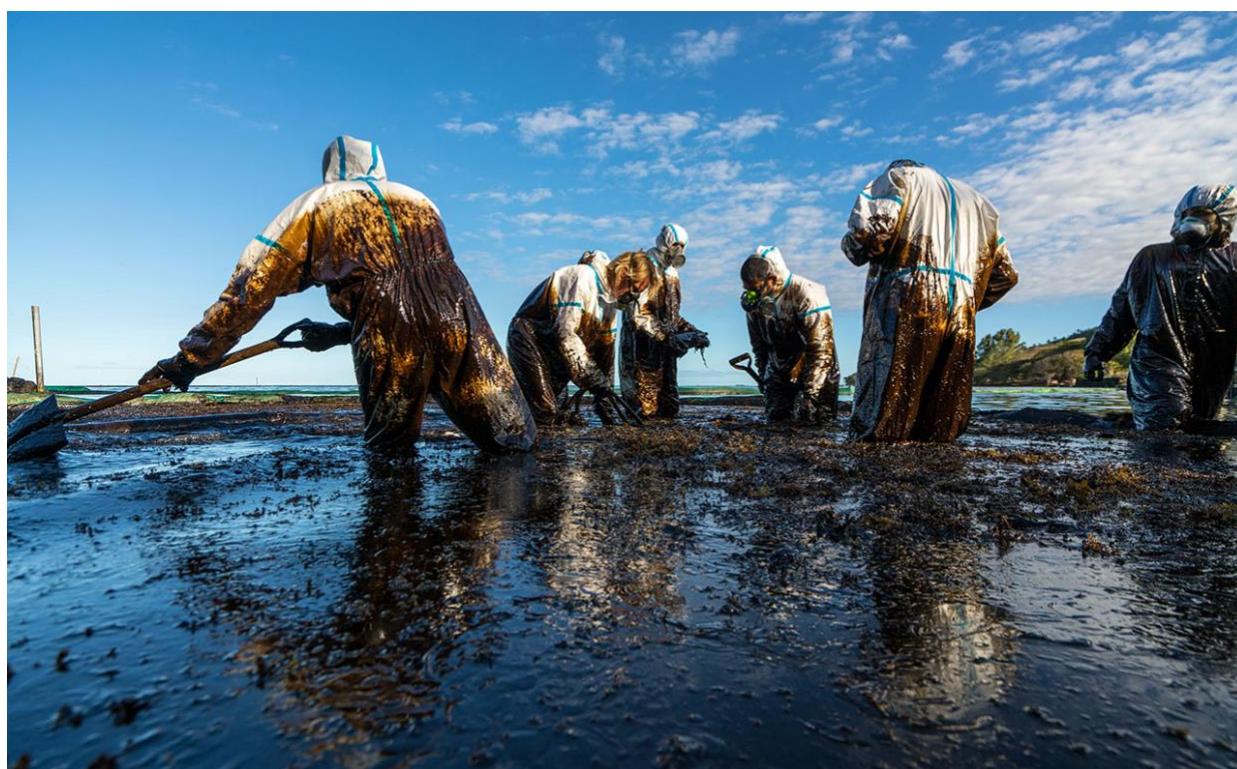


THE 'WAKASHIO' MASTER'S PHONE SIGNAL NAVIGATION, THE GROUNDING, THE BUNKER SPILL AND THE US 400-MILLION-DOLLAR CLEAN-UP

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INTRODUCTION

The bulk carrier WAKASHIO ran aground on the coast of the mid Indian Ocean island of Mauritius on 25 July 2020. Later declared a 'total loss', the resulting bunker fuel spill caused extensive environmental damage with massive clean-up and wreck removal costs. The initiating cause was her Master's decision to pass close to the Mauritius coast to help his crew obtain mobile phone signal connections. This Risk Bulletin looks at both the initiating and underlying causes and the very costly 'human element' lessons learned.

VESSEL, OWNER, MANAGER AND CHARTERER INFORMATION

The WAKASHIO was a Capesize bulk carrier of 203,130 DWT. Built in 2007, she was registered in Panama and classed with NKK, an IACS class society. Registered owners were Okiyo Maritime Corp. (a subsidiary of Japanese beneficial owner Nagashiki Co. Ltd.).

Nagashiki provided technical ship management. Crew managers were Anglo-Eastern, Hong Kong. Time charterers and commercial managers/operators were Mitsui OSK Lines (MOL), Tokyo.

NOTE: As time charterers MOL had the commercial control of the WAKASHIO, and they owned the bunker fuel on board. However, they did not control either its technical or crew management.

The WAKASHIO AIS data was tracked by MOL's Safe Operations Support System (SOSC), which monitored 24/7 over 1000 MOL chartered and owned vessels.

NOTE: It seems that the tracking of the WAKASHIO, as an MOL chartered and not owned vessel, was not as intensive as provided to MOL's owned fleet which includes engine performance and bridge watch monitoring.

FLAG STATE AND OTHER INVESTIGATIONS

The Panama Marine Accident Investigation Dept. ([MAID report](#)) was published on the IMO website in July 2023.

NOTE: The Mauritius police seized the WAKASHIO's VDR unit recording as evidence for criminal prosecution purposes. Both shipowners and the police declined VDR access to MAID. As such, the MAID report was produced without access to VDR data, inclusive of bridge personnel voice recordings.

A Mauritius Court of Special Investigation (CSI) was convened shortly after the grounding. Its report has not been released as the Mauritius government has declined to do so. However, the CSI hearings were open to the public and witness testimony was noted and reported by the media.

The government of Japan also convened an inquiry due to the vessel's close connection with Japanese beneficial owners and charterers. A Japanese language preliminary report has been released and a summarised version has been published on several media websites.

For the purpose of this Risk Bulletin's assessment, reference has been made to the above sources as well as AIS data provider articles, the text of Hansard, Mauritius, Parliamentary Debates and MOL website statements.

INCIDENT SUMMARY – THE APPROACH TO MAURITIUS

The WAKASHIO bunkered in Singapore on 14 July 2020. She then departed for Turbo, Brazil, to load a full cargo of iron ore. This would take her north through the Malacca Straits and then southwest towards Mauritius and Madagascar. Her Voyage/Passage Plan was prepared by the 2nd Mate/Navigating Officer, reviewed by the Chief Officer, and then approved by the Master.

The Voyage Plan (MAID Report, page 45) included the usual numbered waypoints and their Lat./Long. Positions together with the true (T) courses and distances between each point. The planned waypoints included Waypoint No. 23, located at position Lat. 20° 45.0' S. /Long 058° 00.0 E. (approx. 22 to 25 n.mi. south of the Island of Mauritius). The true course towards Waypoint No. 23 was 241° T.

Waypoint No. 23 was located well south and clear of the shallow waters and reef areas surrounding Mauritius. On arrival at Waypoint No. 23, the Voyage Plan then required a very small 2° change of course to starboard to 243° (T). This would take the WAKASHIO to Waypoint No. 24 which lay to the south of Madagascar.

On July 23 at 0001 UTC (as stated in the MAID report) the Master ordered an alteration of course and an amendment of Waypoint 23 in order to pass only 5 n. mi. off the south coast of Mauritius. The reason reported by MAID for this being, "*... because the Master had the idea of being able to receive Wi-Fi connection signal on cell phones...*".

NOTE: The MAID report also notes the Chief Officer (C/O) as saying that the Master had done this 'regularly, all around the world' or words to that effect.

The MAID report does not state what the new course was or the Lat./Long. position of the amended Waypoint 23, now re-located to only 5 n. mi. south of Mauritius. Close coastal navigation of this type requires use of a small scale/coastal chart. However, the evidence is that no such chart was available as either a paper chart or electronically, within the ECDIS unit. It is also apparent that the Master was aware of this.

NOTES: MOL own and operate a chart agency which provide both Japanese and international paper and electronic charts. However, as MOL were charterers, the chart supply function was controlled by technical managers Nagashiki and the requisite coastal chart was not available to the Master without Nagashiki's specific authorisation.

As to the prudence of navigating so close to an environmentally sensitive and reef strewn coast, the Dryad Global website displays AIS records which show that about 1300 ships transit the Indian Ocean and pass by Mauritius on an annual basis. The average passing distance ranges from between 10 to 40 n.mi., with vessels passing to both the north and south of Mauritius.

INCIDENT SUMMARY – THE GROUNDING SCENARIO

The events which preceded the grounding on 25 July 2020, from 1200 hrs LT (UTC/GMT +4) and the time of the grounding at 1925 hrs LT, are summarised as below:

- At 1200 hrs LT the Noon position was transmitted to owners by the Master. Speed at this time was reported to be 11 knots and course 241° T.

NOTE: The reported course of 241° T appears to be inconsistent with the earlier advice in the MAID report that the Master, on 23 July at 0001 UTC, had ordered a change from the original Voyage Plan course of 241° T to a new and unspecified course to a position 5 n. mi. off the south coast of Mauritius.

- At 1600 LT, the Chief Officer (C/O) took over the bridge watch from the 2/O. The Master was on the bridge during the handover. The 2/O advised the C/O of the Master's orders were to pass 5 n. mi. south of Mauritius and that a course of 241° T should be maintained to achieve that.
- There was then an exchange of information between the C/O and the 2/O where the C/O stated that the Master had ordered him to "...keep the course COG (Course Over the Ground) at 240° which was initially 245° which was out of the position of the ECDIS".

NOTE: The MAID Report words in quotation marks are not clear as to meaning.

- The Master reportedly left the bridge at 1700 hrs. and went below to the crew mess where a crew member's birthday party was taking place and alcohol was apparently being consumed.

NOTE: The MAID report makes no reference to the shipowner's technical or crew manager's Drug and Alcohol policy or associated testing. Nor does it refer to charterer MOL's emphatic media statements that no drug or alcohol use by crew was tolerated on board any MOL vessel.

- The C/O stated that the position on the chart required by the Master (presumably but not confirmed as being the 5 n, mi. off the coast position) was reached at between 1740 and 1800 hrs LT. The C/O then reportedly altered the course to port (away from the coast) to 234° Gyro (presumably by adjusting the auto-pilot control) to maintain a COG of 240°.

NOTE: The course alteration at this time suggests that the vessel was setting to starboard of the required COG track (towards the Mauritius coast) due to wind/wave drift and current set. This can be verified by reference to a satellite position analysis prepared and released by tracking agency Geocollect.

The Master returned to the bridge at 1815 hrs LT. He then asked the C/O if there had been any VHF radio calls from the Mauritius National Coast Guard (NCG). The MAID report does not advise the C/O's response.

NOTE: Reference to the [Hansard Report](#) of a Mauritius Parliamentary Debate on 26 Aug 2020 reveals that a series of four VHF radio calls were reportedly made by the NCG to the WAKASHIO at 1815 hrs LT. The intention being to caution the WAKASHIO which, as displayed on NCG radar, was 11.5 n. mi. off the coast i.e., just inside the Mauritius 12 n.mi. territorial waters limit. No radio reply from the WAKASHIO was received by the NCG.

- At the same time, the Master observed that the C/O was engaged in a personal phone conversation using his mobile phone. The Master was unable to connect his own mobile phone to the internet directly, but the C/O states he then connected the Master using the C/O's phone 'hotspot' function.
- The C/O made two mobile phone/internet calls using 'Whatsapp'. The calls were reportedly short and of poor quality. The C/O stated that because of this he then made two 'satellite calls', one to his wife and one to his brother.

NOTE: The C/O's two 'satellite calls' made confirm the ship's crew had access to the ship's Satcom (or similar) system. These calls were not free of charge or at a 'flat rate' despite MOL's media statements that its policy (initiated during the 2019 COVID 19 crises) was to

provide free satellite connectivity to all crew members on board its vessels. It seems MOL did not extend this policy to its chartered vessels.

- The C/O states that between 1830 hrs and 1900 hrs LT, the Master reduced the Main Engine RPMs. The C/O stated the Master had done this to slow the ship down and prolong the period during which mobile phone and internet signals would be available.

NOTE: AIS report analysis of the vessel's position, course and speed indicate that the RPM reduction referred to did in fact take place. The effect of such an engine and speed reduction would have almost certainly increased the rate of the vessel's wind drift and current set towards the shore.

- The C/O also states that the Master and the Chief Engineer remained together on the bridge, and they continued to attempt to obtain a signal on their mobile phones by going outside and on to the bridge wings. These signal seeking attempts were evidently not successful.
- The C/O states that at 1900 hrs LT, he looked at the ECDIS screen to check the vessel's position and progress. He advises the vessel was, *"...more than 3 miles clear of the coast"* and, *"...was passing [depths of between] 200 [to] 1000 metres deep"*. Further that, *"...he never had any doubt about the position of the vessel."*

NOTE: As advised above, the requisite small scale chart of the south coast of Mauritius for close inshore navigation was not available. Additionally, the ECDIS large scale chart which was available and in use was not set to the optimum display scale by the C/O. As such, navigation so close to shore was clearly negligent and in breach of STCW passage execution and watchkeeping requirements.

- The aforesaid Hansard Report (pg. 10) advises that at 1910 hrs LT the Mauritius NCG observed the WAKASHIO to be 6 n.mi, off the coast. The NCG then made further VHF calls to *"...instruct the vessel's Captain to alter course and keep clear of the coast..."*. Again, there was no reply from the WAKASHIO.
- The C/O states that, at 1925 hrs LT, he felt 'vibrations' and he then advised the Master that the ship was aground. The Master reportedly confirmed this. However, the situation was not advised immediately to the NCG or owners.

NOTE: This matches the Hansard Report advice that the NCG radar display at 1925 hrs LT showed the WAKASHIO had stopped moving. The NCG called the vessel at 1925 hrs LT and

again at 1945 hrs LT but there was no reply. The NCG's subsequent VHF call at 2010 hrs LT was answered by the Master. He admitted that *'he had lost control of his vessel'* and his vessel was aground.

- The aftermath of the WAKASHIO grounding included the leakage of about 1000 tons of bunker fuel onto pristine national park wetlands, coral reefs and fishing grounds and the long and costly removal of the wreck. The associated costs amounted to a reported USD 400 million. The Master and C/O both pleaded guilty to a charge of 'endangering safe navigation' and were sentenced to 20 months in jail.

ANALYSIS AS TO CONCURRENT CAUSES

The Panama MAID report conclusions as to cause are summarised below:

1. Master's decision to pass the Mauritius coast at only 5 n. mi. and failure to fully assess the associated risks.
2. Evident inadequacy of the vessel's SMS procedures relating to Voyage Planning and execution.
3. Master's lack of vigilance in ensuring ECDIS chart availability, including small scale charts and their optimum ECDIS display.
4. Distraction of the Master and Chief Officer due to their focus on obtaining a phone signal, use of mobile phones for private communications and consequent failure to realise the vessel was approaching shallow water.

NOTE: The MAID report 'causes' do not include the Master's admitted inebriation while on the bridge and his admission that, because of this, he did not closely check or supervise the C/O's navigation and conduct of the vessel. Nor does the MAID report refer to any shore management failures.

CONCLUSION AND TAKEAWAY

The initiating cause of the grounding was the Master's decision to alter Waypoint 23 from a position 22-25 n.m. off the Mauritius coast to only 5 n.mi. off. If he had not done this – and had kept the vessel well offshore – the chain of negligent navigation and shore monitoring failures which led to the grounding would not have occurred.

The Master admitted he navigated close to Mauritius to facilitate phone and internet connections with shore station for the crew. The apparent motivation being that although a high speed satellite system was installed on board the WAKASHIO, it was not available to the crew on 'no charge' terms or even at an affordable 'flat rate'.

The unintended but negligent result was a major grounding and pollution event generating clean up, compensation and wreck removal costs which exceeded USD 400 million. And perhaps the world's most expensive mobile phone calls?

So, how to prevent recurrence in a world where mobile phone use and reliance is ubiquitous, and the provision of 24/7 phone signal access is now considered by the ITF to be an MLC entitled 'human right'?

MM's recommendations to Members are as below:

1. Voyage Planning – Members are referred to Risk Bulletins [No. 27, Voyage Planning Best Practice](#), [No. 33, Voyage Planning and Chart Reliability](#) and [No. 53 Defective Passage Plans and Unseaworthiness](#).

OBSERVATION: If the owner, managers, and Master of the WAKASHIO had ensured full compliance with the voyage planning and execution recommendations in the three Risk Bulletins referred to above, it is unlikely the WAKASHIO grounding would have occurred. Members should re-visit these Risk Bulletins and ensure their implementation.

2. Mobile Phone Use on the Bridge – Members are referred to Risk Bulletin No. 4, [Mobile Phone Use as a Navigational Hazard](#). MM's recommendations included implementation of a UK MCA Marine Guidance Note (MGN) ban on the use of mobile phones on the bridge "*when navigational requirements demand the close attention of the bridge team*".

OBSERVATION: If the above recommendations had been implemented on board the WAKASHIO, the likelihood of the grounding would have been significantly reduced and likely negated. Members should act accordingly.

3. Vessel Data Recorders (VDR's/Black Boxes) – Members are referred to the [OCIMF Guidelines on the Proactive Use of VDR's 2020 Ed](#). This guide provides a review of the current requirements for VDR capabilities and performance. It also provides advice on the use of VDR data to accomplish proactive assessments and audits of voyage planning and bridge team navigation.

OBSERVATION: If pro-active VDR assessments and audits had been accomplished by the WAKASHIO's managers, they would likely have identified bridge team navigation and mobile phone use non-conformances and priority rectification would have been required. Members are encouraged to adopt and implement this pro-active VDR audit loss prevention process.

4. Vessel Position Monitoring – Yes, charterers MOL were monitoring the AIS positions and progress of the WAKASHIO. However, this process proved grossly inadequate and MOL has since upgraded its SOCS system and processes. Similar 'mission control' services are now commercially available to all shipowners inclusive of priority grounding and collision warnings direct to vessels and shore management.

OBSERVATION: If a commercial 'mission control' service had been engaged and priority warnings sent direct to the WAKASHIO and her technical and crew managers, the Master's 'phone signal seeking' deviations from the Voyage Plan courses would have been interrogated and countermanded at an early and pre-grounding stage. Members are therefore encouraged to consider the utilisation of such services.

5. Crew Access to Satellite High Speed Internet – The WAKASHIO's crew had only restricted and costly access to satellite internet services during a period of extensive COVID 19 Pandemic shore and home leave disruptions. This left only mobile phones for crew calls to families connected through shore based/terrestrial towers. The result was a situation where the Master considered it justifiable to breach STCW Convention and ISM Code/SMS voyage planning and execution procedures to assist his crew to speak with their families. Understandable but seriously negligent and inexcusable.

OBSERVATION: The COVID 19 Pandemic has passed. Despite this, the latest [Missions to Seafarers 'Happiness Index'](#) reports on-going seafarer 'unhappiness' due to lack of shore leave and inadequate and/or expensive internet costs. Many ship owners have responded positively by providing low or no cost high speed satellite access to crew e.g., [Starlink Maritime](#). Keeping in mind the WAKASHIO 'lessons learned', Members are encouraged to review their satellite communications policy for crew, assess the risks, and act accordingly.