- *nature of activities in the pool (children's play session, club swimming, swimming lesson);*
- *pool features posing additional risk, for example features creating turbulent water, use of inflatable equipment, flumes, diving boards etc;*

¹³ As per the ISM code section 1.1.2 "Company" means the Owner of the ship or any other organization or person such as the Manager, or the Bareboat Charterer, who has assumed the responsibility for operation of the ship from the Shipowner and who on assuming such responsibility has agreed to take over all the duties and responsibility imposed by the Code.

- *if/where diving is permitted;*
- *the practicability of enforcing house rules for safe behaviour;*
- *access/admission arrangements, for example unrestricted access to hotel residents, child admission ratios.'*

No documented risk assessment (including the physical hazards, hazards related to passengers in the swimming pool or hazards related to swimming-related activities and the level of supervision required) was available in the Company's SMS. The SMS did not have any procedure outlining the general operational requirements, the safety of guests using the pool or emergency action plan for the pool.

5.6 Supervision and Human Element

The main pool safety information stipulated the requirement for the children under the age of 12 years to be accompanied by an adult. The victim was 10-years-old. His guardians were seated at the starboard side seating area on deck 16 in the vicinity of the main pool and were not accompanying the victim in the pool.



Figure 23: Location of the guardians and the victim just before the incident

The tables, chairs and sun chairs on deck 16 in the vicinity of the main pool are not fixed to the deck surface. At the time of the investigation, the tables, chairs and sun chairs location and orientation may have been different from the actual location as they were on the day of the incident. However, from the CCTV footage review and examining the area post-incident, it is highly likely that the guardian's view of the pool and victim's location could have been partially blocked by a shower booth and sun chair(s).

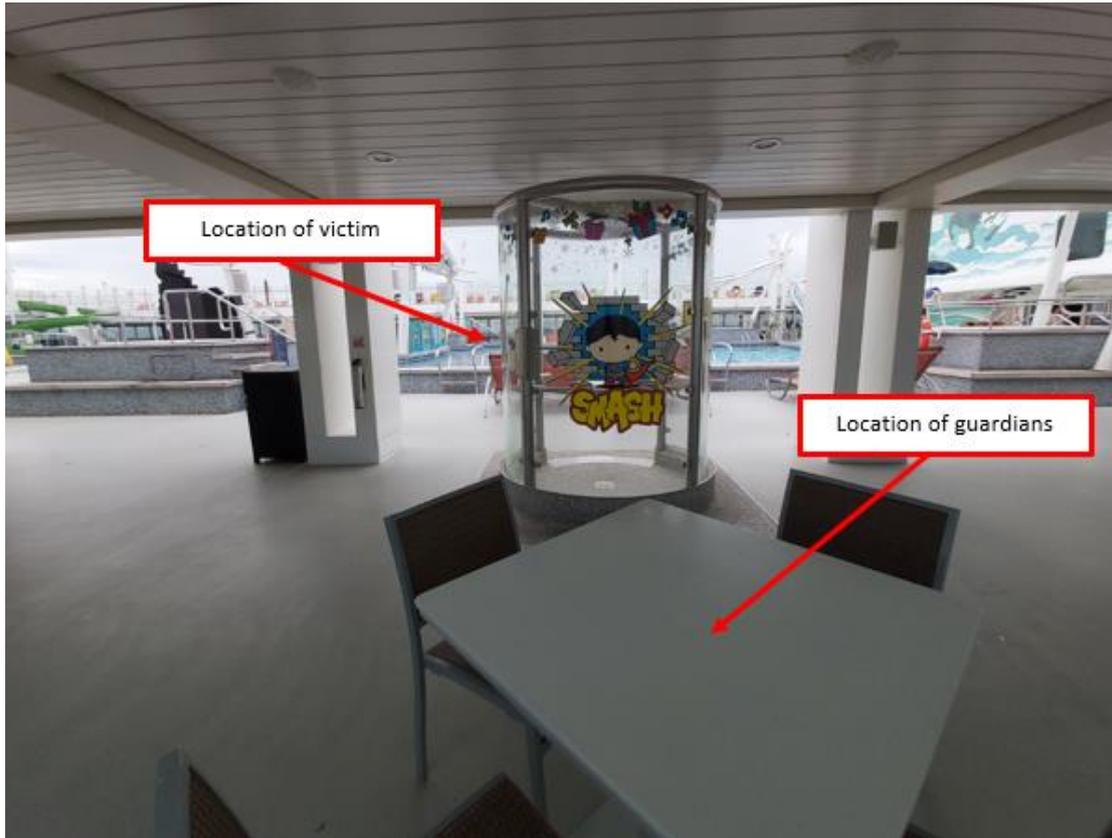


Figure 24: Location¹⁴ of the guardians and the victim

Considering the depth of the pool was about 2.02 m (including depth of the beach area) a child above the age of 12 or an adult with limited or no swimming skills could be exposed to hazards of drowning.

Further, the main pool safety information stipulates: ‘*There is no lifeguard on duty.*’ However, considering the distinguishing yellow¹⁵ uniform of Deck Stewards, the position of the highchair, Deck Steward seated on the highchair with a rescue tube and two out of three rescue tubes having ‘GUARD’ written on them, can give an impression to the passengers that Deck Stewards have a role of lifeguards for pool. This could potentially lead to false safety perception in the minds of the passengers to leave their children unattended while in the pool.

5.7 Deck Stewards’ Background, Qualification and Training

All three Deck Stewards who were on duty at the time of incident had prior experience as a Lifeguard or Pool Supervisor in their previous employment. At the time of the incident, two out of three on-duty Deck Stewards were looking over the main pool (one was on the highchair and one was standing next to the highchair) but

¹⁴ The photograph was taken post incident on 13th December 2019. The tables, chairs and sun chairs location/ alignment might have been different from the actual location as they were on the day of the incident.

¹⁵ Yellow and red are internationally accepted colours of the uniform of a Lifeguard. Source: UK HSE

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none of them observed the victim in distress for six minutes, until his younger sister attracted their attention.

The work experience, qualification, educational background and tenure in the Company of the three Deck Stewards who were on duty at the time of the incident, is summarized in table 3.

DECK STEWARD NO.	WORK EXPERIENCE	QUALIFICATION AND EDUCATIONAL BACKGROUND	WORKING IN COMPANY SINCE
1	1.) Served as a Messman in Aboitiz - Super Ferry (1 year)	1.) Bachelor of Science In Marine Transportation (Graduate - 2002)	MAY 2017 (4th Contract)
	2.) Work as a Lifeguard in UAE - Al Tamimi Group (2 years)	2.) <u>Trainings and Certificate</u>	
		a.) Licensed Pool Lifeguard (UAE)	
		b.) Swimming and Basic Life Saving (UAE)	
		c.) Occupational First Aid and Basic Life Savings with AED	
		d.) Safety Training for Pool Lifeguard (Phil. Red Cross)	
	e.) Safety Training in Emergency First Aid at Work (Phil. Red Cross)		
2	1.) Served as Hotel Steward in Carnival Cruise Line (1 year)	1.) Hotel and Restaurant Management Graduate (2 years)	AUGUST 2017 (3rd Contract)
	2.) Work as Housekeeping Pool Supervisor in Carnival Cruise Line (5 years)	2.) <u>Trainings and Certificate</u>	
		a.) Basic Life Support with AED (Phil. Red Cross)	
		b.) CPR Training (Phil. Red Cross)	
3	1.) Worked as a Lifeguard – Canyon Cove Resort and Spa	1.) Seafarer Rating Course (1 year)	JULY 2019 (1st Contract)
		2.) <u>Trainings and Certificate</u>	
		a.) Basic Life Support with AED (Phil. Red Cross)	

Table 3: Work experience, background and tenure in the Company of the on-duty Deck Stewards

The Deck Stewards were part of the housekeeping department and their work description did not include any requirement for them to have a formal qualification as a Lifeguard. The Company’s requirement for Deck Steward’s qualifications included them to be a good swimmer and certified first aiders.

Qualifications

- a. *Should have valid training certificates on First Aid, and Basic Life Support, preferable from Red Cross.*
- b. *Be a good swimmer and perform First Aid and Cardiopulmonary Resuscitation (CPR).*
- c. *Has a good command of English Language.*

Figure 25: Company’s requirement for Deck Steward’s qualifications

As per the onboard training schedule for all crew members, the Deck Stewards are required to undergo the following onboard training every ten weeks:

- Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED)
- Rescue training

The Ship’s doctor provided the CPR and AED training. The CPR and AED training covered both theoretical and practical aspects of the AED usage and providing CPR to a victim. The rescue training was provided by the Safety Officer¹⁶ onboard and it included practical drills involving rescue operations from the pool. The rescue training was provided following the Safety Officer’s self-made guidelines. The Company’s SMS did not have any specific guidelines covering the scope and requirements of the rescue training.

¹⁶ Safety Officers onboard had shore based fire fighter experience and qualifications.

Pool Attendant Outlet Training.

- How many on duty? Where do you position? Can everybody swim?

- Drowning, practical rescue from bottom.

- Spine board, practical how to use it and what to think about.
Airway, Breathing, Circulation.
Awake or not, RLS.
Back-/neck injuries, secure airways if blocked.
CPR/mouth to mask.
Drainage position, if vomit.

- Pool and water slide attendance.
Risk identification.

Figure 26: Safety Officer's self-made guidelines for rescue training

In 2019, a total of six CPR and AED training sessions and five rescue drills were scheduled for the Deck Stewards. The training logs and records for these trainings were maintained by the safety department onboard. The Public Area Supervisor was the line manager of the Deck Stewards onboard (Appendix I). However, he was neither involved in the CPR and AED trainings nor in the rescue drills related to the pool. As per the onboard training schedule, at the time of the investigation, a total of five CPR and AED trainings and five rescue drills should have been completed onboard. However, the training records for only three CPR and AED trainings and five rescue drills were available onboard. However, the crew onboard confirmed that all the trainings were carried out. Due to the unavailability of all the training records, it was not possible to verify if all the scheduled CPR and AED trainings were conducted as per the training schedule.

5.8 Past Incidents on the vessel and sister vessel

In the last two years a total of 119 minor¹⁷ rescue incidents (45 in 2018 and 74 in 2019) were recorded onboard the vessel.

In the last two years, 6 major¹⁸ rescue incidents were recorded onboard, including this incident. Out of these 6 incidents, 5 were in the main pool and 1 in the VIP pool.

On the sister vessel managed by the Company with identical pools, 85 minor rescue incidents (36 in 2018 and 49 in 2019) and two major incidents were recorded in the last two years.

In all these incidents, the rescue was provided by the Deck Stewards using lifesaving and rescue devices.

¹⁷ Incidents where the passengers were found to have difficulty in floating in pool or were observed to have lost control and were in state of panic in the pool. The rescue was provided by the Deck Steward and medical assistance was offered but refused by the passenger.

¹⁸ Incidents where rescue was provided by the Deck Steward and medical assistance was required.

6 CONCLUSIONS

A 10-years-old passenger drowned in the main pool of the vessel. The victim was not accompanied by an adult while he was in the pool which was contrary to the pool safety procedures and policies onboard.

Pool safety information was posted at four locations in the vicinity of the pool but did not accurately reflect the physical orientation of the pool. Due to the size of the text, the safety information could not be read a distance greater than one meter and the information was not available anywhere else on the vessel. The actual main pool depths were found to be inconsistent with the depth markings next to the pool and on the main pool safety information board.

The safety information board stipulated that children below the age of 12 years must be accompanied by an adult. This rule was not enforced by the Deck Stewards at the time of the incident, the guardians of the victim were seated at the starboard side seating area on the pool deck with restricted visibility of the pool, those in the pool and were not accompanying the victim in the pool.

The Company's SMS did not have any documented risk assessment for the pool operation and a procedure outlining the general operational requirements and safety of guests using the pool.

The training requirements of Deck Stewards on board were not maintained in accordance with the Company's SMS.

It was not Company policy for Deck Stewards to hold any formal lifeguard qualifications, nor were they expected to perform the task of a lifeguard in respect of preventing a drowning. Their presence and appearance however, led the general passenger population to believe that the Deck Stewards were present in the capacity of a lifeguard with the purpose of safety in respect of saving a life.

7 LESSONS LEARNED

Swimming pool safety information should be enforced and followed onboard at all times.

Accurate pool safety information should be readily available to all passengers. The safety information familiarizes the passengers with potential hazards related to the pool and facilitates in reducing the associated risks.

An adequate risk assessment shall be conducted to identify the hazards and risks associated with swimming pool operations. Appropriate safeguards can then be put in place to eliminate the identified risks.

Having standard operating procedures and policies is a fundamental requirement in achieving safe operational practices onboard. The Company should develop adequate operating procedures for swimming pool operation and familiarize the crew members with these procedures.

8 RECOMMENDATIONS

Recommendation for the operator:

Consider developing and familiarizing the crew members with:

- Documented risk assessment identifying the hazards and mitigating the risks associated with the swimming pools.
- A procedure outlining the general operational requirements, safety of guests using the pool and emergency action plan for the pool.

Holistically review design and promulgation of pool safety information to ensure passengers are adequately informed of hazards.

Update the depth markings on the safety information boards and next to the pool entrance to reflect the actual depths of the main pool.

Reassess the duties, responsibilities and qualifications of Deck Stewards and consider providing qualified and trained personnel to ensure the safety of all pool users.

Ensure the Deck Stewards have the appropriate authority, equipment, technology and information in which to enforce the safety information instructions.

Recommendation for the BMA:

Consider implementing a regulation requiring passenger ships with swimming pools to have qualified lifeguards on duty to ensure the safety of occupants during pool operating hours.

9 ACTIONS TAKEN

Actions taken by Genting Cruise Lines post incident:

Each vessel in the fleet has submitted a risk assessment covering pool operations.

The Company SMS has been updated with regards to safe pool operations.

The training requirement for Deck Stewards has been defined.

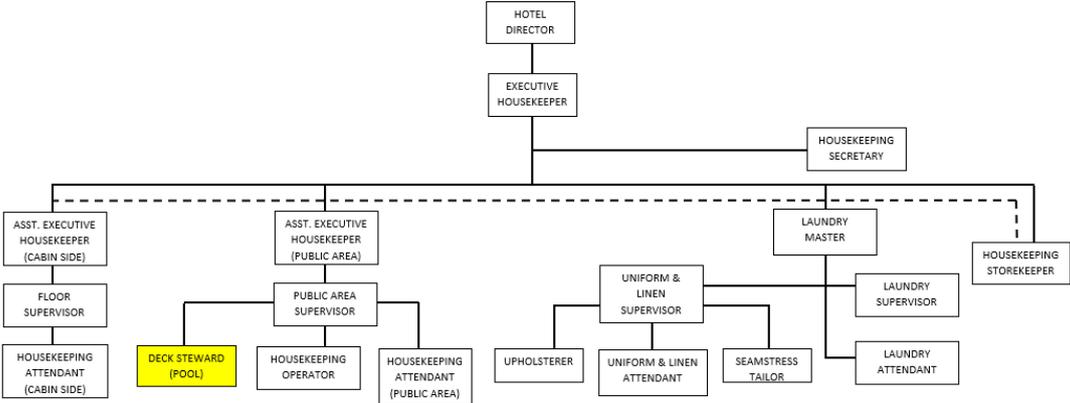
All ships have a ship specific pool safety plan outlining the preventative measures and actions to be taken in case of an emergency.

A fleet-wide standard operating procedure for pool operations has been created and implemented. This covers work methods and enforcing regulations.

The swimming pool onboard Genting Dream has been made shallower and is now at a depth of 1.20 meter. Similar initiatives are also planned for sister vessels.

A fleet-wide initiative to provide all ships in the fleet with personal floating devices has been implemented. The floating devices will be offered to younger guests as a precaution.

Appendix I: HOUSEKEEPING DEPARTMENTAL STRUCTURE (SHIP)



Appendix II: WORK DESCRIPTION FOR DECK STEWARD

Safety Management System

F Resources and Personnel

Issue Date
14 Mar 2018

F400.2309DC

**WORK DESCRIPTION FOR DECK
STEWARD**

Department / Section : **Hotel / Housekeeping**
Reports to : **Public Area Supervisor / Assistant Executive Housekeeper**
Supervises : **Not applicable**

Responsibilities

- Maintain the cleanliness and tidiness of the pool area and Jacuzzi including the furnitures, garbage bins ashtrays etc.
- Ensure that the opening schedule for the water slide, pool and Jacuzzi is followed.
- Present at the pool area during opening hours.
- Constantly monitors the activities in the pool and Jacuzzi areas, in particular when children are in the area.
- Ensure the ship's rules and regulations for the water slide, pool and Jacuzzi are followed.
- Report any incidents, accidents or near accidents to Public Area Supervisor, Assistant Executive Housekeeper, Staff Captain, Safety Manager and Doctor.
- If any passenger refuses to follow the ship's water slide, pool and Jacuzzi rules and regulations, he/she shall immediately report to Assistant Executive Housekeeper / Executive Housekeeper.
- Is knowledgeable on responding to near drowning cases and the usage of Cardiopulmonary Resuscitation (CPR).
- Provide courteous service to the guests and if any complaints encountered, solve them immediately and if unable to do so, report to Public Area Supervisor / Assistant Executive Housekeeper for assistance.
- Keep all pantry and supply closets cleaned and stocked at all times.
- Check if there is an adequate storage of fresh pool towels.
- Conduct proper inventory to safeguard for wastage, loss and shortage.
- Complete requisition forms for supplies needed.
- Report maintenance deficiency that requires immediate attention and follow up status.
- Report to the Public Area Supervisor / Assistant Executive Housekeeper any loss or damage of furniture's, fixtures and equipments.
- Maintain a logbook to record significant events and activities during shifts.
- Complete weekly report.
- Report and turns over any items left by guest to Front Office.
- If no pool assignments are required, reports back to Public Area Supervisor / Assistant Executive Housekeeper for further assignments.

Page 1 of 2

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Safety Management System

F Resources and Personnel

Issue Date
14 Mar 2018

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**WORK DESCRIPTION FOR DECK
STEWARD**

- Understand all policies and procedures established by Dream Cruises.
- Knowledgeable and skillful regarding the Housekeeping section operating procedures.
- To perform other responsibilities as assigned by the superior, but not limited to the above.

SMS

Page 2 of 2

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