

KISH P & I LOSS PREVENTION CIRCULAR KPI-LP-126-2013 **(Accident caused by Off-centre Steering Position)**

► Description of the incident:

The vessel was down-bound through a restricted waterway at night. At a lock, there was a change of pilots. Information was exchanged between pilots and the Master, among others, that the gyro-compass was 3° high. As the Master exchanged information with the new pilot, he assumed conning and operational control of the vessel.

The vessel's pilot card showed a schematic diagram of the navigating bridge that portrayed it as symmetrical either side of the centre-line of the vessel. None of the documentation on the bridge indicated the important information pertaining to the conning and steering position, which was offset from the centre-line. As it was, the steering stand was almost three metres to starboard of the centre-line of the vessel. This resulted in a parallax error of approximately 1.6° to starboard if the line of sight is taken from the steering stand. The pilot was apparently aware that the steering stand was offset from the centre-line, but had estimated the potential error to be about 0.5°.



Furthermore, the pilot card did not clearly indicate that the vessel was equipped with an articulated flap-type rudder, nor were the Master or other crew members apparently aware of this.

As the vessel cleared the lock the speed over the ground (SOG) was about 4 knots. The pilot then asked the Master to increase the pitch to 20% and requested the helmsman to steer on a heading of 353° gyro (G) to bring the vessel to the south of the channel centre-line. This manoeuvre was standard practice to compensate for the flow coming from the regulating channel, starboard of the vessel. A few minutes later the pilot ordered the helmsman to steer on the light in the middle of the bridge span ahead to bring the vessel back towards the centre of the channel. At this time, Traffic Control also informed the bridge team that the bridge pillars immediately either side of the channel were not illuminated.



By this time the Master and the OOW were close to the pilot and observing the manoeuvre as the vessel proceeded at about 5.5 knots SOG. About one minute

later the pilot gave the helmsman orders to bring the vessel's head towards the north pillar of the bridge, which was not illuminated but was visible. Once the vessel was steadied on the pillar, the pilot found the heading to be 349.5°G and ordered the helmsman to steer 349°G (346° True). Since the course of the channel was 348°T, this heading would bring the vessel towards the centre more quickly. The pilot then reduced the pitch to 15%.

Shortly thereafter the pilot observed that the vessel was more to the south than expected, but this was not judged to be abnormal. He then reduced the pitch to 10% for the entry into the narrower part of the channel ahead. As the vessel entered the restricted part of the channel with a SOG of 6.8 knots and a heading of 350°G the helmsman had to apply starboard rudder to keep the vessel on the desired heading (an indication of bank suction astern). Shortly thereafter the vessel's course took a sudden sheer to port. Immediately, the pilot ordered the rudder hard to starboard and requested that the Master activate the bow thruster. The pilot used the CP propeller lever to produce an engine kick ahead and then set the CP propeller lever at full astern but the vessel continued crossing the channel at a 45° angle.

The vessel's bow subsequently grounded on the north bank of the channel some 0.75 nautical miles downstream from the lock they had just exited, the stern to the south side of the channel thereby blocking the waterway; vessel traffic was interrupted for approximately 10 hours until the vessel was successfully refloated.

► **Some of the analysis and findings of the report indicate that:**

1. Neither the offset steering stand from the centre-line of the vessel nor specific and detailed information

such as parallax error were provided to the pilot.

2. On-board documentation did not clearly identify the vessel's rudder type, nor were the bridge team members aware that the vessel was fitted with an articulated flap rudder.

Additional Note: Having a complete and detailed Pilot Card is crucial. Both the offset steering position and resulting parallax error as well as the articulated flap rudder are very important facts that should have been known to everyone involved. Yet, what was not mentioned in the official report was the apparent lack of complete communication between the bridge team, a critical element in good BRM. For example, the