Departmental investigation into the fatality on board the Bahamas flag vessel CLIPPER KAWA off Albany, W.A. on 22 February 1997



Report No. 108



Contents

Sources of information	4
Summary	5
Clipper Kawa	7
Gantry cranes	7
The Incident	10
Comment and Analysis	15
The junior cadet	15
Witnesses	15
Injuries	16
First aid	17
The cadet's movements	17
Crane speed	18
Possibilities	19
Alarms and emergency stops	20
Warning notices	20
Fatigue and alcohol	21
Port communications	21
Conclusions	23
Submissions	24
Details of Clipper Kawa	25

Navigation Act 1912 Navigation (Marine Casualty) Regulations investigation into the fatality on board the Bahamas flag vessel CLIPPER KAWA off Albany, W.A. on 22 February 1997

No 108

Published: September 1997 ISBN 0 642 19985 X

The Investigations into marine casualties occurring within the Commonwealth's jurisdiction are conducted under the provisions of the Navigation (Marine Casualty) Regulations, made pursuant to subsections 425 (1) (ea) and 425 1 (AAA) of the Navigation Act 1912. The Regulations provide discretionary powers to the Inspector to investigate incidents as defined by the regulations. Where an investigation is undertaken the Inspector must submit a report to the Secretary of the Department. It is Departmental policy to publish such reports in full as an educational tool.

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Sources of information

The officers and crew, *Clipper Kawa* Western Australia Police Service Australian Maritime Safety Authority

Summary

On 22 February 1997 the Bahamas flag bulk carrier *Clipper Kawa* was lying at the outer anchorage off the port of Albany, Western Australia. The ship had just completed a voyage in ballast from Singapore and was preparing to load a cargo of Australian wheat for Inchon in South Korea.

At about 0815 on the morning of Saturday 22 February, the Bosun, with the two deck cadets and two seamen set to work transferring used dunnage lying on the hatch cover of No.3 hold, to the space between the break of the forecastle and No.1 hatch. The plan was to partly deballast No.3 hold for maintenance.

The Bosun and the two cadets went to unlash the forward gantry crane. This done, the senior cadet remained in the starboard driving cab while the Bosun, the junior cadet and the two seamen slung the dunnage. On completion, the Bosun and the two seamen alighted from the port side of the hatch cover, while the junior cadet alighted on the starboard side. The two seamen then went forward, and the Bosun, having received an "all clear" signal from the cadet on the starboard side, signalled the driver to move the gantry forward to No.1 hatch.

After the gantry crane arrived at No.1 hatch and lowered the dunnage, the Bosun noticed that the junior cadet had not arrived up forward. He walked aft on the starboard side and found the cadet, apparently unconscious, lying against the hatch coaming of No.2 hold. The crew carried him into the crew's recreation room in the accommodation and the Chief Officer started to apply CPR.

Shortly afterwards, on unzipping the overalls of the cadet, it was found that his abdomen had burst open and it was concluded that he was dead.

The post mortem revealed that he had died from shock and haemorrhage following multiple crush injuries.

The incident was investigated by the Marine Incident Investigation Unit under the provisions of the Navigation (Marine Casualty) Regulations.



25 tonne gantry crane in stowed position over deck-house



Starboard leg of gantry crane viewed from forward

Note power belt passing under idler roller and yellow warning light at top left hand corner of photo



25 tonne gantry crane in stowed position viewed from aft.

Note driving cabs at the top of each leg

Clipper Kawa

Clipper Kawa is a Bahamas flag general cargo vessel of 14,038 gross tonnes (23,536 deadweight tonnes), having its accommodation aft and five holds with eight hatches. It is fitted with two universal gantry cranes each having an SWL¹ of 25 long tons.

The ship has a length of 164.33 m, a beam of 22.91 m and a moulded depth of 14.17 m. It can be used to carry bulk cargoes, general cargoes and containers. The gantry cranes, which can move the full length of the cargo deck, are used for opening and closing the hatches and, in addition, can be extended over the ship's side for the loading or discharge of containers and general cargoes.

The main engine is a 12 cylinder I.H.I. Pielstick of 5,737 kW driving a single controllable-pitch propeller and giving the vessel a service speed of 15 knots. The ship is classed with the American Bureau of Shipping (ABS).

Clipper Kawa was completed in 1979 by Ishikawajima Heavy Industries at Chita, Japan and was originally named George. Subsequently, in 1986, it was renamed Amethyst, in 1988 Hansa Kalmar and, in 1992, Kawa. In January of 1996 it became *Clipper Kawa*. At the time of the incident, it was owned and operated by the Dockendale Shipping Company Ltd. of Nassau in the Bahamas.

As a bulk/general cargo/container vessel, Clipper Kawa is employed mainly tramping between the ports of east Asia and Australasia. At the time of the incident, the ship had a crew of twenty consisting of the Master, three deck officers, four engineer officers, a radio officer, nine ratings and two deck cadets.

The Master, officers and crew were all Indian nationals with the exception of the Second Officer and the Second Engineer, who were Burmese.

Gantry cranes

Two 25 tonne gantry cranes straddle the hatches and run on rails set on the deck each side of the holds. (See photos, previous page). Each crane can be controlled from one of two control cabs, one located on

¹ Safe working load

each side of the gantry. On the forward crane, in use at the time of the incident, both control cabs face aft. The cabs are approximately 11 metres above the main deck and set directly above the line of the crane tracks. The gantries, which are powered by electro-hydraulic systems, are fitted with a flashing yellow warning light on the outboard side of each leg and with an electronic audible alarm which plays through a speaker half way up each leg. The flashing lights and audible alarms are activated automatically whenever the gantry is moving along the deck.

The normal stowage position for the forward crane is at the deckhouse between nos. 2 and 3 holds (nos. 3 and 4 hatches). At this position, on the starboard side, the electrical power cables for the gantry pass through the main deck and up onto a stowage reel on the gantry. The cables are enclosed in a flat belt which can be seen in the photo on the next page. The belt is automatically paid out or retrieved as the gantry moves and is guided onto the stowage drum by idler wheels on the inboard side of the starboard gantry leg at its forward end. The belt, when paid out, rests in an elevated tray running just above, and inboard of, the crane rail. The forward idler wheel can also be seen in the photograph on the next page. The clearance between this idler wheel and the outboard edge of the hatch coamings is 135 mm.

Emergency stop buttons for the crane are provided at the after end of each crane leg, about 750 mm above the deck, and on the outboard side of each crane leg at the forward end where they are at head-height.

On the corner of each hatch coaming there is a cast steel guide, ribbed for stiffness, which guides the hatch cover into the correct position as it is lowered into the closed position by the gantry crane. The top edge of this guide, with a lip, protrudes a few centimetres further outboard than the hatch coaming. This guide can be seen in the photos at the bottom of this page.

The driver of the crane follows the signals of a person who acts as the signalman. This is usually the Chief Officer or the Bosun, but the function is sometimes carried out by a seaman if they are not available. The signal to lift is a raised finger, to move forward a finger pointing forward, etc.



Space between aft end of no.2 hold and forward end of deck house. The cast steel, ribbed, corner-guide for the hatch cover is in foreground above the track for the crane's power belt



Power belt idler wheel on gantry crane

Note the narrow space in which the cadet was crushed between the wheel and the corner of the hatch coaming,

The Incident

On Saturday 22 February 1997, Clipper Kawa was lying at anchor at the outer anchorage off the port of Albany in Western Australia. The ship had arrived in ballast from Singapore, where it had discharged a cargo of steel products loaded at Inchon, South Korea. It was awaiting its turn to berth at the grain terminal where it was to load 22,050 tonnes of Australian wheat for the return voyage to Inchon. The wind was blowing at force 5 from the south and there was periodic drizzle, together with some light showers of rain. The sea was causing the vessel to roll and pitch slightly while riding to the anchor.

At 0815 that morning, having received their job orders from the Chief Officer, the Bosun, the two deck cadets and two seamen went out to start work on the main deck. They had been given two tasks which were:

- a) to transfer a load of used dunnage² which was on the top of the hatch over No.3 hold to the space between No.1 hatch and the break of the forecastle and
- b) weather permitting, to remove the hatch cover and partly de-ballast No.3 hold in order to carry out maintenance work in the hold prior to a hold survey and a Port State Control inspection.

At about 0820, the Bosun ordered the seamen to remove the hatch cleats on the cover on No.3 hold while he and the two deck cadets went to prepare the forward universal gantry crane. The junior cadet removed the two bottle-screws, one at each side, and then climbed to the top of the gantry and removed the hydraulic locking pin located at the middle of the gantry. The two cadets then removed the hydraulic locking pins which are operated by pumps, one in each driving cab. The junior cadet then descended to the deck, whilst the senior cadet stayed in the starboard cab to drive the crane. The seamen were sent forward to prepare the raft from within which the maintenance work in the hold was to be undertaken.

At about 0835, after unsecuring the crane, the routine safety checks were carried out. These involved testing the movements of the crane in the forward and aft and athwartships directions and a test of the audible and visual alarms. The Chief Officer, from his position on the bridge, observed some of these tests

²Timber used to separate and protect items of general cargo

being carried out while he discussed a new cargo stowage plan, which they had just received, with the Master and the Third Officer. The junior deck cadet, the Bosun and the seamen on the top of the hatch cover on No.3 hold prepared to sling the dunnage.

At about 0840 the seamen returned and, once the dunnage had been slung and hooked on the crane, the Bosun instructed them all to proceed forward to No.1 hatch where the dunnage was to be placed. The Bosun and the two seamen climbed down from the hatch cover on the port side, while the junior cadet climbed down on the starboard side. The Bosun sent the two seamen who were with him forward to No.1 hatch, then, having received a signal from the junior cadet that all was clear on the starboard side, signalled to the senior cadet in the cab to start moving the gantry forward to No.1 hatch.

The Chief Officer, still on the bridge, observed the signal from the Bosun and saw the crane starting to move forward. At this point, he left the bridge and went below for his breakfast.

A few minutes later the gantry crane, with the dunnage slung beneath it, arrived at No.1 hatch. The junior cadet, however, had not joined the rest of the group who were preparing to stow the dunnage and the Bosun, wondering where he was, walked down the main deck on the starboard side to find him. As he came to the after end of No.2 hold, he saw the cadet lying up against the after hatch coaming inboard of the cable track for the crane. He tried speaking to the cadet and attempted to get him up, but received no response. The Bosun, in some panic, ran forward to the other crew members for help.

The crew lifted the cadet and carried him aft towards the accommodation block while the Bosun reported what had happened to the Chief Officer. It was about 0850 and the Chief Officer was still having his breakfast in the duty mess. He immediately rushed down to the deck where he saw the crew carrying the cadet to the crew's recreation room through the watertight door on the starboard side of the accommodation. He saw that the cadet's tongue was hanging from one side of his mouth; there was a small amount of saliva around his lips and a little blood at his nostrils. After instructing the crew to place the cadet on the settee, he commenced using cardio-pulmonary resuscitation (CPR) on him as there was no detectable pulse and no breathing. His initial thoughts were that the cadet had been electrocuted and had possibly struck his head as he had fallen.

The Bosun continued on up to the bridge to inform the Master and the Third Officer, who was now the Officer of the Watch. The Master saw that the Bosun was in a very agitated state and trembling as he described what he had found on deck. On being asked what was wrong with the cadet, the Bosun replied that he did not know. The Master, unaware that the cadet had been moved into the accommodation, despatched the Third Officer to the deck to see what was wrong with him. He was able to watch the Third Officer as the latter made his way along the starboard side of the deck and then saw him turn and indicate that there was nobody out on deck.

At about 0855, the Master, believing that the cadet was unconscious and still on deck, attempted to call Albany port control on the VHF to request assistance. He was unable to obtain any reply on either channel 16 or channel 12. Running down from the bridge, he met the Third Officer who informed him that the cadet was now in the crew's recreation room.

The Master and the Third Officer, who had collected a portable resuscitator from the medical locker on the way, arrived in the recreation room to tend the unconscious cadet. Seeing that he was still unconscious, not breathing and not responding to the CPR being administered by the Chief Officer, the Master returned to the bridge to again call Albany port control for assistance.

After again calling port control on VHF channels 16 and 12, the Master, having received no response, used the INMARSAT satellite communication system to call the local agent for the company. On contacting the agent he asked for a boat or helicopter to be arranged to medevac the cadet and explained that he had been unable to raise Albany port control on channels 16 or 12. He then called the Charterer's agents in Fremantle and also advised them of the situation on board.

While the Master called for assistance, the Chief Officer was continuing to render first aid to the cadet. Using a plastic applicator, which the Second Officer had brought from the medical locker, he was once more administering CPR in an attempt to restore a heartbeat and breathing. Two of the crew removed the cadet's boots and started rubbing the soles of his feet. While he was carrying out the CPR, the Chief Officer noticed that there was a bulge under the cadet's overalls at the lower right side of his trunk together with an unpleasant odour. Unzipping the cadet's overalls, the Chief Officer found that the cadet's abdomen had burst open exposing his intestines and other internal organs. He quickly zipped up the overalls and



"CLIPPER KAWA" - Diagrammatic sketch of part of main deck showing location of incident

(Not to scale)

Port

reported what he had found to the Master as the latter was returning into the recreation room.

At about 0905, the cadet was once more checked for any sign of a pulse or breathing. When no sign of either was observed, it was concluded that he was dead. The Master returned to the bridge and contacted the agents and the vessel's owners. The Albany police were informed by the agent and the police boarded the vessel from a tug at 1055. The weather was such that it was necessary to start the main engine and to manoeuvre the ship, still at anchor, to provide a lee for the tug and to enable them to board.

Having conducted a preliminary investigation, the police took the body of the cadet ashore on the tug and an autopsy was carried out two days later.

Comment and Analysis

Both the work being carried out and the operation of the gantry crane on the morning of 22 February were quite routine. The cadet driving the gantry crane had been on *Clipper Kawa* for 13 months and had driven the crane on numerous previous occasions. He was, in fact, described during the investigation as the best crane-driver on board the ship. The Bosun, in charge of the operation on deck, had been at sea for 26 years and was seven months into his second contract aboard *Clipper Kawa*.

The junior cadet

The junior cadet was twenty years old. He was an indentured deck cadet who had gone to sea through the Indian direct entry scheme and had undergone three months of pre-sea training at a private institute in Bombay. He had joined *Clipper Kawa*, his first ship, at the end of August 1996 and thus, at the time of his death, he had had only six months sea experience.

It was generally considered by others on board that he was a cheerful and willing worker, although he was thought to be somewhat slow to learn. It was also felt, however, that he had not yet developed a sufficient sense of safety consciousness and there was an unwritten instruction that he was not to be allocated tasks which demanded any degree of responsibility. For this reason he was not given jobs aloft or those requiring work on staging. He was, nevertheless, well liked by all the others on the ship and got on well with them, but he had a bad stammer which had given the Master concern about his prospects as a future Officer of the Watch. As with most cadets at sea, he had a particular bond of friendship with the other deck cadet who was driving the crane at the time of his death.

Witnesses

After the Bosun and the two seamen had climbed off the hatch cover on the port side, the Bosun sent the two seamen up forward to No.1 hatch. The Bosun himself had seen the junior cadet descend from the hatch cover on the starboard side and received a signal from him indicating that all was clear, on the starboard side, for the crane to move forward. The junior cadet was standing approximately half-way along No.3 hatch and signalled to the Bosun by pointing forward and shouting "Clear!".

That was the last time that the junior cadet was seen alive, as, having given the signal to the senior cadet in the cab to start moving the crane forward, the Bosun also started walking forward towards No.1 hatch.

The Chief Officer, on the bridge, had seen part of the testing of the crane being carried out and the dunnage being slung. However, he was busy discussing a revised cargo stowage plan with the Master and the Third Officer and did not witness the whole operation of slinging the dunnage. He saw the Bosun give the signal to start moving the crane forward and saw the crane start moving. At that point he left the bridge to have his breakfast.

The senior cadet, in the crane cab, was unable to see the junior cadet as the latter was positioned on deck beneath the cab and he would have had to lean out of the window to be able to look down to the deck below him. He did, however, see the Bosun, over on the port side, signal to someone on the starboard side of the deck, beneath his position, shortly before he himself received the signal from the Bosun to start moving the crane forward.

As the crane started moving forward, the senior cadet in the cab was concentrating on the load of dunnage slung below his gantry crane and, in particular, on the clearance between the load and the top of the deckhouse over which it was to pass. His concentration remained centred on the load of dunnage as the crane moved up to No.1 hatch and he did not observe the junior cadet at any stage.

Injuries

The autopsy revealed that the cadet had died due to shock and haemorrhage following multiple crush injuries. His ribs had been crushed, as had his shoulder-blades, his liver had been torn and his right kidney ruptured. The crush injuries extended from the level of the middle of his chest to his lower abdomen and right thigh, where there was a 27 cm laceration extending from his groin. This would be consistent with the height, had he been standing at the time, of being caught between the forward idler wheel for the power belt and the cast steel hatch cover guide on the corner of No.2 hold. The injuries were in evidence right around the circumference of his body, indicating that he had been rolled through the gap by the movement of the crane before he fell into the space adjacent to the hatch coaming.

Immediately above and aft of the idler wheel, there is a housing containing rollers which guide the power belt in the vertical direction. The gap between this housing and the hatch cover guide is only about 15 mm, too small for his body to have passed through, and it appears likely that the front of this housing pushed him into the 135 mm space between the idler wheel and the hatch cover guide.

First aid

No first aid was rendered to the cadet when he was found adjacent to the hatch coaming at No.2 hold. He was moved into the accommodation and the crew's recreation room before any attempt was made to administer CPR. It was not apparent to those involved whether or not he was still alive and the immediate priority should have been to attempt to restore breathing and heartbeat.

This is noted as a matter of procedure only as it is acknowledged that, in this instance, the outcome would not have been affected. The injuries that the cadet had suffered were so severe that there was nothing that the ship's crew could have done to have saved him.

The cadet's movements

The junior cadet was last seen alive standing outboard of the gantry crane on the deck on the starboard side about half-way along No.3 hatch. The evidence is that, after signalling to the Bosun that all was clear on the starboard side, he was not again observed by anyone until his crushed body was found next to the starboard aft corner of the No.2 hold hatch covers.

For his body to have been found against the hatch coaming, he must have moved approximately eight metres forward along the deck and then, moving inboard, crossed the crane track in front of the crane. The investigation was unable to establish any sound reason for his having done this or for him to have been in the position in which he was later found.

There is, however, the possibility that he was attempting to reach the space between the after edge of the hatch cover on No.2 hold and the deckhouse. It cannot be stated with any certainty that this is what he was attempting to do, but there are two reasons why he may have tried to do this and these are:

- a) a shower of light rain was passing the vessel at that time and he may have felt that the hatch cover and coaming, standing approximately 1500 mm above the deck, would have afforded him some shelter from the wind and rain coming from forward; and
- b) the others in the group were all on the port side of the vessel walking forward and he may have been intending to join them. The first position at which he could have crossed over to the port side would have been at the space between the after edge of the hatch cover on No.2 hold and the deckhouse.

There is the possibility that either, or both, of the above entered his mind as he started to make his way forward alongside the gantry crane.

Crane speed

The speed of the crane's movement in a fore-and-aft direction can be controlled to some extent by the driver in the cab but is also dependant on the trim of the vessel. If the ship is trimmed by the stern the crane will move towards the stern at a greater speed than it will move forward. A test of the crane's speed showed it to vary between approximately 125 mm per second and 250 mm per second. At the time of the incident the vessel was trimmed by the stern and its speed moving forward would have been at the lower end of its speed range.

At the time the dunnage was to be moved forward to No.1 hatch, the vessel was pitching and rolling at anchor due to the prevailing weather conditions. The cadet driving the crane was aware of the movement of the dunnage swinging underneath the gantry and was accordingly moving the crane more slowly than usual.

An additional factor to be taken into account when the gantry is moved is that when it passes its stowed position at the deckhouse between nos.2 and 3 holds, it passes over the position where the power belt comes through the main deck. As the gantry passes over this point, the belt feed changes direction from one of retrieving onto the stowage reel, to one of paying out. For this reason, it is customary on *Clipper Kawa* to briefly reduce the gantry's speed of travel as it passes over this point. At the time of the incident, the cadet driving the crane observed this precaution and slightly slowed the crane's forward speed.

From the position where the gantry's starboard leg was situated when the dunnage was lifted, to the position where the cadet was crushed, the crane would have had to move approximately 3 metres. At its fastest speed, this would have taken approximately twelve seconds. Allowing two extra seconds for a slow-down over the position where the power belt comes through the deck and two seconds for the crane to start moving after the Bosun gave the signal, the total time for the crane to move from the moment of the signal to reaching the corner of No.2 hold would have been, at a minimum, about 16 seconds.

Possibilities

For the junior cadet to reach that point at the same time as the crane, assuming he started walking immediately after giving the Bosun the "all clear" signal, he would have had to cover 8 metres in 16 seconds or less. The average person will cover 8 metres in about 9 seconds at a gentle walk. This would have given him ample time to have reached a position ahead of the crane where he may have felt that he had sufficient time to cross in front of it.

The cadet was aware that the crane was moving as he had just given an "all clear" signal to the Bosun for the crane to start moving forward and he must have been walking alongside it for a few moments. It cannot be known what was in his mind at that time, however it appears that he either misjudged the time he had available to cross in front of the crane or he lapsed into a brief loss of concentration. Had he had a lapse in concentration, his subconscious may have mistakenly taken the slowing down of the crane, as it passed over the point where the power belt comes through the deck, for the crane coming to a halt.

His injuries indicated that he had been standing up at the moment of being caught by the crane. However, there is another possibility and that is that he slipped on the wet deck, losing precious seconds, before standing up again and attempting to get out of the way of the crane.

It must be emphasised that the above are only possibilities, as there was no actual evidence found during the investigation to indicate why he was in the position where his body was found.

Alarms and emergency stops

The gantry crane has audible and visual alarms which are activated automatically while it is moving along the deck. The visual alarm, an orange flashing light, is situated just over two metres above the deck on the outboard side of the gantry leg. Although not visible from the position where his body was found, the cadet would have walked immediately underneath it as he passed the crane. He would also have passed directly by the starboard forward emergency stop button for the crane. Evidence provided to the investigation indicated that he was fully conversant with the operation of the emergency stop buttons, having used one to stop the crane in the past.

The audible alarm, of electronic type, playing through an amplifier and speaker further up the gantry, emits a two-tone sound which, however, after it has been heard for a short while, seems to blend into the noise made by the hydraulic machinery in the gantry crane. The sound was considered by the investigating officer to be of insufficient amplitude and the frequencies emitted were not considered sufficiently "startling" for a person to be made constantly aware of the sound. A strong wind, such as was blowing at the time of the incident, would further diminish the effectiveness of the audible alarm.

In spite of any shortcoming in the alarm system, however, for the reasons mentioned earlier, the cadet would have had to have been aware that the crane was moving.

Warning notices

Although in this instance the cadet would have been well aware that the crane was moving, there are no warning notices on the gantries which would indicate to anyone on the deck of the vessel that the cranes could start moving at any time. The crew of the ship would usually be aware when the cranes are about to be operated, but such notices might serve to heighten this awareness in their subconscious. Notices would be especially important in port, however, for warning waterside worker and any other persons from ashore, such as contractors or surveyors, who may not be so familiar with the working environment on the deck of this particular vessel.

Fatigue and alcohol

The previous day the cadet had started work at about 0630 when he had met the Chief Officer and been instructed to carry out the routine morning tasks such as hoisting the flags. That day there had been a hold inspection by the Quarantine Service and the Harbour Master. The hold inspection had progressed from about 1230 until about 1615. At 1630, the cadets had reported to the Chief Officer for further work and had finished working on deck, when the holds had been closed up, at about 1730.

After dinner, the Master had encountered the junior cadet in the duty mess, still in his overalls, and the cadet told him that the Chief Officer had been very pleased with the way the hold inspection had gone and had given the crew some beer and a bottle of whisky, and some CocaCola to the cadets. The two cadets then spent about half an hour chatting in the senior cadet's cabin before the junior cadet returned to his own cabin and turned in on his bunk. Shortly after that, the Master called by the cadets' cabins and found the junior cadet asleep. As the cadet awoke, the Master had a few words with him and the cadet showed him some photographs which he had received from his father that day. He appeared to be in good spirits. That was the last occasion on which the Master saw the cadet alive.

The evidence indicates that the cadet had a full night's sleep from approximately 2000 until about 0600 the next morning and there appears to be no cause to suggest that he was suffering from fatigue at the time of the incident.

The cadets were allowed to drink beer on certain occasions, such as when there was a party on board, when they were allocated a ration. On other occasions they were not allowed to drink and there was no bar in the officers' lounge. On this occasion, although the cadet had reportedly consumed one can of beer on the evening before the incident, there was no evidence to suggest that alcohol was a factor contributing to his death.

Port communications

On two occasions, shortly before and after 0900 that morning, the Master attempted to raise Albany port control on VHF channels 16 and 12. He was unaware that port control is manned only during office hours of 0800-1700 Mondays to Fridays. This information had not been provided to the ship on this occasion, however a telephone number for contact in cases of emergency (Police and State Emergency Service) is

provided in the Admiralty List of Radio Signals Vol.6 part 3 (Vessel Traffic Services, Port Operations and Pilot Stations). This publication is carried by vessels in accordance with chapter 5 of the SOLAS convention.

An alternative means of requesting assistance would be by satellite communication, (SATCOM) and the Master used this method to contact the vessel's local agent after he had failed to make contact with the port authority. The agent then alerted the Police.

The Australian Maritime Safety Authority was not informed about the incident until the Monday morning when the Fremantle office was notified by the Albany Harbour Master.

Conclusions

These conclusions identify the different factors which contributed to the circumstances and causes of the incident and should not be read as apportioning blame or liability to any particular organisation or individual.

It is concluded that:

- 1. The junior deck cadet on board Clipper Kawa died from shock and haemorrhage as a result of multiple crush injuries received after being caught between the power belt idler wheel, on the starboard leg of the forward gantry crane, and the after coaming and hatch cover guide on No.2 hold.
- 2. The cadet must have been aware that the crane was moving as he had, shortly before, given an "all clear" signal to the Bosun and had walked forward to a position ahead of the moving crane.
- 3. There was no sound reason for the cadet to have been in that particular position at the same time as the moving gantry crane and it cannot be known what was in his mind immediately before the incident.
- 4. There is a possibility that the cadet, mistakenly thinking he had time to cross in front of the moving crane, attempted to cross the crane track to get to the space between the after end of No.2 hold and the deckhouse.
- 5. The audible alarms on the gantry cranes are not sufficiently loud or "startling" as to hold a person's attention while the cranes are moving along the deck, particularly in a strong wind and against the background noise of the hydraulic machinery.
- 6. Although possibly not a significant factor in this incident, the gantry cranes have no warning notices to indicate that they may start moving at any time.
- 7. Neither fatigue nor alcohol are considered to have been contributing factors in the death of the cadet.

Submissions

The provisions of subregulation 16 (3) of the Navigation (Marine Casualty) Regulations require if a report, or part of a report, relates to a person's affairs to a material extent, the Inspector must, if it is reasonable to do so, give that person a copy of the report or relevant part of the report. Subregulation 16(4) provides that such a person may submit written comments or information relating to the report.

The final draft of the report, or parts thereof, was sent to the vessel's owners and the Master. No submissions were received.

Details of Clipper Kawa

IMO Number	7609673
Flag	Bahamas
Classification Society	American Bureau of Shipping (ABS)
Туре	General cargo
Builder	Ishikawajima Heavy Industries, Chita, Japan
Year	1979
Owner	Dockendale Shipping Co. Ltd.
Gross tonnage	14,038
Deadweight	23,536 tonnes
Summer draught	10.021 m
Length overall	164.33 m
Moulded breadth	28.0 m
Engine	12 cylinder I.H.I Pielstick
Engine power	5,737 kW
Crew	20 Indian and Burmese