Mariners' Alerting and Reporting Scheme

MARS Report No. 308 June 2018

MARS 201836

Approaching port, CPP stuck at 50% ahead

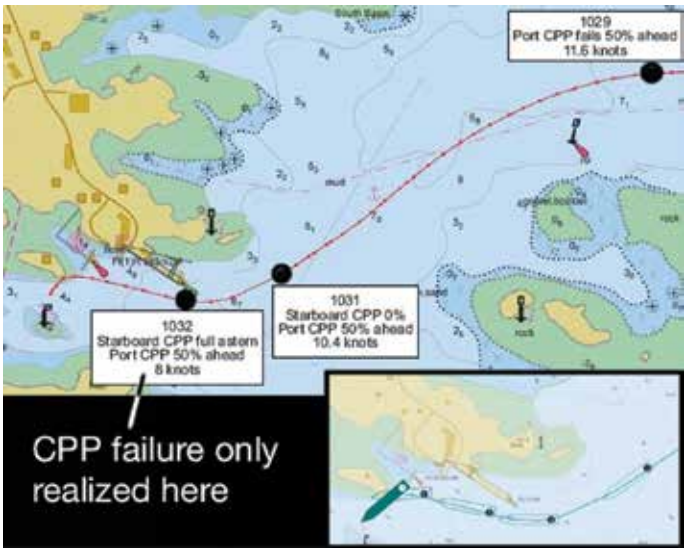
As edited from official MAIB report 20-2017

➔ As the ferry approached the port the Master took the con from the OOW. With a little more than 3 nautical miles to go the Master started reducing the pitch on both controllable-pitch propellers (CPPs), as was his practice on this arrival. He monitored the CPP pitch indicators on the starboard wing console and saw the pitch on both propellers start to reduce. The reduction in pitch was also observed by the third officer at the centre console. The Master was satisfied that the transfer of pitch control to the wing had been successful, and he transferred control of the steering and bow thruster to the starboard wing console.

The ferry was now making about 10kt, and the Master set the port CPP to 0% and then to 70% astern. The Master did not look at the pitch indicators at this point because he was confident he had control at the starboard wing console. However, he soon noticed that the ferry's speed was not reducing as quickly as he expected, so he set the starboard CPP to 0% pitch.

The Master initially thought that the ferry's slow response to the pitch adjustments was due to the ferry's trim. The OOW looked at the CPP indicators on the centre console and saw that the pitch on the port CPP was still at 50% ahead. He immediately advised the Master, who set both the port and starboard CPPs to 100% pitch astern. The starboard CPP pitch moved to 100% astern but the port CPP pitch remained at 50% ahead.

The ferry was now less than 200 metres off the pier breakwater, its bow starting to swing to starboard due to the twisting moment of the propellers. To counteract the swing, the Master set the bow thrusters to 100% thrust bow to port. At this point the Master decided against using the anchors to slow the vessel in view of the relatively high speed and the risk to the forward mooring party.



Meanwhile, the engine room was informed that the port CPP was 'stuck ahead'. Engineers made various checks and one engineer went to place the port CPP into local control. With the ferry's speed now about 8kt the swing to starboard had been stopped and the vessel was approximately 30 metres to the south of the pier and heading towards a set of small vessel mooring pontoons 70 metres ahead. At about this time, the port CPP pitch was set to zero using a local lever on the port shaft gearbox.

The vessel's speed reduced to about 5kt and the ferry's bow was swinging to port. As it did so, it ran over the outer mooring pontoons, causing some of the pontoons to overturn. Seconds later the ferry gently grounded and stopped in the water.

Some of the official report's findings were:

- Pivotal to the mechanical failure was the lack of service instructions on board the vessel concerning the actuator's inspection and maintenance for reference by the service personnel.
- The pitch control system had not been upgraded to incorporate a pitch deviation alarm and/or an automatic clutch-out capability as recommended by its manufacturer.
- It took the bridge team two minutes to realise that control of the port CPP had been lost. By then, the ferry was less than 200m from the pier roundhead and was still making 10kt.
- The ferry's speed when approaching the port was too fast to stop the ferry in safe water.

Lessons learned

- For emergencies, practise, practise, practise. In this case, the ferry's teams were not sufficiently prepared or practised to deal quickly and effectively with the loss of pitch control in the confined waters off this arrival port.
- Changing desired thrust on the motors, as when giving helm orders, has immediate and important consequences. Always confirm to see if your desired input is actually being applied.
- Even if you are confident of the manoeuvre and the ship's capabilities, put in a safety factor that will work in your favour if things go awry. One of the easiest – slow down.

MARS 201837

Bent ship's crane

➔ The Master of a bulk carrier, newly arrived on board, noticed the starboard provision crane was not straight but slightly bent upward. A closer inspection showed cracks on the paint surfaces of the stoppers. Additionally, limit switches were found in disrepair; the crane had obviously been misused.

It appears that the damage had occurred some time earlier but had not been reported.

Lessons learned

- Limit switches should always be operational and tests should be done by a competent person in line with the vessel's PMS.
- Within a strong safety culture, immediate and transparent reporting of incidents should be the norm.
- Leaving equipment in less than optimum state endangers crew and is negligent behaviour.
- Crane operators need to be given the proper training before they use lifting equipment.

■ **Editor's note:** We recently received this note from another NI member: "I sailed for 16 years and have now been working in ports for the last 10 years. During my sailing, I never noticed that the limit switches of the cranes were tested even once, although I started getting this done at least once during my contract.

"I have many times seen accidents happening in the port because the limit switches had not been tested or the setting of the limit switches was wrong or they were bypassed. At times, I have even noticed that the crane limit switch is missing altogether.

All ships are reminded that many accidents occur due to faulty or wrongly set limit switches and these must be tested regularly."

MARS 201838

Ship accommodation ladders with improvised secondary means of support

Australian Maritime Safety Authority – Marine Notice 13/2017

➔ The Australian Maritime Safety Authority (AMSA) notes that, although there are no requirements under SOLAS regulation II-1/3-9 for the rigging of secondary means of support to accommodation ladders and no standards in MSC.1/Circ1331 for the construction, maintenance and operational testing of those arrangements, rigging of a secondary means of support to accommodation ladders, particularly where the accommodation ladder is suspended, has become common practice in some Australian ports.

AMSA has observed that secondary means of support arrangements have consisted of the following:

Unapproved secondary means of support tied to non-loading bearing part of accommodation ladder and vessel structure

- Steel wire, synthetic or natural fibre ropes tied or otherwise connected to the accommodation ladder and a part of the vessel's structure
- Synthetic or natural fibre rope roved through pulley blocks and connected to the accommodation ladder hoisting arrangements or part of vessel's structure
- Steel chains or wire ropes with or without a bridle connected to a part of the vessel's structure or suspended from the vessel's stores crane or bunker hose davit.

According to AMSA, in many cases the secondary means of support are inadequate for their intended purpose and in fact introduce unacceptable hazards and risks. The inadequacies include:

- Connections to vessel's cranes or davits with insufficient safe working limit (SWL)
- Attachments to non-load-bearing parts of the accommodation ladder and vessel structure
- Inadequate tensile strength of ropes, wires, pulleys and fittings.

Additionally, some arrangements are not easily adjustable and add a further risk to safety when the accommodation ladder is lowered or raised to compensate for draught changes or due to tidal variation.

There are often no policies, procedures or instructions contained in the safety management system for the use and maintenance of the secondary means of support arrangements and crew have been unable to demonstrate proficiency in the use of these arrangements. AMSA has noted several incidents and accidents due to these improvised methods.

Lessons learned

- If a secondary means of support is desired, a risk assessment should be undertaken on board in line with the vessel's safety management system.
- Procedures for the fitting, maintenance and operation of the secondary means of support arrangements should be included in safety management system procedures and crew should be inducted and trained in the use of these arrangements.
- Good seamanship and reasonable judgement is a standard in itself.

MARS 201839

Collision averted by 100m

As edited from the Swedish Accident Investigation Authority report RS 2017:04e

➔ In darkness and early morning hours, a container vessel departed port with a pilot on board. The Master and the OOW were also on the bridge. At that same time, a tanker was inbound in ballast. The cargo tanks were not gas-freed and there was no inert gas system on board. Both vessels were due to arrive in the area where the compulsory pilotage limit is located at around the same time. The plan was to have the pilot on the outbound container vessel change to the inbound tanker near that location.

Once the container vessel arrived at the compulsory pilotage line, the Master, on the advice of the pilot, began reducing speed prior to the pilot's disembarkation. The pilot called up the inbound tanker to inform them of this.

Before disembarking, the pilot instructed the Master "…Nine knots it should be, and you change course to 156°. I will go down. All the best, bye bye." The pilot then left the bridge with the OOW, going down to where the able seaman (the lookout) had rigged the pilot ladder. The Master was alone on the bridge, steering using autopilot. He went on to the port bridge wing to monitor the pilot's disembarkation.

Later, the Master of the container ship stated that he understood the tanker was to wait at the pilot boarding point just over 1nm to the south; his understanding was that there would be no problem in meeting the inbound tanker port to port.

Meanwhile on the tanker, the Master was also alone on the bridge, as both the OOW and the lookout were down by the pilot ladder preparing to receive the pilot. He kept the vessel somewhat to starboard in the fairway and altered speed so that the pilot would be able to board outside the compulsory pilotage line, but after having passed the pilot boarding point. He saw that the container vessel was reducing speed and turning to port. The Master felt that both the situation and the distance were normal at this stage.

By the time the pilot had boarded the pilot boat, the container vessel was heading 150°. The distance between the vessels was now 0.5nm.

The inbound tanker's Master called the pilot boat:

Tanker Master: 'As soon as I am clear of the container vessel I will come a little to port in order to get on the leeward side.'

Pilot: 'Yes, that's fine.'

Tanker Master: 'He has not come back to his heading yet. We have to wait a little.'

The pilot, still on the pilot boat, then called the Master of the container ship.

Pilot: 'Do you come back to southerly course now?'

Container ship Master: 'Yes, I will go back, but I am very close here to the other vessel. I will just turn around.'

Pilot: 'Yes, that's my point; you are getting very close so you should go starboard now.'

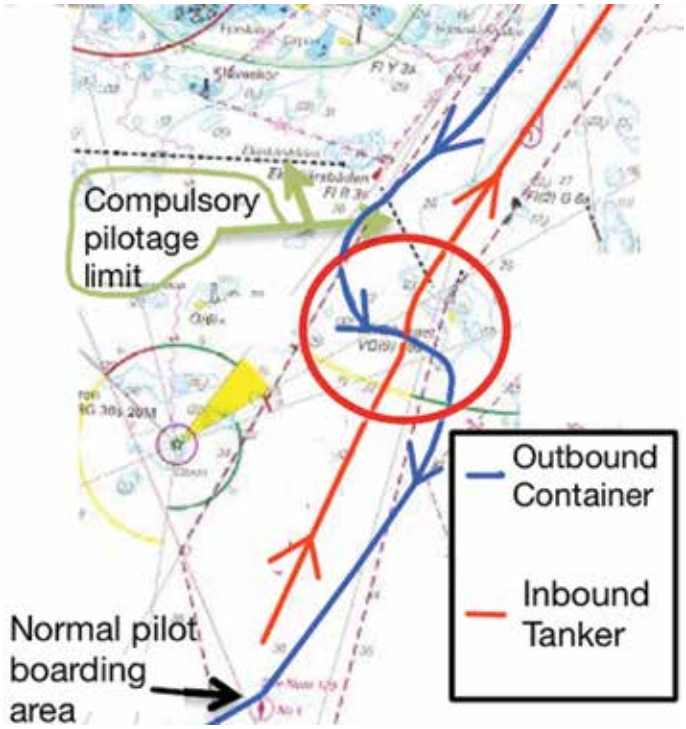
There was silence from the Master for about five seconds.

Container ship Master: 'Yes, I will do that. One moment, I will just go ahead a little bit and then I turn to the south.'

Pilot: 'Yes, but you plan to go astern of the tanker, astern of tanker, correct?'

Container ship Master: 'That's correct.' [This is not heard on the VHF channel, but is heard on container vessel's VDR.]

Radar recordings show that container vessel initially turned a little to starboard after the pilot had disembarked. According to the Master, he perceived the proximity situation with tanker as critical and decided to turn to port instead, increasing speed at the same time, choosing a starboard to starboard meeting instead of port to port because, in his opinion, the situation now called for this action.



The Master on the tanker, who also was alone on the bridge, noticed that the container ship was turning to port, which he had not been expecting. The speed (7.4kt) had been set for pilot embarkation. He switched over to manual steering, set the engine to full astern and the bow thruster to full port in order to counteract the vessel's natural turn to starboard due to the propellers' turning moment.

Meanwhile on the container vessel, the OOW arrived back on the bridge and the Master told him to take the helm. The tanker continued running its engine full astern and the bow propeller full to port while the container vessel increased speed and passed just ahead of the tanker, at about 100m.

Lessons learned

- If you change the agreed plan, make sure you tell the other party. In this case the Master of the container vessel changed the plan without notice and only the vigilance and actions of the tanker Master averted disaster.
- Under-manning may leave the bridge with insufficient persons at critical times.

■ **Editor's note:** Had this incident resulted in a collision there would almost certainly have been a major explosion as the tanker was empty but not gas-freed or under inert atmosphere. The tanker had no inert gas system due to its size and year of build. It is beyond comprehension that smaller tankers (less than 20,000dwt, or newbuilds as of 1 Jan 2016 of less than 8,000dwt) are still exempt from the SOLAS requirement to have an inert gas system. To quote OCIMF, '…the principle of basing inert gas requirements on vessel DWT does not adequately recognise the risks posed by flammable oil cargoes or the proven safety benefits of carrying such cargoes under inert conditions.'

MARS 201840

Lifeboat gripe cam indented

As edited from Marine Safety Forum Safety Alert 18-02

➔ Crew were intent on lowering the lifeboat. Initially the davits failed to lower as the gripe cam remained secured. To complete the lowering, the fall wires were tensioned using the manual hoisting handle. This reduced the force between the davit arm pin and the gripe cam, allowing the gripe cam to be manually moved clear. The lifeboat was then lowered normally.

After investigation, it was found that an indentation had been worn on the face of the gripe cam due to oxidation and long, continuous contact from the davit pin. This resulted in the davit arm pin being engaged in the cam rather than moving the cam arm away as the davit was lowered. The cam consequently acted as a hook, preventing the davit arm from moving from the stowed position. The wear had not been identified during previous routine weekly lifeboat lowering exercises.

Lessons learned

- Check, recheck and re-recheck your safety gear.

Visit www.nautinst.org/MARS for online database

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