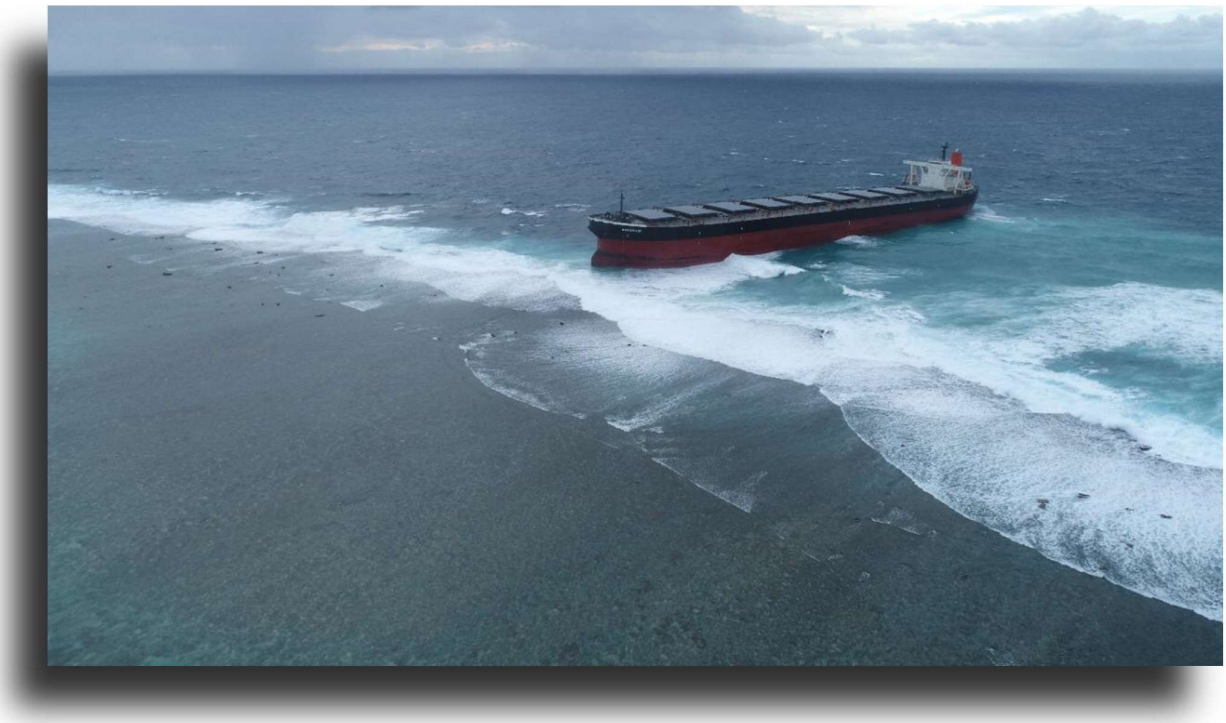
REPORT

of

Court of Investigation

Into the

Grounding of MV M/V Wakashio Off Pointe d'Esny on 25th July 2020



BY

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REPORT ON THE CASUALTY INVESTIGATION OF THE GROUNDING OF M/V M/V WAKASHIO OFF THE COAST OF MAURITIUS ON 25 JULY 2020 BY THE COURT OF INVESTIGATION INSTITUTED UNDER SECTION 10 OF THE MERCHANT SHIPPING ACT 2007

LEGAL BACKGROUND

- **MERCHANT SHIPPING ACT 2007**

Section 10 (2) of the MERCHANT SHIPPING ACT 2007 (MSA) –

Where a shipping casualty occurs such as the loss or presumed loss, stranding, grounding, abandonment of or damage to a ship or damage caused by a ship, the Minister may cause a formal investigation to be held by a Court of Investigation appointed by the Minister for that purpose which shall submit to the Minister a report of its findings and recommendations, if any, upon completion of the investigation.

Section 11(2) of the MSA-

The Court of investigation…....shall have the same powers as a Commission of Inquiry under the Commissions of Inquiry Act.

– **COMMISSIONS OF INQUIRY ACT 1944**

Section 12 (2) of the Commissions of Inquiry Act 1944.-

No evidence given before a commission shall;

(a) Give rise to any civil or criminal proceedings other than a prosecution for perjury, against any person giving such evidence.

(b) Be admissible against any person in any civil or criminal proceedings, except in case of a witness charged with having given false evidence before the commissioner or commissioners conducting an inquiry under this act.

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1. PREAMBLE

The International Maritime Organisation (IMO) recognizes the importance of maritime safety investigations into marine casualties and marine incidents to prevent re-occurrence and to promote maritime safety. **The court of investigation proceeds along the same lines and its purpose is** not to duplicate the work of the Preliminary investigation or to apportion blame **but rather** to conduct hearings under oath, or solemn affirmation or solemn declaration, **to identify not only the underlying causative factors of the accident but also the safety deficiencies affecting the overall management of safety, based on objective evidence and findings in order to make recommendations it deems necessary to prevent re-occurrence and to promote maritime safety and prevention of environmental pollution.**

Following the grounding of MV M/V Wakashio off the coast of Pointe d'Esny on 25 July 2020 at 19:26 hours, the Attorney-General, Minister of Agro-Industry and Food Security, to whom the responsibility for the matter of Shipping Development and Merchant Shipping had been assigned, has, pursuant to Section 10 (2) of the Merchant Shipping Act, appointed the present Court of Investigation to investigate into, and report on, inter-alia, the circumstances leading to the grounding of the vessel and the breach of its hull and the sequel thereof.

The **Terms of Reference** of the Court of Investigation into the MV M/V Wakashio casualty are as follows:

(a) To investigate into, and report on, the **circumstances leading to the grounding** of MV M/V Wakashio off the coast of Pointe d'Esny on 25 July 2020 and **breach of hull** of the said vessel, including whether in regard to the shipping casualty that occurred on 25 July 2020 involving MV M/V Wakashio, **the standard practice and procedures** for the tracking and monitoring of vessels in our territorial waters have been followed;

(b) To determine the **cause, scale and extent** of the damage caused by MV M/V Wakashio, including the oil spill in the Mauritian waters and assess the **resulting damage** to the marine and coastal environment and marine life;

(c) Whether there was proper management and supervision of the **salvage** operation of MV M/V Wakashio by the shipowner, insurers and Authorities in the aftermath of its grounding;

(d) Whether there was proper management of the **planned** sinking of the wreck, or part thereof in the aftermath of the grounding of MV M/V Wakashio;

(e) Whether there was proper management and supervision of the **shipping** casualty;

(f) The effectiveness of the overall **preparedness and response** of the relevant Authorities in relation to the shipping casualty leading to the grounding and breach of the hull of MV M/V Wakashio; and,

(g) Any other matter connected with, or relevant or incidental to, paragraphs (a) to (f) above, and make recommendations as appropriate.

2. SYNOPSIS

On the 25th of July 2020 at 19:26 the motor vessel M/V M/V Wakashio[1], a cape size bulk carrier of 203,130 MT DWT and of length 295.95 m ran aground off the south-east of Mauritius off Pointe D'esny at position 20° 26.6' S and 57° 44.6' E while she was en-route to Tubarao port in Brazil.

Immediately prior to the grounding, the chief officer, the Captain and the Chief engineer were on the bridge trying to access the internet through the Mauritius telecommunications network. Furthermore, the Deck Cadet who was on lookout duty had been allowed to leave his post.

At the time of the accident, the Chief Officer was on duty on the bridge and his main duty was to ensure a safe navigational watch. It has been established through various statements made in the course of evidence before this Court of Investigation that access to mobile network communications to contact the family took precedence over his first and foremost duty to keep a safe navigational watch during his hours of duty.

Neither the Chief Officer nor the Master realized that the ship was heading straight onto the reefs, being incapacitated to fully assess the real position of the ship while she was approaching dangerously the south-east coast of Mauritius due to improper monitoring of the navigational equipment which was either overlooked or not being used to their full potential. The absence of a large scale chart for the region, coupled with the over reliance on an over-zoomed small scale Electronic Navigation Chart on the Electronic Chart Display Information System (ECDIS), and consumption of liquor by the master on the bridge compounded the risks of a serious grounding casualty of the vessel.

On the following days the vessel was at the mercy of stormy weather and salvors tried to stabilize her by filling hold N° 8 with sea water on the 2nd of August. Cracks started to develop just after the forward of the accommodations, followed by multiple cracks in the hull structure of the vessel which finally broke into two parts causing a spill of heavy oil of an estimated amount of 1000 T.

[1] Bulk carrier built in 2007

Aerial view of M/V M/V Wakashio on 8th of August 2020. Courtesy of Ministry of Blue Economy, Marine Resources, Fisheries and Shipping

3. NARRATIVE

M/V M/V Wakashio, is a bulk carrier flying the flag of Panama and is manned by 20 crew members. The vessel is owned by Nagashiki Shipping Co Ltd and was on a time charter by Mitsui OSK Lines Ltd. Most of the crew, except for a very few who joined during the last crew change on 1 March 2020 at Kawasaki, Japan had already completed their tour of duty, and due to COVID 19 their contracts of employment were extended until arrangements could be made by the company for disembarkation at a convenient port. The extended service was in no way an impediment to most of the crew except for the former bosun who jumped off the ship, with his life jacket on, near the coast, on the previous voyage from Australia to China in May/June 2020.

The vessel is manned and technically managed by its owner, Nagashiki, who holds a Document of Compliance (DOC) as required under the International Safety Management (ISM) Code Regulations issued under the Safety of Life At Sea Convention (SOLAS).

The vessel bearing IMO N0 9337119 is classed with Nippon KaiJo Kyokai[2] and has last had her annual surveys at Kawasaki, Japan on 02 March 2020. During the last annual Class and Statutory surveys conducted, the hull, machinery and

[2] Japanese Classification society, member of the International Classification Society delivering Classification & Statutory certificates as prima facie evidence of successful compliance with applicable requirements

equipment have all been surveyed to satisfaction and machinery as well as all equipment were in satisfactory working order.

The vessel, which was on a time charter to Mitsui OSK Lines Ltd which is the operator of the world's biggest fleet of bulk carriers for shipping iron ore and coal, left Liluyang in China on 4 July 2020 for Tubarao in Brazil to load a consignment of Iron ore[3] for a port not yet determined at time of departure. She made a stop at Singapore on 14 July for bunkering and victualling[4] required for the voyage and left on 16th July on a non-stop journey to the destination port.

It is the responsibility of the Master to prepare the passage plan although the task may be delegated to the second officer[5].

The passage plan for the onward voyage that has been prepared by the second officer and approved by the Master was duly signed by all navigating officers confirming their acceptance to strictly follow the route as laid down on the passage plan. Company procedure with regard to passage planning puts emphasis on the way course selection is determined and requires that the course to be selected is based on sailing directions for the region.

On 16 July 2020, waypoint no 21 on the Passage Plan was reached and the course altered to 226°.

The next waypoints on the Passage Plan were as follows :

No 22 : Latitude 10° 00.00' S / Longitude 076° 00.00' E / Course 241,0° / Outside HRA. On this course, the ship would pass at 30 nautical miles off the South East of Mauritius.

No 23 : Latitude 20° 45.00' S / Longitude 058° 00.00' E / Course 243,1° / South Mauritius

However, it came to light during Court hearings that sailing directions[6] for the South-East region of Mauritius was not available on board[7].

Furthermore, with regard to passage planning a check list[8] called Passage Planning Check List is provided by the Company to ensure that all relevant

[3] 2 to 3 days before reaching Singapore, Mitsui instructed the Master to position the vessel at Tubarao, Brazil for loading iron ore (Master / Court Hearing of 22 February 2021).

[4] Charts & publications for the voyage were supplied. Bonded stores (alcohol and cigarettes} were also purchased by the Master.

[5] *The master **shall** prepare the passage plan himself and is responsible for its execution but at the discretion of the master part of the work of preparing the passage plan may be assigned to the second officer. Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-01. Revision SMP1703001 – Passage plan, Section 1.1*

[6] All ships irrespective of size shall have nautical charts and nautical publications such as sailing directions for the intended voyage. See SOLAS 74 as amended, regulations V/19.2.1 & V/27

[7] *The course shall be selected after prior investigation of sailing directions and various other reference material. Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-02. Revision SMP9910010 – Passage plan, Section 2.3*

[8] *Are nautical paper charts and ENC (Large scale charts) and sailing directions available? Is an item to be considered by the officer preparing the passage plan. Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-05. Revision SMP1703001 – Passage plan, Passage planning Check List line1.*

aspects to be considered for the proper establishment of a passage plan for the intended voyage are duly covered.

4. CIRCUMSTANCES AND CONTRIBUTING FACTORS LEADING TO THE GROUNDING

4.1 DEVIATION FROM SET COURSE

Once established, a passage plan is to be followed by all concerned. However, after the vessel left Singapore, the Master deviated, a first time, from the pre-set course in the Malacca strait sailing close to land to get internet signal for telephone communications and the crew could use their cheap AIS sim cards to call their families. The vessel did not encounter any problem and passed clear of the northern part of Sumatra to enter the Indian Ocean.

The vessel was stopped at sea for about two hours on July 17th to enable the engine crew to repair an exhaust gas leak on the indicator cock of one of the main engine cylinders[9]

On her way down south she was sailing on a course of 241° on the Gyro Compass at a speed of 11- 12 Knots. A second deviation from the pre-planned course to reportedly avoid bad weather was effected by the Master on the 23rd of July without informing the second officer who was on watch-keeping duty, and reportedly, the Chief Officer has also requested to pass closer to Mauritius to catch mobile signal. As the Master had the AIS sim card which is not registered on the Mauritius mobile network, the Chief Officer had offered hotspot connection to his mobile phone with international roaming card[10]

The Chief Officer, not aware of the change of the course, brought the heading back to 241° on the Gyro when he took over his watch on that day, but the Master readjusted the course back to 243° setting to sail north of the pre-planned route in order to sail closer than a distance of 5 nm from the south eastern coast of Mauritius. The course was again adjusted by the Master on 24th July to 241°. But due to previous course change for the ship to sail north off her track the vessel would therefore pass at a shorter distance of some 2 nm from the South-East coast of Mauritius. Although it has been the master's intention to deviate from original course as from 23rd of July, he had never submitted a revised copy of the passage plan to be signed by the three navigating officers.

On 25 July 2020, the day of the accident, the Master, Chief Officer and Second Officer were in the wheelhouse at 12:00. They were chatting until 14.08 LT when

[9] Information provided by Chief Engineer during the Court Hearing of 16 February 2021.

[10] Information provided by Chief Officer during the Court Hearing of 22 February 2021.

the Master told them to “go down and drink, there are five bottles of Johnnie Walker”, referring to the birthday party of the Fourth Engineer.

He further told the Second Officer that “he made it at 241°” and that “he wants to go here”. At 14:33 Master and Second Officer were talking about a requisition to send to China …. “If they want to supply they will supply …. Not now we don’t know how far we are going”. It would appear that they were talking about ordering a large scale chart.

At 16:04, the Second Officer was relieved by the Chief Officer and he told the latter that the course was 241°. At about the same time, when the Chief Officer took over his watch he enquired about the Bridge Navigation Watch Alarm System (BNWAS) alarm which he heard from his cabin around 15.16 LT and the Master conceded that he did not hear any alarm as he was watching a movie.

It is to be mentioned here that The Bridge Navigation Watch Alarm System (BNWAS) system monitors the active presence of the navigation officer on his watch. The alarm was pre-set at 12 minutes interval as indicated by the Chief Officer and a visual alarm is activated on the bridge to attract attention if no movement is sensed during the pre-set period. In the event that alarm is not acknowledged then an audible alarm is triggered 15 secs later on the bridge followed by another alarm 15 seconds later in the master’s cabin or back-up officer’s cabin. In fact at around 15:16 LT when the second officer Mr Seguya was supposed to be on watch, he should have heard the audible alarm and acknowledged same which would not have triggered another alarm 15 Secs later to attract attention of other officers not on watch. It is of concern that the Chief Officer heard the BNWAS alarm from his cabin and when he called the bridge it was the Captain who answered that did not hear the alarm as he was watching a movie and will from the outset reset the alarm. The Chief Officer confirmed during the court hearing on 9 February 2021 that he found out that the Second Officer had gone down to eat leaving the bridge without a proper watch and he indicated that this is wrong.

At 16:44, the heading was 241°,1 and the course over ground was 245°, as per ECDIS screenshot.

At 16:54 the Master told the Chief Officer that he should start giving the set once a certain position is reached on ECDIS to make good course over ground at 240°.

The Master left the bridge at around 17:00 LT to attend the birthday party of the 4th Engineer, leaving the Chief Officer alone on the bridge without any look-out. The Master had earlier instructed the Chief Officer at 16:51 to adjust the course by giving the set at the point of intersection of the ship course and longitude 58 ° E. The vessel was, at that time on a course made good of 245°, and by applying the set, the course of the vessel would be 240° over ground i.e the real course of the vessel due to the effect of current and wind.

A beep sound was heard four times at 17:32 LT (Ref.The Voyage Data Recorder (VDR) transcript).This could be incoming messages on the Chief Officer's cellphone. The Chief Officer was trying to catch mobile signals instead of monitoring the ship's position.

At the birthday party the Master consumed 2 drinks of Johnnie Walker whisky which is 40 % proof and had 2 more drinks at the bridge after he returned back at around 17:51 LT. From there on the conversation between the three persons were about catching mobile signals and drinking, as can be culled from the transcript of the VDR.

It was the Master who had then queried the Chief Officer about the course over ground. Latter replied that he had given some port helm but he did not say at what time this had been done. The Master checked the ECDIS and confirmed that they are making 238°and conversation on mobile signals resumed.

- At 17:55, the Chief Officer asked the Master to let the Cadet Officer stay at the party instead of coming up for his training and lookout duties. The Master said that he did not mind.

- At 18:11, the Master said that 'nothing is coming' and the Chief Officer replied that they should go another 5 miles.

The vessel continued to sail dangerously close to the Mauritian coast and at around 18:15 LT entered the territorial waters of Mauritius. The vessel speed which was at 72 rpm was reduced to 68 rpm at around 18:40 LT upon the suggestion of the Chief Engineer. At that particular time, at a distance of 11 nm from the coast, the Master was satisfied with the heading to pass 2 nm clear of the coast as informed by the Chief Officer. He confirmed his agreement to anonymously pass that close without informing anyone as he was heard saying " Just keep going till nobody call us" as shown by the transcript of the Voyage Data Recorder (VDR). Neither did the Master want the Coast Guard to interrogate him nor did he inform the coast guard of his passage through the territorial waters of Mauritius[11]. The VDR captures and records all voice communications on the Navigational Bridge and navigational data (course, speed, alarms, etc.)

At all material times immediately preceding the grounding, the conversation between the Master, the Chief Officer and Chief Engineer has been about telephone communication and internet access and drinking. The Chief Officer has completely turned a blind eye to navigation activities for which he had complete responsibility during his presence on the bridge. Not only he knew that over-zooming a small scale chart was a gross mistake but relying on only one equipment namely the ECDIS to assess the ship position when he was not

[11] *Section 21 (1) of the Merchant Shipping (Security of Ships) Regulations 2019 stipulates that the master of a ship shall ensure that the ship does not enter the territorial sea of Mauritius unless the Master reports pre-arrival information at the following time to the Director of Shipping 72 hours before entering the territorial sea*

concentrated on his phone and sharing hot spot is indeed a behavior that falls lamentably short of good seamanship.

The Master may delegate his authority but cannot delegate his responsibility. As master, he is the representative of owners and he is responsible for the safety of life, safety of the ship and protection of the environment. The company procedures require that he takes command of the vessel for the duration needed in case of change of course and speed[12].

At 18:47, Master was still not receiving any signal on the hotspot and was told by the Chief Officer that his mobile phone account was on the low side. He ordered the latter in a harsh tone to call his wife and tell her to recharge his account.

At 19:11, the Master was checking the course on ECDIS and telling the Chief Engineer “From here we go from here and we come like this.”

When it became clear to the Master that the vessel was sailing too close to land at 19:17 “ We are very very close to land. Just one and a half mile ….” he should have taken the command as required by company procedures to steer the ship off the dangerous track. Yet it seemed that the Master did not consider the situation to be dramatic as he was more concerned with his offer to the Chief Engineer to sit on the pilot chair or the recharge of the Chief Officer’s sim card.

VDR Recording at 19:17 LT

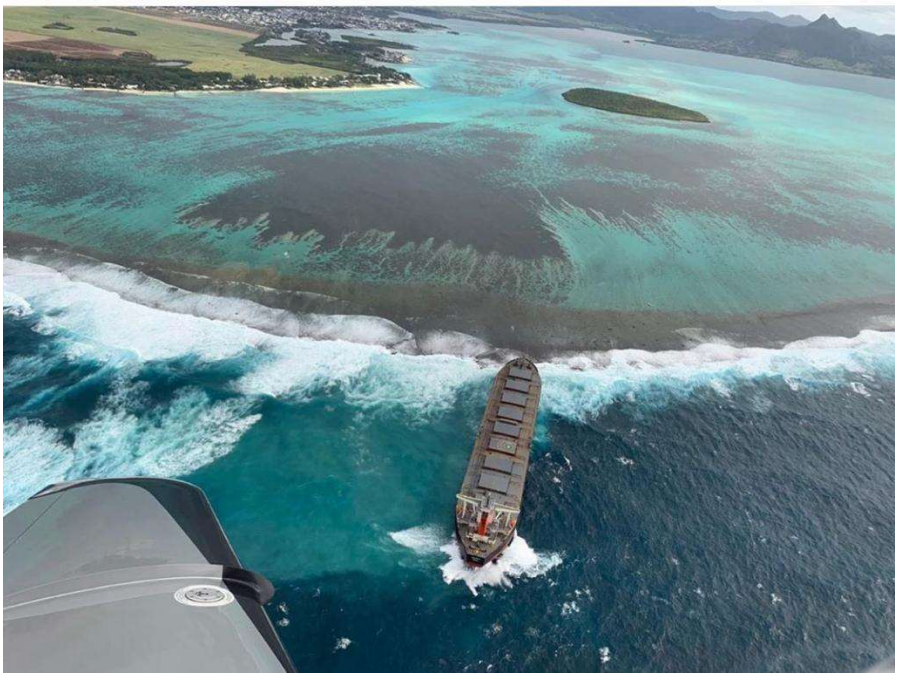
At 19:20, the Chief Officer was calling his brother on Satellite phone to confirm the recharging of his account. This call lasted one minute and thereafter the

[12] *Command on the bridge ; Duty and responsibility of Master to command the ship on the bridge in case of entry, departure, at narrow channels, congested area navigation, changing course or speed, at restricted visibility and during emergencies. Source: Nagashiki Shipping Co. Ltd. Document 4-01/01-01. Revision 1997.09.01 – Duty and Responsibility, Section 3 (8)*

discussion on recharging and activating between the Master and himself was resumed until 19.26 when the ship ran aground.

According to ECDIS records submitted by the CCID, the course which was at 238° was altered to 230,8° at 19.19 and then to 226° at 19:21. The Master has claimed that it was the Chief Officer who had altered course. But the latter was calling his brother on the Satellite phone at that time.

Besides being irresponsive in not having taken precautionary measures, the Master has also contributed to the Chief Officer being nonchalant and he has been a constant distraction to the Chief Officer. The mere fact that the Master was present and giving instructions while enquiring of the ship position now and then has given a false sense of security to the Chief Officer as he knew the Master with his long and wide experience would ring a bell if he foresees anything wrong coming up. The mere reliance of the Chief Officer on the Master who had consumed alcohol over the limit tolerated by the company meant that nobody was in command and the vessel was heading at 10 knots directly on to the reefs without anyone realizing the dangers ahead to make timely course correction to prevent the grounding.



Aerial view of M/V M/V Wakashio on 26th of July 2020. Courtesy of Ministry of Blue Economy, Marine Resources, Fisheries and Shipping

When the chief officer realized that the vessel was too close he gave a 10 ° helm on port side but that action was more than insufficient. The Master of the vessel is well aware that the turning circle of the vessel is more than a mile wide and a more convenient and appropriate reaction on his part would have been to order

the chief officer to put the rudder to harder port, setting the rudder at 35° for a quicker reaction. However It remains to be proved whether such action would have saved the ship being given the high inertia of the vessel and its size.

4.2 HUMAN ASPECT

The casualty was not the result of engine malfunction or equipment failure. Rather the causal factors of grounding were the direct result of distraction triggered by many underlying factors while navigating close to land and can be wholly attributed to human error. By not following proper procedures and basic seamanship principles, the officer on the watch has not diligently carried out functions delegated to him and incumbent upon him. His neglectful and irresponsible conduct is tantamount to dereliction of duty

The mere presence of the Master, the owner's representative whom the company has relied upon to navigate safely, on the bridge during the Chief Officer's watch has also been a material contributory factor to the casualty, although the Master has repeatedly and constantly pointed out that the Chief Officer is a qualified officer in charge and as such the Master had no reason to believe that a proper watch was not being kept. The Master even affirmed that the Chief Officer should have required that he leaves the bridge had he considered that he was being importuned by him. Such a statement seems improbable being given the fact that both the Master and the Chief Officer were dependent on each other at time of casualty as the Chief Officer was having the blessing of the Master to do what he was doing with regard to establishing communication with his mobile telephone, and the Master waiting to use mobile access from the Chief Officer's telephone. That relationship that was being knitted in between them was also a contributory factor to the casualty.

Although the navigation of the vessel during this misfortunate watch was in the hands of the Chief Officer, it cannot be said that watch keeping duties were being executed in a professional and orderly manner as is expected of a certified officer in charge of a watch. While also preoccupied to access the Mauritian telecommunications network through hotspot to be available from the Chief Officer's mobile phone, both the Master and the Chief Engineer were also constantly focusing on their mobile phones causing the Chief Officer to be less concentrated on the navigational duties he was in charge of, thus undermining the immutable cardinal principle of due care emanating from the delegated responsibilities of the Captain as the person in charge of the safety of the vessel.

Due to the mindset prevailing among the officers present on the bridge, conditions were ripe for professionalism to finally give way to a carefree behavior and it is clear that neither the Chief Officer nor the Master was at the helm to conduct a safe navigational watch that can, and must, be expected from qualified and experienced officers.

4.3 MANAGEMENT SYSTEM

There has been a complete breakdown of the management system in place and both the Master and Chief Officer have failed in their duties to navigate the vessel safely. Underlying factors that came to light during the investigation are ;

(1) Improper passage planning which was poorly executed during the course of the voyage;

(2) Absence of sailing directions for the South-East area of Mauritius[13],;

(3) Absence of large scale charts while navigating in coastal areas;

(4) Consumption of alcohol on the bridge;

(5) Improper watch keeping and look-out;

(6) Violation of innocent passage;

(7) Ignoring ship's characteristics with regards to turning circle;

(8) Relying on ECDIS only;

(9) Ignoring radar, and echo sounder as complementary means of navigational equipment information; and

(10) Master's overconfidence in coastal waters and failure to take command when changing speed and course as required by company procedure[14].

Being given the increasingly enforceable regulatory requirements that countries have continuously enacted over the years to give effect to International Conventions following casualties, it suffices to say that ship officers within whose hands Parties to the Conventions (Flag states) have laid the responsibility to conduct shipboard operations in a safely manner owe a higher degree of duty of care. This has further been emphasized through the International Safety Management Code which lays down the contours for safe management on shipboard operations to prevent things from going wrong. As a matter of consequence indisciplined and irresponsive behaviors of the Master and the Chief Officer as uncovered during the hearings undoubtedly pave the way for at least civil liability for negligence on their part.

[13] *Source Nagashiki Shipping Co. Ltd. Document 2-03/01-05. Revision SMP1703001 – Passage plan– selection of course, section 2.3*

[14] *Command on the bridge – Command the ship on the bridge in case of entry, departure at narrow channels, congested area navigation, changing course or speed, at restricted visibility and during emergencies. Source: Nagashiki Shipping Co. Ltd. Document 4-01/01-01. Revision 1997.09.01 – Duty and Responsibility, Master's responsibility and authority. Section 3(8)*

4.4 PASSAGE PLANNING

Chapter V of SOLAS 78/88, (Safety of Life at Sea) as amended dealing with Safety of Navigation applies to all ships to which the Convention applies and SOLAS regulation V/34 stipulates that passage planning is to be prepared at the start of the voyage[15].

From the passage plan prepared by the Second Officer Mr Secuya Robert Geonzon, approved by the Master and signed by all navigating officers there is no ground to doubt that no-go areas have not been marked on the navigating chart in use to pass clear of the south-east coast of Mauritius. But given the fact that the initial plan was not to pass within close distance from the coast of Mauritius no go areas delimiting safe from dangerous zones were not marked on the chart and the vessel finally ended up sailing dangerously too close to land. It can also be affirmed that the deviations from the pre-planned route made by the Master at a later stage did not give rise to an amended plan. In fact the passage plan was devoid of guidance notes, cautionary measures, level of watch keeping, safe distance lines that could, and probably would, have been helpful to continuously assess the situation as the vessel proceeded within coastal waters. Such state of things has been confirmed by the Chief Officer in court.

The voyage plan should, inter alia, ensure sufficient sea room for the safe passage of the ship throughout the voyage[16].

It is worth mentioning here that the Master is responsible for the preparation and execution of the passage planning[17].

The master is required to approve the passage plan prepared by the second officer. As the background work in the preparation of the plan involves gathering all necessary information like weather, ship routing, safe distance, tides, among other important considerations like navigational warnings and sailing directions it is clear that such a plan should be diligently prepared taking into consideration all hazards[18] that the vessel might encounter for a safe passage, without running into a critical situation. Consequently, all officers on watch should strictly follow the track laid down on the approved passage plan, albeit some minor alterations being permitted, to ensure that the passage is strictly followed as planned, and this is

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[15] SOLAS CH V/34 - *Prior to proceeding to sea, the master shall ensure that the intended voyage has been planned using the appropriate nautical charts and nautical publications for the area concerned, taking into account the guidelines and recommendations developed by the Organization. (See Assembly Resolution A 893(21))*

[16] *Source: SOLAS 73/78 Ch V regulation 34 § 2.2*

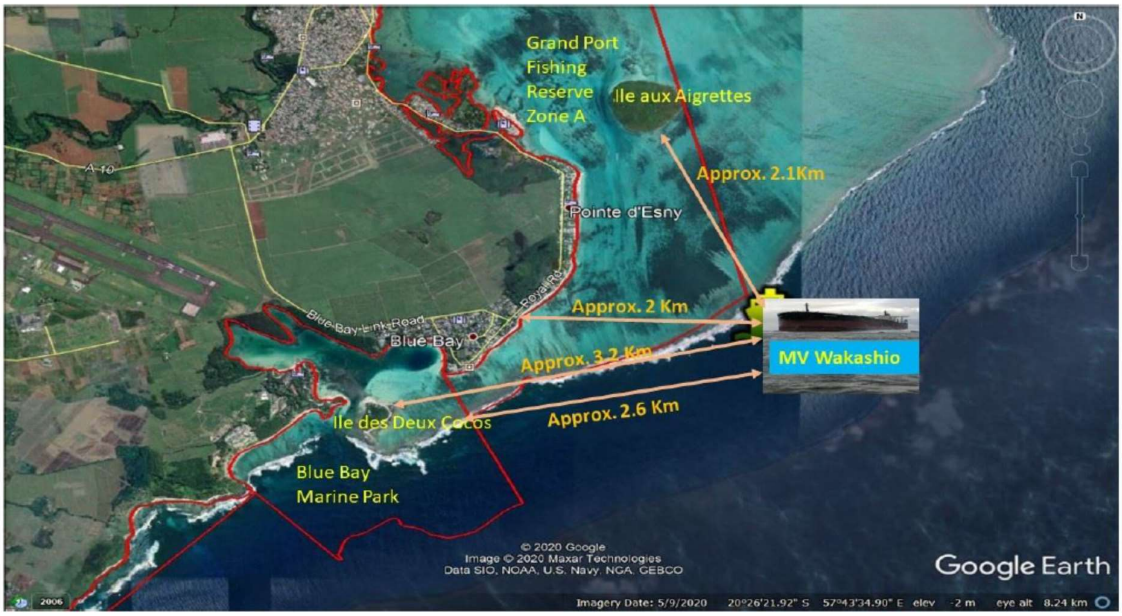
[17] *The Master shall prepare the passage plan himself and is responsible for its execution, but at the discretion of the Master, part of the work of preparing the passage plan may be assigned to the second officer*". (Emphasis added).
Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-02. Revision SMP9910010 – Passage plan, Section 1.1

[18] *Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-05. Revision SMP1703001 – Passage plan– Passage Plan for sea areas with navigation constraints, section 3.1*

evidenced by all navigating officers having their signatures at the bottom of the plan.
The casualty that resulted is ample proof that the above requirement has not been met and strict adherence to the pre-planned route has even been widely ignored by both the Chief Officer and more so by the Master who had prime responsibility in devising the plan. Such a state of affairs has allowed the vessel to navigate too close to Mauritius, defeating the company requirement to navigate at such distance[19] that will not endanger the vessel.

4.5 LARGE SCALE CHARTS

Much has been said about large scale charts. The Master was adamant that one was not needed although he decided to sail close to land at 5.0 nm.
Statutory requirements applicable to the vessel and procedural requirements imposed by the company indisputably prove the contrary, and therefore, the statement made by the Master cannot avail or exonerate him.



Courtesy: Ministry of Environment, Solid Waste Management and Climate Change

The passage planning checklist to be signed by the Master serves to prepare a proper passage plan and requires that large scale charts are available for use. The

[19] *Source: Nagashiki Shipping Co. Ltd. Document 2-03/01-05. Revision SMP1703001 – Passage plan– Distance from coast, section 3.2.2 – "Mention is made that the distance from coast and dangerous objects shall be a distance such that there is no danger to the ship when actions to avoid other ships and even when, by chance, a breakdown occurs to the engine or steering gear of the ship"*

question to be answered is " *Were necessary nautical paper charts and ENC (Large scale charts) and sailing directions available*[20]?

The Safety of Life at Sea Convention 74/78 as amended in 2002, hereinafter referred as SOLAS 74/78 as amended, requires that all ships irrespective of size on international voyages shall[21] have nautical charts and nautical publications to plan and display the ship's route for the intended voyage and to plot and monitor positions throughout the voyage[22].

Requirements of Regulation V/19.4 of SOLAS 74/78 as amended have been further clarified by the Flag State in the Merchant Marine Circular N0 107 addressed to all registered Panamanian ships of 500 GT and upwards to have navigational charts appropriate for the area of navigation[23].

Considering the importance of safe navigation in compliance with Chapter V of the International Convention for the Safety of Life at Sea (SOLAS), as amended., Mauritius as a coastal state has issued a Merchant Shipping Notice Ref 1 of 2019 drawing the attention of ship owners, managers, ship operators and marine superintendents to the importance and necessity of using official nautical charts issued by the Government of Mauritius or on its behalf when approaching or calling in Mauritius.

We should not lose sight that the basis of the above regulatory requirements take their roots from an internationally accepted convention namely SOLAS 74/78 as amended signed by Panama. The objective of the Convention lays down the foundation for safety of life at sea, and protection of the environment. Planning, and plotting a ship's positions during the course of her voyage properly and accurately with respect to geographical bathymetric datum on a proper scaled chart has all its importance towards reaching that goal of safety and environmental protection at any one point during navigation.

To that effect, SOLAS 74/78 as amended also requires a back-up arrangement in the case that the chart requirement is partly or wholly met by electronic means i.e ECDIS (Electronic Chart Display Information System). In the case of M/V M/V Wakashio the primary means to satisfy the chart carriage requirements of

[20] *Nagashiki Shipping Co. Ltd. Document 2-03/01-05. Revision MP11703001 – Passage plan, Passage planning Check List line1*

[21] *Emphasis added*

[22] *Regulation CH V/19.4 of SOLAS 74/78 as amended*

[23] *Publications and records required on vessels of 500 gross tonnage or above with registration in the Panamanian registry*.

Regulation CH V/19.4 was an ECDIS and the back-up arrangements for ECDIS that was required was paper charts[24].

It is therefore a mandatory requirement as per the Record of Equipment that is part and parcel of the Cargo Ship Safety Equipment Certificate issued to the vessel according to SOLAS 74/78 Convention, as amended to have both ECDIS and appropriate folio of pater charts.

By way of the revised guide-lines for voyage planning as per IMO Resolution A.893(21)[25], IMO not only recognizes the importance, for safety of life at sea, safety of navigation and protection of the marine environment for a well-planned voyage but by doing so, IMO has vulgarized the accepted industry guidelines to have appropriate and up-to-date scale charts prior to the commencement of the voyage in order to continuously monitor the vessel progress and position all through the voyage.

On another front, the company procedure on the type of ENC and paper charts actually transposes the requirement of large scale charts of the above guidelines into its management system and this is evidenced on the Passage plan check list. The latter which contains check boxes is to be ticked prior to the commencement of the intended voyage and it can be noted that it clearly puts emphasis on the availability of large scale charts[26].

Although the aforesaid requirements for proper large scale charts are explicit and mandatory, they also form part and parcel of the training of certificated navigating officers through the STCW Code[27]. It came to light during the course of hearings of the vessel's crew that neither proper ENC and paper charts were in use when sailing between 1.5 - 5 nm at a closer distance from the coast than envisaged when the initial passage plan was drawn, nor has a safe distance from the reefs been kept as required by the company[28]. The reason being that no such large scale charts were readily available on board. Even so, there was a deliberate intention of the master and the Chief Officer to keep close to land to get telephone network signal. At 19:17 when the vessel was proceeding at a constant speed of 9 knots the Master was heard saying "We are very, very close to land. Just one and a half mile" and still it never occurred to anyone on the bridge that the vessel was going aground within the next 10 minutes at 19:27. There was neither any action

[24] *See Record of Equipment for Cargo Ship Safety (Form E) bearing reference 17HO031676SER issued by ship's Classification Society NIPPON KAIJI KYOKAI on 26 May 2017.*

[25] *IMO Resolution A.893(21) §2.1.5. Among other considerations to be considered during the preparation of the voyage planning is the availability of appropriate scale, accurate and up-to-date charts to be used for the intended voyage or passage.*

[26] *See document N0 2-03/01-05 - Passage Planning Check list - Are necessary nautical paper charts and ENC (large scale charts) and sailing directions available?*

[27] *Standards of training, certification and watch keeping Table II/1 – The competence to plan and conduct a passage plan and to determine ship position is to be demonstrated through the use of large scale charts.*

[28] See Passage planning procedure 2-03/01-01 Section 2.1 § 11.

undertaken by Chief Officer nor orders from the Master to change direction while the vessel was at a distance of 1.5 nm from the coast at 19:23 but instead the master was heard saying " How close we are, we are very close, we are very close my heart is beating, shit". That leads us to say that although laws and rules were being violated[29] there was a compelling desire to get telephone signal, and that took precedence over anything else, to the extent that those in charge became oblivious to their primary essential duties[30]. Their judgements would also have been impaired by unduly excessive consumption of alcoholic drinks.

It is worth mentioning here that although electronic charts are the primary means of vessel position fixing and paper charts being the secondary means provided to back ECDIS functions, nothing prevents the master or navigating officer on duty from switching from one to the other or use both concurrently even though there is nothing affecting the required performance of the ECDIS in use. As such, besides the fact that the ECDIS should be provided with proper scaled and up-to-date charts the same reasoning should apply to paper charts.

Large scale charts which have well been documented in company procedures and among chart retailers are of paramount importance in that they provide to the mariner a truthful representation of the coastlines, soundings, depth contours, areas safe for navigation, reefs and rocks as well as areas to be avoided contrary to a small scale chart. Besides regulation CH V/34.1 of SOLAS 74/78 as amended on ship navigation and avoidance of dangerous situations reiterates the importance of appropriate nautical charts to be made available on board for all areas concerned[31].

As there were no proper large scale charts for the region on board when approaching closer to Mauritius, the officer on duty at the time of grounding was relying on a small scale ENC chart for navigation. Not only navigation was unsafe in the absence of the appropriate chart but there was a false sense of confidence with respect to distance from the shore lines and obstructions. What made things worse was that the small scale chart on the ECDIS screen was at a certain point over-zoomed when it is common knowledge among experienced navigating officers that such action gives erroneous water soundings, depth contours and wrong distances from dangerous areas not suitable at all for navigation.

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[29] *See 2. The Merchant Shipping (Distress Signal and Prevention of Collisions) Regulation 2004 Section 4 applies to other ships as well when in Mauritian territorial waters ,and nothing in these rules shall exonerate any vessel, or the owner, master or crew thereof, of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case. Rule 2 (a)* (Emphasis added)

[30] *See 1. Company procedure regarding on board accidents prevention procedure 4-01/05-01 which requires " the master, in accordance with laws and rules, shall take necessary measures to prevent accidents"*

[31] *SOLAS CH V/34.1 states the following. Prior to proceeding to sea, the master shall ensure that the intended voyage has been planned using the appropriate nautical charts and nautical publications for the area concerned, taking into account the guidelines and recommendations developed by the Organization*

Based on the affirmations of the second officer Mr Seguya when he deponed, it can be inferred that the Master was well aware that the vessel was navigating with inappropriate ENC and paper charts as an order was expeditiously placed just after the grounding to purchase the required large scale charts FR 273490 and IN 32527M for the region. Furthermore, both the navigating officer and the Master cannot plead ignorance of on-board instructions set by the company that they are bound to follow[32]. Based on their long experience at sea on similar vessels, they were also both privy to the limitations of close navigation well before the start of the voyage, being qualified, well trained and experienced navigating officers.

4.6 SAFE MANNING

The minimum safe manning document is a statutory document delivered by the Flag State and here the word "minimum" is the operative word. In the case of M/V M/V Wakashio, Panama as the Flag State delivered the safe manning certificate bearing reference number 30901 on 22 November 2013.

The total crew on board was 20. However, the number of crew required to be certified as per the safe manning certificate including the master amounts to 14 out of which 3 shall be Able bodied seaman who shall hold a certificate of proficiency according to Reg II/4 of the Standard of Training, Certification and Watchkeeping Convention 78 as amended (STCW Convention). It should be recalled here that Reg II/4 refers to the "Mandatory minimum requirements for certification of ratings forming part of a navigational watch" which stipulates the following:

"*Every rating forming part of a navigational watch on a seagoing ship of 500 gross tonnage or more, other than ratings under training and ratings whose duties while on watch are of an unskilled nature, shall be duly certificated to perform such duties"*[33]*.*

As far as the safe manning requirements are concerned, the vessel was compliant having three able bodied seamen holding qualifications meeting the STCW Reg II/4 requirements.

The safe manning certificate further stipulates that " The ship manned in this document is considered to be safely manned if, when it proceeds to sea, it

[32] *Passage planning procedure 2-03/01-03 section 3.0 §3.2.1 (d) - Take into consideration the accuracy and scale of nautical chart to be used when deciding on the distance to keep away from the coast.*

[33] *STCW/CONF.2/32 - Conference of Parties to the International Convention on Standards of Training, Certification and Watch keeping for Seafarers 1978*

carries not less than the number of grades/capacities of personnel specified in the table below"[34]

It is worth mentioning here that the number of Able Seamen required as per the safe manning certificate is not only dependent on the number of crew members present on board but is also highly dependent on the number of qualified & experienced seafarers holding the specified qualification to carry out the required duties. In short, to satisfy the safe manning requirements, the vessel needs to be sufficiently and efficiently manned by qualified and certified crew but also manning is to be adequate for the level of service required. At time of grounding vessel was not sufficiently and efficiently manned as there was no qualified and certified look-out on the bridge.

Being given that the AB, Mr Bajon Lindre de Castillo was promoted to Boatswain after the previous bosun jumped ship, he was on day duty and was no longer part of the navigational watch as a look-out. This is where the discrepancy lies as neither the Master nor the Chief Officer worked an alternative to have a replacement for the missing look-out on the chief officer's watch to meet the requirement of the three look-outs.

As Master of the vessel, the Captain is duty bound to ensure that watch-keeping arrangements are adequate for maintaining a safe navigational or cargo watch. Under the master's general direction, the officers of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding[35].

We should not lose sight of the fact that the Safety Management System Certificate delivered to the vessel by the Classification Society Nippon KaiJi Kyokai is prima facie evidence of the requirement that rules and regulations, industry standards as well as company standards and procedures are fully followed[36]. The company has laid down procedures to that effect and non-observance of the requirements is synonymous to a breakdown of the system and may result in the Safety Management System Certificate being withdrawn. Deficit in or departure from safe manning practice and procedures is regarded within the context of the safety management system as a major deviation from the rules and company procedures and have over the years been one of the main factors of ship grounding/accidents and even detention.

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[34] *Source: Minimum Safe manning Certificate N0 M30901*

[35] *STCW/CONF.2/32 - Conference of Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978. Section A-VIII/2, Part 4 §10 –Principles applying to watchkeeping generally.*

[36] Sec 1.2.3 of the ISM Code – The Safety Management System should ensure:
1. Compliance with mandatory rules and regulations and
2. that applicable codes, guidelines and standards recommended by the Organisation, Administrations, classification societies and maritime industry organisations are taken into account.

It is noted here that there has been clear evidence of serious deviations from instructions issued by the company related to bridge manning. Company instructions related to bridge manning stipulate that it shall be the responsibility of the master to ensure a safe manning level on the bridge irrespective of prevailing conditions[37].

4.7 LOOK-OUT

In a world of advanced information, means of communication, and operational technologies available in the hands of navigators and the increased use of Artificial Intelligence supported tools to calculate or fine tune expected time of arrival (ETA) or ship routing alternatives aiming at increased efficiencies, officers on navigation watch can be inclined to put too much reliance solely on navigation equipment at their disposal and neglect the human aspect of navigation duties by way of a qualified and competent look-out to complement the work of the navigating officer on the watch. The presence of a look-out on the bridge during periods of navigation is a mandatory requirement under The INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED (COLREG 1972) for both Mauritius and Panama as State Parties to the Convention. Besides it is a mandatory requirement under section 1.2.3 of the ISM Code which applies to the vessel that guidelines and standards developed by maritime industry standards are taken into account. The officers has not paid sufficient attention to one of the guideline developed by the Japan P&I club which is the provider of insurance cover to the owners of M/V M/V Wakashio. One such guideline clearly establishes that insufficient look-out represents one of the highest percentage of all accidents compiled during the past 5 years[38].

The CONVENTION ON THE INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED (COLREG 1972) primarily contains rules of good seamanship to avoid collision; but that will not be the course along which we would wish to dwell. We will rather concentrate on one aspect of the Convention that addresses the physical presence of a look-out during

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[37] *Nagashiki Shipping Co. Ltd. Document 2-02/01-01. Revision SMP1703001 – Bridge Watch, Section 7.0 & 7.1.*

7.0 " It shall be the Master's responsibility to increase the manning level on the bridge, according to the level of caution and alertness required for the safe navigation of the ship. The safe navigation of the ship must take precedence over maintenance of the vessel or other considerations"

7.1 Watch level " Different levels for manning the bridge, based on alertness and workload conditions are classified as follows: Bridge watch level for General coastal Passage is level B which means one watch officer AND one look out. Helmsman available on call"

[38] Japan P&I Club Loss Prevention bulletin Vol 50 of February 2021

hours of navigation. Rule 5 of the Convention requires a proper look out on the bridge while the vessel is navigating[39].

A look-out is also a company requirement and provision for it is contained in the company procedures. More specifically, the procedures mention that a look out is not required during day light from sunlight to sunset but is silent on watch arrangements after sunset. In the absence of formal instructions, the Master and the Chief Officer should have known that the most stringent requirements apply and they should have been guided by Internationally agreed standards contained in SOLAS 78/88 as amended, STCW 1978 as amended and COLREGS 78 (Collision Regulations) in line with the ISM Code (International Safety Management). The importance of the statutory requirement to have a proper and qualified look-out as per the different Conventions applicable could not have been ignored.

One of these Conventions namely the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 as amended at Section A-VIII-2 § 13 echoes similar provisions[40] as COLREG 72 and stipulates that a proper lookout shall be maintained at all times in compliance with Rule 5 of the International Regulations for Preventing Collisions at Sea, 1972, as amended and shall serve the purpose of:
.1 maintaining a continuous state of vigilance by sight and hearing, as well as by all other available means, with regard to any significant change in the operating environment;
.2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation;

Although company procedures allow for the navigating officer to dispense himself of the lookout during the day, a closer look at regulation 5 of the INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED (COLREG 1972) applicable to all vessels[41] will help to understand the complementarity nature of both the navigating officer on watch and the seamen on the look-out. Here emphasis is put on sight and hearing as well as on available means which encompass Radar, ARPA, AIS etc[42] to indicate that part of the functions for a safe navigation watch has to be handled by the look-out scanning the sea surface[43] to the extent visible and listening to distant signals meant to

[39] *Regulation 5 of COLREG 72* – "Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision."

[40] *STCW/CONF.2/32 - Conference of Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978. Section A-VIII/2, Part 3.1 §13 –Principles to be observed in keeping a navigational watch.*

[41] *Status of IMO treaties of 17 June 2021. Mauritius and Panama are both parties of the INTERNATIONAL REGULATIONS FOR PREVENTING COLLISIONS AT SEA, 1972, AS AMENDED (COLREG 1972) since 26 May 1989 and 14 March 1979 respectively*

[42] See Wikipedia – Look-out

[43] ARPA, AIS radar are all aids to navigation to assist the navigator in apprising the situation as it develops and in no way is meant to replace neither the navigator's physical presence nor the requirement to physically scan the environment to further assess the situation using a combination of visual bearings and observations. P&I Bulletin N° 34

attract attention while the officer on the watch will concentrate on the more demanding duties in terms of routing and areas to be avoided, ship position plotting and concentrating on actual ship course compared to set course[44].

Considering the above, an officer on the watch cannot fully discharge his/her duties of navigation, collecting and analyzing data available from ECDIS, radar, echo sounder and AIS while at the same time constantly maintaining a continuous watch of any navigation obstacle at sea that can hamper safe navigation without the assistance of a look-out who will assist the officer to discharge his/her duties to the standard required for good seamanship.

It is worth mentioning here that collisions between ships and man-made structures have been for more than a century and still is a big and recurrent concern for the industry. The codification and unification of what was known as the rules of the road finally took the form of what is known to-day as the International Regulations for Preventing Collisions at Sea, 1972, as amended (COLREG 1972) has gained such wide acceptance among states including Mauritius and Panama through ratification or accession, that it can be considered as the norm for good seamanship.

The COLREG 1972 Convention has, as a matter of fact, through its different rules to prevent collisions at sea introduced through Rule 2(b) elements of good behavior or good seamanship,[45] in maritime jargon (see underlined below) through a look-out and has also introduced the element of a duty of care be it on the high seas or in coastal and internal waters.

Mauritius has, on the one hand, enacted collision regulations applicable to other ships while in Mauritian territorial waters[46], while Panama on the other hand has similarly made similar arrangements to make the requirements of the aforesaid Convention lawful for Panamanian registered vessels wherever they may be. Not having a proper look out while in Mauritian waters or during navigation on high seas is in clear violation of the laws of both State parties of the Convention and even with company procedures[47] which require officers of watch to strictly adhere to requirements of COLREG 72.

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[44] *Regulation 5 of COLREG 72"Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision".*

[45] *COLREG 72 Rule 2(a). Nothing in these Rules shall exonerate any vessel, or the owner, master or crew thereof, from the consequences of any neglect to comply with these Rules or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.*

[46] *See Section 4 of Merchant Shipping (Distress Signal and Prevention of Collisions) Regulation 2004.*

[47] *Nagashiki Shipping Co. Ltd. Document 2-02/01-01. Revision 2-02- / 01-01 – Bridge Watch, Section 1.0. « The officer of watch must make every effort at all times for the safe operation of his ship and to protect the environment. In particular he should strictly observe the International Regulations for preventing collisions at sea. COLREG 1972.*

In accordance with article 1 of the COLREG 72 Convention, parties to the Convention have an obligation to enforce the rules and regulations contained in the Convention[48]. By extension these rules are applicable to Panamanian registered vessels in Mauritian waters and the master as well as the Chief Officer may well face administrative and legal actions if it can be shown through objective evidence that there has been any omission of good seamanship and an unacceptable level of care while sailing in coastal waters[49] without a look-out.

It would be of interest to point out that with regards to the behavior of the crew, the company has through its management system emphasized the importance of the Collision regulations as one of the many applicable treaties and regulations applicable to the shipboard operations of MV M/V Wakashio[50].

The importance of a proper look out at all times cannot be overemphasized. The need for the presence of a proper look out can neither be ignored nor denied considering its importance with respect to the International Regulations for Preventing Collisions at Sea Convention as amended (COLREG 72) and the International Convention on Standards of Training, Certification and Watch keeping for Seafarers (STCW), 1978, as amended. By not having a proper look out, it was up to the Chief Officer to monitor the navigation of the vessel while at the same time carrying out the functions of a look out and consequently limiting his ability to properly regularly monitor at specified intervals the vessel's course and range on the navigation equipment.

Covid-19 pandemic has since the outbreak beginning in December 2019 drastically affected crew change all over the world. The pandemic has also halted physical inspections/audits by management and could have been the source of deviations with regards to procedures and behavior. Nevertheless the STCW Convention 1978 as amended requires that the master of every ship is bound to ensure that watchkeeping arrangements are adequate for maintaining a safe navigational or cargo watch at all times.

Under the master's general direction, the officers of the navigational watch are responsible for navigating the ship safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding[51].

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[48] *ART 1 of the COLREG 1972 - International Regulations for Preventing Collisions at Sea. - The Parties signatories to the Convention undertake to give effect to the Rules and other Annexes constituting the International Regulations for Preventing Collisions at Sea, 1972.*

[49] *COLREG 1972 - International Regulations for Preventing Collisions at Sea - International Regulations for preventing Collisions at Sea, 1972 - Rule 1 (a). These Rules shall apply to all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels.*

[50] Nagashiki Shipping Co. Ltd. Document 1-05/01-01. Revision SMM1504003 – Operational Rules , Section 2.0

[51] *Chapter A – VIII/2 part 4 Sec. 10 of the STCW 95 Code details the principles to be taken into account when setting watches.)*

However, the situation during the Chief Officer's watch was not one that would be expected of a responsible officer on watch. According to the watch arrangements as admitted by the master, the deck cadet who was the designated look-out during watch periods 16:00 – 20:00 with the Chief Officer during hours of darkness was not required by Chief Officer and the master to be present on the bridge. In his statement to Police, the Chief Officer indicated that he released the deck cadet, Mr Troy Marc Alvarez, to attend a party organized by the Junior Engineer in the crew's mess room. From the VDR recordings obtained, there is objective evidence of the Master's acceptance of the Chief Officer's proposal at 17.55 LT to dispose of a look-out during his hours of duty watch between 18:00 and 20:00

The deck cadet should never have been considered to be a proper look-out as he was not holding the necessary qualifications, as per the STCW 1978 Convention as amended, to be part of a watch. Being a cadet still under training to acquire experience and competence that would be required of him to be a proper look-out later on does not make him a suitable and qualified person to be part of a watch.

Furthermore, It was also the master's responsibility to see to it that the composition of the navigational watch is adequate in order that a proper lookout can continuously be maintained[52] has not been fulfilled and apparently has never been among his considerations while he was on the bridge.

The grounding of MV M/V Wakashio will stand as a good reminder that the presence of a look-out holding the required qualifications and competent to carry out designated duties on the bridge during hours of navigation is of paramount importance to guarantee a safe navigational watch at times of day light and at night.

4.8 ALCOHOL CONSMPTION DURING WATCH PERIODS

There has been many ship casualties in the past that were directly linked to alcohol consumption and its related effects on behaviour leading to overconfidence, euphoria or even confusion with a total disregard to immediate consequences have been amply documented. In some instances the change of behaviour has led to fatalities.

On the 3rd November 2019, the second engineer serving on board of M/V Khosrov Bey, a Maltese flag vessel, slipped while descending the stairs leading to the engine room. He was found lying on the floor unconscious and he never recovered.

[52] *STCW/CONF.2/32 - Conference of Parties to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978. Section A-VIII/2, Part 4.1 §17 –Principles to be observed in keeping a navigational watch.)*

He was confirmed dead and death attributed to a high level of ethanol of the order of 0.253% in the blood[53].

Other investigations carried by the Marine accident Investigation Branch (MAIB) of UK concluded that there had been some cases of bad seamanship that was directly related to a high level of alcohol in the blood while on duty. In one case the Chief Officer on duty fell asleep during his watch[54] and in another incident the Master died by drowning after his workboat lost buoyancy causing him to fall into the water[55].

Alcohol consumption on board ships has for many years & is up to now a major cause of accidents that could be easily avoided by strictly adhering to the policy in place. The M/V M/V Wakashio accident is no different as it bears many similarities with the above shipping casualties in terms of alcohol consumption and impairment of judgement. In all the above cases and even in the case of the M/V M/V Wakashio, the Company had a clear alcohol policy which was never followed. It is noted that in some companies there is zero tolerance[56] and in others, companies have at most accepted a Blood Alcohol Content (BAC) of 0.04%[57] as a maximum.

The Exxon Valdez Crude tanker was another case of alcohol related accident and has been a prominent case of environmental damage. The crude oil tanker ran aground on 24th March, 1989 breaching 8 cargo tanks & spilling about 258 000 barrels of crude oil off the Coast of Alaska. The master Hazelwood was under the influence of alcohol although the company has a strict alcohol policy and his judgement was impaired at time of the incident[58]. The master failed to provide a proper navigation watch[59] and the cost of damage was as high as $25 million for damage to the vessel and the cost of clean-up of spilled oil in 1989 reached a rocket high sum of $1.85 billion.

Recalling and recognising from past experience that the implication and dangers of alcohol consumption can be extremely high in terms of cost, safety of the vessel, crew & protection of the marine environment, the International Maritime Organisation, IMO has through the Manila amendments in 2010 introduced for the 1st time specific measures to address alcohol abuse on board ships to be in line

[53] Transport Malta. Safety Investigation Report N° 20/2019

[54] MAIB accident report 25/2015 – Grounding of cargo vessel Lysblink Seaways near Kilchoan, West Scotland on 18th February 2015, while on passage from Belfast to Skogn, Norway

[55] MAIB accident report 17/2015 – GPS Battler – 13th August, 2014.

[56] The Safety management system of M/V Lysblink Seaways - The company has a Zero Tolerance alcohol policy in place. *In the case of Khosrov Bey* the policy stated that all distribution and consumption of alcohol onboard is prohibited.

[57] GPS Battler - It must be carefully noted that the Company requires all persons are required at all times to ensure that their Blood Alcohol Concentration (BAC) does not exceed 0.04% by weight or 40mg/100ml

[58] Marine Accident Report. NTSB p.171

[59] As one of the probable cause of the casualty. The National Transportation Safety Board p.170

with target 3.5 of the sustainable goal 3 of the UN[60]. The new regulation VIII/1, Part A VIII/I § 10 & Part B VIII/I § 6 limit the alcohol content in the blood to 0.05% BAC or 0.25mg/1 alcohol in the breath[61].

As a result there is nowadays a mandatory requirement for the Flag and the shipping companies to establish limits not more than 0.05% blood alcohol level (BAC) or 0.25 mg/1 alcohol in the breath while on duty and even 4 hours prior taking duty and all crew members are required to observe these rules & regulations.

In an endeavour to prevent serious accidents caused by alcohol consumption on board and to respond to the above statutory requirement the Owner, Nagashiki Shipping co Ltd, has developed an alcohol and drug procedure[62] that is applicable to the vessel M/V M/V Wakashio with the specific purpose to protect ship's safety, the environment and maintain crew's health. With the advent of the ISM Code, all procedures developed by a company for the safety at sea and protection of the environment ipso facto become part of the safety management system procedures on board that requires compliance with mandatory rules and regulations[63]. The procedure henceforth is to be strictly adhered to and cannot be ignored.

The company policy regarding alcohol consumption even goes beyond what is required by the Manila 2010 amendments and sets the maximum alcohol limit composition of alcoholic drinks to less than 40%[64]. It appears that the drug and alcohol policy developed by the company as far as consumption of spirits, liquor, liqueurs & others is concerned sets the alcohol content on board at less than 40% & bans the consumption of spirits having a content of alcohol greater than 40%. Consequently the Master & Officers on bridge should never have brought Johnnie Walker whisky to the bridge during watch hours as the whisky has an alcohol content that is above the limit allowed by company.

It is not certain that the Chief Officer who is a habitual drinker also shared a few glasses of whisky with the Master and Chief Engineer while keeping his watch.

What is clear however is that the Master who indicated himself that he had consumed more than 2 shots between 18:00 LT – 19:25 LT was above the limit of 0.04% allowed by both the company & the STCW Convention (0.05 %). Considering the above it has been a gross misconduct on his part having consumed alcohol less than 4 hours prior to being on the bridge during a watch keeping period. Being given that the company considers a person as intoxicated if

[60] Goal 3 Ensuring healthy lives and romote well-being for all at all ages

[61] Each Administration shall establish, for the purpose of preventing alcohol abuse, a limit of not greater than 0.05% blood alcohol level (BAC) or 0.25 mg/l alcohol in the breath or a quantity of alcohol leading to such alcohol concentration for masters, officers and other seafarers while performing designated safety, security and marine environmental duties.

[62] Drugs & alcohol Doc 4-01/06-01 dated 01/07/2015 - In awareness of the fact that drugs and alcohol will be serious causes of incidents at sea, this procedure is provided in order to protect ship's safety and the environment and maintain crew's health.

[63] Section 1.2.3.1 of the ISM Code – The safety management system should ensure compliance with mandatory rules and regulations

[64] Drug & Alcohol Control Document 4-01/06-02. Rev. SMP2507002.

he had consumed more than 2 shots of whisky which is above the limit of 0.04 % of alcohol content in the blood[65], the Master should not have been on the bridge indulging in conversation with the chief engineer and the Chief Officer primarily concentrating on personal issues which took precedence over safe coastal navigation. By company standards a level of 0.04 % of alcohol in the blood makes a person unfit to take proper decisions or even directing others to follow his decisions. From the preventive and corrective action plan issued on 29/11/2020 after the grounding, the DPA Mr Osamu Okaichi mentioned that "despite the fact that the ship was trying to navigate at a distance of 2 nautical miles off the coast, they failed to conduct a proper lookout with radar and careful visual checking and continued sailing by checking ECDIS only"[66] and the root cause identified for that behaviour was a lack of safety awareness symptomatic of persons under the influence of alcohol which made it very risky for such large vessel to navigate away from the shore at a close distance.

The very intention of the ship owner to impose alcohol limits at any one time on board and restriction to consume alcohol 4 hours before watch keeping is a clear message about the deleterious effect that alcohol may have on the judgement and performance of individuals on board.

It is evident that the behaviour of the intoxicated master and the bad seamanship and unprofessional attitude of the Chief Officer during his watch period on that fateful night have been the contributory factors that led to the grounding of the vessel.

Fig.3(a) Intake of alcohol class against unit(hours)[67]

Kinds of liquors	Contents of Alcohol	Volume (cc)	Unit
Beer, Cider and Lager			
Extra Strength	>4.0% <6.0%	300ml	2.5
Ordinary Strength	>1.0% <4.0%	300ml	1.0
Low Alcohol	>0.05% <1.0%	300ml	0.5
Table Wines, Others	>6.0% <12%	100ml	1.0
		1litter btl.	10.0
Sherry, Fortified Wines,	>12% <16%	60ml	1.0
Others		1 lit	16.0
Spirits, Liquor,	.16% <40%	30ml	1.0
Liqueurs, Others			
Any other Low Alcohol	>0.05% <1.0%	300ml	0.5
Beverage			
1 unit for 1 hour abstinence, and all crew are prohibited consume any alcohol prior to scheduled watchkeeping duty by referring the unit above table.			

[65] Drug & Alcohol control Document 4-01/06-02 Revision SMP 2507002 §3(2)

[66] CAR for deficiencies/non-conformities and recommendations

[67] Drugs & alcohol content Document 4-01/06/03 Rev. SMP9911001. – Alcohol content of spirits, liquors, liqueurs & others shall be <40%.

4.9 MASTER'S RESPONSIBLITY

The Master has the overall responsibility for safety on board[68]. According to STCW A-VIII/2 Pt 4-1, the officer in charge of the navigational watch is only the master's representative and although is primarily responsible at all times for the safe navigation of the ship and for complying with the COLREGS 1972 [69] the Master is still responsible for the overall safety of the vessel.

Although the master vigorously affirmed that he was not the officer on watch and as such he was not responsible to take decisions, the fact remains that he was on the bridge on Chief Officer's watch when reliable information on ship position, heading and course over ground were available and could be exploited in sufficient time prior the accident and not directing the Chief Officer to take corrective action is irresponsible. He has no legitimate excuse.

The Master is also responsible to make every possible arrangement before commencing a voyage in order to perform a safe voyage[70]. Starting a voyage with an expired ECDIS licence, uncovered during the investigation, can be regarded as highly irresponsible and prejudicial to safe navigation as the ECDIS was the primary means of navigation.

The Master of the vessel knowingly deviated from her original course and the ship came dangerously close to 1.1 nm from land and eventually grounded off Pointe D'Esny on 25th July 2020 without being summoned by the Coast guards[71] to pass clear at a safer distance from the coast of Mauritius.

It is to be noted that Art 17 of UNCLOS[72] allows ships of all states to enjoy the right of innocent passage through the territorial sea. However the right of innocent passage could not be invoked here. From the voyage data recordings received it is clear the Master has been sailing on the altered course to gain internet access for telephone communication and as such has violated the right of innocent passage[73].

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[68] *Nagashiki Shipping Co. Ltd. Document 1-02/01-01. Revision SMM1301002 – Organisational rules Section 5.1.2. « At sea the master can order any actions that he judges the best, as the case may be to keep the safety of the ship, human lives and for environmental protection, notwithstanding the authorities stated or may even violate the rules of the manual*

[69] According to Section A VIII /2 "Watch keeping arrangements and principles to be observed" and Part 3-1 "Principles to be observed in keeping a navigational watch"

[70] *Nagashiki Shipping Co. Ltd. Document 4-01/01-01. Revision 1997.09.01* – Duty and Responsibility Sec 3 – Master's responsibility and authority

[71] Powers provided for under the National Coast Guard Act 1998 cover inter alia under section 12 (f) the monitoring and control of all seaborne activities within the maritime zones and the National Coast Guard has the right under section 12 (q) to take such steps as it considers necessary to prevent any collision or other accident or disaster at sea.

[72] Art 17 of UNCLOS - Ships of all States, whether coastal or land-locked, enjoy the right of innocent passage through the territorial sea

[73] Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Art 18 of UNCLOS

The recordings also revealed that no action has been taken by the National Coast Guard to prevent the accident. Although equipped with radar and AIS systems, neither the coastal stations on the east coast at Pointe du Diable nor the information office tried to contact the vessel to take corrective action necessary to pass safely through the territorial waters.

4.10 RECOMMENDATIONS TO OBVIATE OR REDUCE RISKS OF ACCIDENT.

4.10.1 It is recommended that henceforth Coast Guards be sufficiently and properly equipped, manned and trained to be able to track and constantly follow vessels by all navigational means available, including Radar, ARPA, AIS and VHF communication while the same are passing through the territorial waters of Mauritius in order to ensure that such passage is at a safe distance from land or through predetermined limits from land.

4.10.2 To give effect to the above recommendation, Mauritius as a coastal State will have to exercise its rights to promulgate further and better laws and regulations that will ensure safe navigation within the territorial sea. If and when doing so Mauritius will be required to inform the IMO of the laws and regulations regulating innocent passage within its territorial sea[74]. We therefore recommend accordingly.

4.10.3 Another issue that needs to be addressed in the near future to enhance the territorial measures abovementioned will be the delimitation of sea lanes[75] mentioned at Sec 10 (1) (a) of the Maritime Zones Act 2006. Here again, the onus will be on Mauritius to inform the IMO of areas where sea lanes will be applicable and in doing so the information will be made public and disseminated. The vulgarization of such information of importance will be beneficial to the country and to all users of the sea lanes, and a major step in the effort to enhance maritime traffic safety and the prevention of accidents. We therefore recommend accordingly.

4.10.4. On another front, the dissemination of information on aids to navigation to be used in conjunction with sea lanes for which notices as mentioned in Section 107 of the Merchant Shipping Act 2007, which have yet to be prepared and published, will be beneficial in the reinforcement of the measures proposed above. We therefore recommend accordingly.

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[74] Art 21 (3) of UNCLOS & Art 211(4). Coastal States may, in the exercise of their sovereignty within their territorial sea, adopt laws and regulations for the prevention, reduction and control of marine pollution from foreign vessels, including vessels exercising the right of innocent passage

[75] *SOLAS CH V/10 – Ship Routeing & SOLAS CH V/11 – Ship reporting systems*

4.10.5 In the wake of the M/V M/V Wakashio grounding it is recommended that Mauritius adopts a mandatory reporting system within a specific zone to be determined around the coastal area for exchange of information with passing ships. Radar surveillance has proved to be insufficient as radar surveillance does not require reporting.

4.10.6. All the above measures proposed will not have the desired effect if proper policing and enforcing bodies do not have the required man power and equipment to carry out their duties under the appropriate legal vehicles to be developed and enacted without delay. We therefore recommend accordingly.

4.10.7 In view of the gross misconduct and culpable negligence of the Master and Chief Officer, his inexcusable overall gross deficit of competent performance as highlighted above, we direct that The Director of Shipping, pursuant to section 11(3) of The Merchant Shipping Act, transmit to the proper foreign Authority which has issued the Master's ship Officer's certificate our recommendation that the same be cancelled and its recognition be withdrawn.
We do not propose to recommend any sanction against the Chief Officer given his relatively young age and the circumstances in which he yielded to the directions of the Master. We would rather leave it to the Competent Authorities to indicate the type of action that they would wish to recommend according their own deliberate judgement.

ANNEXURES

Departure Report Singapore

De: Wakashio <Wakashio@SkyFile.com>
Envoyé: Tuesday, July 14, 2020 9:09 AM
À: seyeong@seyeongmarine.co.kr
Cc: ogura-nsc@mx91.tiki.ne.jp; okaichi-nsc@mx21.tiki.ne.jp; kochi.nsc@gmail.com; masataka-nsc@mx31.tiki.ne.jp; nsc-shigeki7@mx1.tiki.ne.jp; ntatsuhiro.nsc@gmail.com
Objet: MV Wakashio- (V- 98A) - DEPARTURE REPORT

Good Day,

Departure Report

1) EASTERN BUNKERING `A` SINGAPORE 14TH JUL`20 0854 LT ANCHORS AWEIGH/1130LT COSP
2) HFO: NIL /LSFO:4358.3 MT / MDO:214.7 / FW :473 MT
3) F:6.86 M / A: 10.70/NIL
4) TUBARAO , BRAZIL
5) ETA/DTG :TUBARAO P/STN 13TH AUG 2020 1800H/8810 M

REMARKS: NIL

Thanks & Best Regards,

Capt. Sunil K. Nandeshwar

Master MV Wakashio
Inm FBB Tel: 870 773169343
Inmarsat C: 437271110
Email: wakashio@skyfile.com

1974 SOLAS Convention, as amended

Regulation V/10
Ships' routeing

1 Ships' routeing systems contribute to safety of life at sea, safety and efficiency of navigation and/or protection of the marine environment. Ships' routeing systems are recommended for use by, and may be made mandatory for, all ships, certain categories of ships or ships carrying certain cargoes, when adopted and implemented in accordance with the guidelines and criteria developed by the Organization.[1]

2 The Organization is recognized as the only international body for developing guidelines, criteria and regulations on an international level for ships' routeing systems. Contracting Governments shall refer proposals for the adoption of ships' routeing systems to the Organization. The Organization will collate and disseminate to Contracting Governments all relevant information with regard to any adopted ships' routeing systems.

3 The initiation of action for establishing a ships' routeing system is the responsibility of the Government or Governments concerned. In developing such systems for adoption by the Organization, the guidelines and criteria developed by the Organization[1] shall be taken into account.

4 Ships' routeing systems should be submitted to the Organization for adoption. However, a Government or Governments implementing ships' routeing systems not intended to be submitted to the Organization for adoption or which have not been adopted by the Organization are encouraged to take into account, wherever possible, the guidelines and criteria developed by the Organization.[1]

5 Where two or more Governments have a common interest in a particular area, they should formulate joint proposals for the delineation and use of a routeing system therein on the basis of an agreement between them. Upon receipt of such proposal and before proceeding with consideration of it for adoption, the Organization shall ensure that details of the proposal are disseminated to the Governments which have a common interest in the area, including countries in the vicinity of the proposed ships' routeing system.

6 Contracting Governments shall adhere to the measures adopted by the Organization concerning ships' routeing. They shall promulgate all information necessary for the safe and effective use of adopted ships' routeing systems. A Government or Governments concerned may monitor traffic in those systems. Contracting Governments shall do everything in their power to secure the appropriate use of ships' routeing systems adopted by the Organization.

7 A ship shall use a mandatory ships' routeing system adopted by the Organization as required for its category or cargo carried and in accordance with the relevant provisions in force unless there are compelling reasons not to use a particular ships' routeing system. Any such reason shall be recorded in the ships' log.

8 Mandatory ships' routeing systems shall be reviewed by the Contracting Government or Governments concerned in accordance with the guidelines and criteria developed by the Organization.[1]

9 All adopted ships' routeing systems and actions taken to enforce compliance with those systems shall be consistent with international law, including the relevant provisions of the 1982 United Nations Convention on the Law of the Sea.

10 Nothing in this regulation nor its associated guidelines and criteria shall prejudice the rights and duties of Governments under international law or the legal regimes of straits used for international navigation and archipelagic sea lanes.

[1] Refer to the General provisions on ships' routeing adopted by the Organization by resolution A.572(14), as amended.

Regulation V/11

Ship reporting systems[2]

1 Ship reporting systems contribute to safety of life at sea, safety and efficiency of navigation and/or protection of the marine environment. A ship reporting system, when adopted and implemented in accordance with the guidelines and criteria developed by the Organization [173] pursuant to this regulation, shall be used by all ships or certain categories of ships or ships carrying certain cargoes in accordance with the provisions of each system so adopted.

2 The Organization is recognized as the only international body for developing guidelines, criteria and regulations on an international level for ship reporting systems. Contracting Governments shall refer proposals for the adoption of ship reporting systems to the Organization. The Organization will collate and disseminate to Contracting Governments all relevant information with regard to any adopted ship reporting system.

3 The initiation of action for establishing a ship reporting system is the responsibility of the Government or Governments concerned. In developing such systems, provision of the guidelines and criteria developed by the Organization [3] shall be taken into account.

4 Ship reporting systems not submitted to the Organization for adoption do not necessarily need to comply with this regulation. However, Governments implementing such systems are encouraged to follow, wherever possible, the guidelines and criteria developed by the Organization.[3] Contracting Governments may submit such systems to the Organization for recognition.

5 Where two or more Governments have a common interest in a particular area, they should formulate proposals for a co-ordinated ship reporting system on the basis of agreement between them. Before proceeding with a proposal for adoption of a ship reporting system, the Organization shall disseminate details of the proposal to those Governments which have a common interest in the area covered by the proposed system. Where a co-ordinated ship reporting system is adopted and established, it shall have uniform procedures and operations.

6 After adoption of a ship reporting system in accordance with this regulation, the Government or Governments concerned shall take all measures necessary for the promulgation of any information needed for the efficient and effective use of the system. Any adopted ship reporting system shall have the capability of interaction and the ability to assist ships with information when necessary. Such systems shall be operated in accordance with the guidelines and criteria developed by the Organization[3] pursuant to this regulation.

7 The master of a ship shall comply with the requirements of adopted ship reporting systems and report to the appropriate authority all information required in accordance with the provisions of each such system.

8 All adopted ship reporting systems and actions taken to enforce compliance with those systems shall be consistent with international law, including the relevant provisions of the United Nations Convention on the Law of the Sea.

9 Nothing in this regulation or its associated guidelines and criteria shall prejudice the rights and duties of Governments under international law or the legal regimes of straits used for international navigation and archipelagic sea lanes.

10 The participation of ships in accordance with the provisions of adopted ship reporting systems shall be free of charge to the ships concerned.

11 The Organization shall ensure that adopted ship reporting systems are reviewed under the guidelines and criteria developed by the Organization.

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[2] This regulation does not address ship reporting systems established by Governments for search and rescue purposes, which are covered by chapter 5 of the 1979 SAR Convention, as amended.

[3] Refer to the Guidelines and criteria adopted by the Maritime Safety Committee of the Organization by resolution MSC.43(64), as amended by resolution MSC.111(73). Refer also to the General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants, adopted by the Organization by resolution A.851(20).

5. TRACKING AND MONITORING OF VESSELS

5.1 Duties & Responsibilities of National Coast Guard (NCG).

As per the National Coast Guard Act of 1988, the National Coast Guard (hereinafter referred to as NCG) is a specialised unit of the Police Force and falls under the responsibilities of the Commissioner of Police (CP).

The Commandant of the NCG is responsible, subject to the directions of the Commissioner of Police, for the day-to-day operations of the NCG.

The duties and responsibilities of NCG with respect to monitoring and tracking of vessels in our maritime zones (territorial waters extending up to twelve nautical miles from the coast and Exclusive Economic Zone (EEZ) extending over approximately 4 million km2) are listed under Section 12 of the National Coast Guard Act 1988 as amended as follows:

Par 12.1.a - To prevent the entry by sea of any person or group of persons who threaten to undermine the security or to violate the territorial integrity of the State of Mauritius,

Par 12.1.b – to prevent any activity which is likely to constitute a threat to the maritime zones, including the seabed, the flora, the reefs, the beach and the coastline,

Par 12.1.f – to monitor and control all seaborne activities within the maritime zones,

Par 12.1.g - to prevent any form of maritime pollution or any activity likely to cause maritime pollution,

Par 12.1.q – to take such steps as it may consider necessary to prevent any collision or other accident or disaster at sea.

5.2 National Coast Guard (NCG) Organigram

The various departments reporting to the Commandant are listed in Annex 1 – Organigram.

5.2.1 NCG Headquarters

The NCG HQ is based at Les Salines, Port Louis with its Operations Control Centre (hereinafter referred to as Ops Room) about 400 metres away at the control tower of Fort William which is situated at the entrance to Port Louis harbour.

5.2.2 Operations (Ops) Room

The Ops Room is responsible for:

Maintaining internal communications by telephone, VHF, fax and email between all NCG posts in Mauritius and the outer islands, between patrolling vessels and aircraft and between NCG HQ and the Police Information & Operations Room (P.I.O.R) which is situated at the Main Command & Control Centre at Ebene,

The Operations Room also acts as the Maritime Rescue Coordination Centre (MRCC) for the Exclusive Economic Zone (EEC), carrying out search and rescue (SAR) services. The Ops Room is equipped with a Global Maritime Distress Safety System (GMDSS) with Inmarsat satellite equipment to communicate with ships carrying out SAR and the regional MRCCs, monitoring the Maritime Domain Awareness System which is used by navies across the world.

Two computers at Ops Room are connected to the Regional Maritime Information Fusion Centre and the Regional Centre for Operational Command based at Madagascar and Seychelles respectively,

Monitoring and tracking of ships in the maritime zones are carried out by the following vessel position monitoring systems (Annex IV):

- Sea Vision Automatic Identification System (satellite) which is an online unclassified maritime information tool run by the US Department of Defense providing near real-time ship position,
- 5 x terrestrial Automatic Identification System (AIS) located at Bar Le Duc, Mt Jurancon, Mt Simonet, Signal Mt and Pointe du Diable. These AIS provide real time ship positions with information such as ship's name and call sign. The real time data is transmitted by the local network to Ops Room. It has been reported during our visit and subsequently during court hearings that AIS information was not received at operations room as monitoring equipment had been out of order for quite some time.

Supervising, monitoring and tracking of the vessels are carried out by the five (5) Coastal Surveillance Radar Stations (CSRS) located around the coast of Mauritius at Albion, Grand-bay, Pointe du Diable, Gris Gris and Le Morne and the three CSRS located on the outer islands of Rodrigues, St Brandon and Agalega. Each station is equipped with a S-Band radar of 25 nm range which has degraded over time to about 12 to 18 nm. It was reported during a site visit at Ops Room that these radars are obsolete dating back to 2009 and that the station of Gris Gris is non-operational due to lack of spare parts. These stations are fitted fixed telephone line (Annex V) and with VHF radio to contact ships

coming in the territorial waters. It is to be noted that the stations are manned by NCG officers who report directly the daily activities to the closest NCG Post and have to perform patrolling duties.

5.2.3 Vessel Squadron

The Vessel Squadron (Annex II) is based at Port Louis harbour and consists of the following vessels :

5 x Coast Guard surveillance vessels to patrol the territorial waters and the Exclusive Economic Zone (EEZ). Their operating ranges vary from 400 nm for the CGS Observer to 5,000 nm for the CGS Barracuda. The fastest vessel is the CGS Victory with a maximum speed of 25 knots.

1 x Fast interception boat (FIB) with an operating range of 20 nm with a maximum speed of 35 knots.

2 x Rigid-hulled inflatable boats & 1 x Rigid-hulled foam filled collar boat with an operating range of 10 nm and maximum speed of 30 knots.

All vessels and boats are fitted with HF and VHF communications. The long range vessels are also fitted with Air VHF radio (very high frequencies) to communicate with aircraft.

5.2.4 Maritime Air Squadron

The squadron consists of three Dornier aircrafts (Annex III) which operate from SSR International airport. Dornier Aircraft MPCG-1 is due for decommissioning. The maximum flight duration of a Dornier aircraft from base is about five (5) hours.

5.2.5 Police Helicopter Squadron

The helicopters are operated directly under the control of the office of the Commissioner of Police. The helicopter squadron is based at the airport.

The fleet consists of

- 4 x single engine 5 seater make Chetak of range 10 nm

- 1 x twin engine 4 seater make Fennec of range 50 nm

- 1 x twin engine make Dhruv 14 seater of range 90 nm

5.2.6 NCG Posts

The coast around the island has been divided into four areas for surveillance purposes (North / South / East & West). Each area falls under the responsibility of a Supervising Officer (ASP) assisted by an Area commander (CI) and a Deputy Area Commander (PI).

The NCG posts are equipped as follows:

- rigid inflatable boats (RIB) for afloat patrol,

- road vehicles for mobile patrol,

- VHF radio for communications with Ops Room and ships,

- Portable VHF Huawei telephone for patrols and

- fixed line telephone(s).

5.3 TRACKING & MONITORING OF MV M/V WAKASHIO

5.3.1 Duty Watch at Ops Room & Coastal Surveillance Regional Station (CSRS) Pointe du Diable

The watchkeeping Officers of Ops Room work on a 24 hour tour of duty starting at 08:45 and leaving at 08:45 on the following day.

Depending on the workload, three Officers may be working on a four hour shift system in the Ops Room under the supervision of either the Staff Officer Operations (SO OPS) from 08:45 to 15:30 during weekdays until Friday or the Officer of the Day (OOD) of the rank of an Inspector during week ends from 15:30 to 08:45.

The following Officers were on duty in Ops Room on 25 July 2020 at the time of the incident :

Officer of the Day (OOD) : PI Nundlall

Controller : CPL Abacousna

Control Centre Operator : PC Ujoodha

The manning of CSRS Pointe du Diable falls under the responsibility of Deux Freres NCG Post of the Eastern Area. The duty watch consists of two Officers on a 24 hour tour of duty starting at 08.45 and leaving at 08.45 on the following day. They work on a shift system of four hours each as radar operators for twelve hours and perform other jobs such as patrolling for twelve hours at Deux Freres NCG Post.

PC Sujeebun and PC Jugarnath were the officers on duty watch at CSRS Pointe du Diable from 16:00 on Saturday 25th until Sunday 09:00. Following entries have been made in the Diary Books of Deux Freres NCG Post and CSRS Pointe du Diable:

PC Sujeebun started his duty watch as from 0845 at Deux Freres NCG Post and carried out patrolling duties. He took over as radar operator at 16:00 until 21:40. He subsequently replaced PC Jugarnath at 04:30 on Sunday 26th morning.

PC Jagurnath started his duty watch at Deux Freres NCG Post as from 08:45 and carried out patrolling duties. He stated that he arrived at Pointe du Diable at 18:45 and replaced PC Sujeebun as radar operator as from 21:40 till 04:30.

5.3.2 NCG Report on Incident & Follow-Up

Capt Manu, COMNCG was informed about the grounding incident by Ops Room at 20:20. He then informed the Commissioner of Police (CP) and Cdr Sarin, Chief Staff Operations (CSO) and other NCG staff. He arrived at Ops Room at 21:00 to make a complete assessment of the situation. He started to query PC Ujoodha about his observations on the Sea Vision monitor.

The CP arrived at Ops Room at 22:00 to discuss about the actions to be taken as NCG did not have in place a Standard Operating Procedure for such incidents. Upon the advice of the CP, the National Oil Spill Contingency Plan (NOSCP) and the National Emergency Operational Command (NEOC) Level II were activated by the Ministry of Environment and Special Mobile Force respectively.

The CP then proceeded to the NCG HQ together with Capt Manu to prepare a report to be submitted to the Office of the Prime Minister on the following day.

The following report on the actions taken by NCG to track and monitor MV M/V Wakashio was produced by the Prime Minister in Parliament on 28 August 2020 :

MV M/V Wakashio was being tracked on the Sea Vision Satellite Automatic Identification System since 23 July 2020 at 23:30 hours when it entered our EEZ. NCG continued to keep track until it entered our territorial waters on 25 July 2020 at 18:10 hours.

NCG Radar Operators based at CSRS Station of Pointe du Diable spotted the vessel at 11,5 nautical miles on innocent passage in the common sea route off the Mauritian coast at 18:15 hours.

In accordance with standard practice, the vessel was called on VHF radio on four occasions by Pointe du Diable as from 18.15 hours and no response was received.

NCG Ops Room at Les Salines continued to monitor the vessel through the Automatic Identification System.

At 19:10 hours the vessel was observed to be about 6 nm from Mahebourg and was approaching the coast at a speed of 11 knots. Ops Room requested Pointe du Diable CSRS to call anew on VHF.
At 19:25, as the vessel appeared to stop off Pointe D'Esny, CSRS of Pointe du Diable called the vessel again to no avail.
Mahebourg and Blue Bay NCG Posts called the vessel on four occasions between 19:45 to 20:10 but no radio contact could be established.

At 20:10, the Master finally responded to the call made by NCG and informed that the vessel had run aground.

Following departure of the CP from NCG HQ, Capt Manu proceeded together with Cdr Sarin, CSO OPS & CO CGS Valiant, Inspector Mungroo SO OPS and ASP Jawarun Staff Officer NCG HQ to Pointe du Diable CSRS at 01:00 on Sunday 26 July 2020 to query the two radar operators namely Officers PC Sujeebun and PC Jagurnath about the incident. The following Officers from the East and South areas were already there when they arrived at 02:00 am:

ASP Luthmoodoo, Supervising Officer South & East Areas

CI Purmanund, Area Commander South

CI Bothille, Area Commander East

Capt Manu has not submitted any report on his investigation on the tracking and monitoring of the vessel to the Court. He was replaced by Capt Gupta and left Mauritius when he started to depone before the Court in January 2021. Cdr Sarin, CSO has also left Mauritius and has not deponed before the Court.

Mr Servansingh, CP at the time of the incident, has stated in Court that the incident is being investigated by the CCID.

What can be said from the above based on submissions from Captain Manu is that there are numerous vessels appearing on the screen of the Sea Vision and at any instant, according to track showing on the Sea Vision screen all the vessels will be hitting Mauritius.

Captain Manu also confirmed in Court on 20 January 2021 that the NCG continuously kept track of M/V M/V Wakashio as from 23 July 2020 when she entered our EEZ. This is in total contradiction with hearings of PC Ujoodha who indicated that he did not track the ship until 18.05 when he spotted the ship on

the Sea Vision. In actual fact this statement is also not true as it was not a standard practice to have someone sitting in front of the Sea Vision screen to monitor ships around Mauritius, Rodrigues and Agalega at any one time. It was more of a common practice to check the screen of the Sea Vision nearly every hour.

5.3.3. Public Report of Grounding

The vessel ran aground on the reefs off Pointe D'Esny at 19:26 on 25 July 2020 as per Statement of Facts submitted by the Master.

The grounded vessel was sighted by the local residents of Pointe D'Esny. The incident was reported as follows to the local Authorities:

Mr JP Rouillard phoned Capt Barbeau, MPA Port Master at 19:45 without success. The latter saw the missed call at around 20:00 and was informed about the grounding when he phoned back Mr Rouillard around 20:10. He subsequently informed Mr Donat, Director of Shipping around 20:20.

Mrs de la Haye phoned NCG Mahebourg at 20:01 and phoned again at 20:10 to ensure that NCG was doing needful.

5.3.4. Vessel Course & Speed

Following the grounding of the ship the Master had ordered an electronic large scale chart by email and this was uploaded into the Electronic Chart Display and Information System (ECDIS). The track followed by the ship when approaching the South East coast was downloaded on a DVD by the CCID with external assistance (Doc BU).

An extract from the ship's GPS Logbook (Annex VII) shows that the vessel was proceeding on 241 degrees course at a speed of 11.4 knots at 17:00. There was a change of course to 234 degrees between 17:00 and 18:00 but the speed remained constant at 11,4 knots. The downloaded chart extract (Annex VIII) shows that the change of course which occurred around 17:45.

The downloaded chart extract (Annex IX) shows the position of the ship at 18:56. The course was still maintained at 234 degrees and the speed reduced to 10,9 knots. It is clear that the ship was not running parallel to the reefs at this point in time and was heading directly onto the reefs off La Passe Point. The radar Officer on duty watch at Pointe du Diable CSRS who was reportedly monitoring the radar screen would have seen from the heading and speed displayed on the terrestrial AIS screen, had he been monitoring properly, that the ship was going to run aground in about thirty (30) mins.

5.3.5. Monitoring Vessel In EEZ

Monitoring of the vessel was not done since the ship entered the EEZ on 23 July 2020. It has been confirmed during the hearings that many ships are plying up and down on this route and it is practically impossible to monitor all ships. Only ships which have been raised as being suspect in the Maritime Awareness Domain System are subject to tracking and eventual boarding by NCG vessels.

Capt Manu has confirmed during hearing of 19 January 2021 that they were able to retrace back afterwards the track of the ship on Sea Vision and from data supplied by the Indian International Fusion Centre.

5.3.6. Monitoring Vessel in Territorial Waters

A summary of the depositions of the relevant NCG officers involved in the incident as set out below is also referred to in Annex VI.

PC Ujoodha claimed that he had first spotted the vessel at 18:05 on the Sea Vision AIS at 11,5 nm off the coast. He further stated during the hearing of 27 July 2021 that he informed PI Nundlall and Cpl Abacousna about this sighting. These two Officers have however confirmed during their hearings that he did not inform them.

PC Sujeebun stated that he spotted the vessel at 18:15 on the radar screen and tried to establish contact on VHF channel 16 without success. However, his calls were not recorded on the ship's Voyage Data Recorder (VDR) of MV M/V Wakashio. The first VHF call to be recorded on the VDR was that of PC Gopaulin of Blue Bay NCG at 20:08.

PC Ujoodha stated that he sighted again the vessel at 6,0 nm from the coast at 19:10. He claimed that he informed PI Nundlall and Cpl Abacousna and then instructed PC Sujeebun on VHF channel 18 to call the vessel and inform them to alter course.

PI Nundlall stated during his hearing on 11 January 2022 that he did not pick up the VHF conversation of 19:10 although the Ops Room is only 3m wide x 6m long and outgoing communications are done via a microphone and incoming communications are heard on a loudspeaker.

Cpl Abacousna stated that he did hear the VHF call but that PC Ujoodha informed PI Nundlall & himself after the call. It is strange that PC Ujoodha would have to repeat his instructions to his colleagues as VHF conversations are clearly audible in such a small control room.

PC Sujeebun and PC Ujoodha initially maintained that there was a telephone conversation between them two to three minutes after the VHF call as the

former wanted to confirm the vessel's name and call sign which were already displayed on the radar screen by the local terrestrial AIS of Pointe du Diable.

PC Sujeebun stated that he phoned PC Ujoodha around 19:30 to tell him that the vessel was not moving and appeared to be stopped. PC Ujoodha stated that PC Sujeebun did not phone him at that time.

Considering the incoherences between the statements of these Officers, the Court requested Mauritius Telecom to submit records of telephone calls between Ops Room, CSRS Pointe du Diable, Mahebourg and Blue Bay NCG Posts from 16:00 till 21:00 on that day. A summary of relevant calls is annexed herewith (Annex X).

PC Ujoodha and PC Sujeebun could no longer remember the telephone call which they had made after the VHF call at the hearing of 27 July 2021 when they learned that the Court had obtained an itemised list from Mauritius Telecom confirming that this call did not take place.

Similarly PC Sujeebun stated that he could no longer remember the phone call to PC Ujoodha made around 19:30. When he was cornered regarding the time of this call, he replied that the call took place at 20:20 informing PC Ujoodah that he has called but had not been succeeded. By that time, Ops was already aware that the ship had grounded and Blue Bay NCG was communicating with the ship, NCG Mahebourg and Ops Room.

Capt Manu stated that the VHF call never reached Pointe du Diable CSRS due to rain. He also could not explain why the VHF calls were not recorded on the VDR of the vessel.

Capt Manu further maintained that the VHF calls from CSRS Pointe du Diable were followed by VHF calls from NCG Mahebourg prior to the grounding which occurred at 19:25 and finally by NCG Blue Bay after the grounding. PC Cauroo of NCG Mahebourg has stated that he started calling the vessel as from 19:45, i.e after the grounding.

5.3.7. Attendance of PC Jugarnath

PC Jugarnath stated that he went home at 17:30 to pick up dinner for PC Sujeebun and himself. He arrived at CSRS Pointe du Diable CSRS at 18:45.

The following calls to Pointe du Diable CSRS were made from his mobile on that evening :

Time	Duration	Tel No	Obsevations
17:24:56	89 s	6347249	Incoming call to Pointe du Diable. PC Sujeebun did not remember this call.

		Pte du Diable	
19:15:53	78 s	6347249 Pte du Diable	PC Sujeebun stated that it was PS Boodhoo, in charge of East Area on that day, who called the CSRS station to request a situation report (sitrep). PC Sujeebn indicated that he informed him about VHF calls he has been making as from 18:15. Whereas PC Jugarnath stated that it was his wife who called to tell him he had swapped phones.
19:41:22	6 s	6347249 Pte du Diable	PC Jugarnauth's stated that his wife phoned again to confirm if he had already arrived & if he had her mobile phone.

The following calls from Ops Room to PC Jugarnath mobile were made on that evening :

Time	Duration	Tel No	Obsevations
20:08:50	22 s	2083935 Ops Room	PC Ujoodha calling PC Jugarnath.
20:16:07	95 s	2083935 Ops Room	PC Ujoodha calling PC Jugarnath.

PC Jugarnath reported that he had left Deux Freres NCG at 17:30 as recorded in the Diary Book. As per the EMTEL itemised list (Annex XI), the call of 17:24 was made via the relay of Ernest Florent which is located at Bel Air, the place of residence of PC Jugarnath.

The call of 19:15 was also made via the relay of Ernest Florent.

PS Boodhoo stated during the hearing of 10 February 2022 that he tried to phone Pointe du Diable between 1900 and 19:30 but it was on the fixed telephone line that he tried to obtain a sitrep. He did not succeed as the line was busy.

PS Boodhoo then called PC Sujeebun on his mobile phone and was able to obtain a sitrep from the latter who however did not inform him about the VHF calls.

The call of 19:41 was made via the relay of Ernest Florent. The explanation from PC Jugarnath that his wife phoned again to query if he had already arrived does not hold water for two reasons. Firstly she had supposedly talked to him at 19:15 on the Pointe du Diable telephone line and secondly she could have also phoned him on her mobile phone which was then supposedly in his possession.

The calls of 20:08 and 20:19 were made by Ops Room via the relay of Pointe du Diable.

PI Nundlall, OOD and Cpl Abacousna have stated in court that they did not make these calls of 20:08 and 20:16 to PC Jugarnath's mobile phone. It is to be noted that PC Ujoodha had confirmed during the hearing of 27 July 2022 that he had the mobile number of PC Jugarnath in his phone address book. He had lost the mobile number of PC Sujeebun when his previous phone had crashed.

Cpl Abacousna had stated in court on 25 November 2021 that PI Nundlall had said " what was Pointe du Diable doing?" when PC Jugarnath found the ship aground around 20:05 (page 17 of transcript of proceedings).

PI Nundlall had stated in court on 11 January 2022 that the Officer who contacted Pointe du Diable, PC Ujoodha, had not received any instructions from him. The Officer called on his own accord and then informed him.

In the light of the above, it is clear that PC Jugarnath had left home after the call of 19:41 and arrived at Pointe du Diable CSRS around 20:00. He did not arrive there at 18:45 as stated by PC Sujeebun and himself during the previous hearings.

5.3.8. Police Helicopter Squadron

The reaction time for the helicopter squadron to dispatch an helicopter is 15 minutes during daytime and two hours at night as there are no pilots on standby at the base at night.

Only twin engine helicopters are authorised to fly at night. On July 25th evening, both twin engine helicopters (Dhruv and Fennec) were grounded due to unavailability of spare parts.

The Dhruv was available as from 08 August 2020 following replacement of its expired blade actuators and was used for the removal of fuel oil in 1 m3 containers (IBC).

The Fennec was subsequently repaired and put back in service in May 2021.

5.3.9 Vessel Squadron

NCG was not able to dispatch a surveillance vessel from Port Louis to Pointe D'Esny on the night of July 25th. It takes about four hours to prepare the vessel for sailing as the gyrocompass which is required for navigation has to be started and allowed to settle. The vessel is also not fully manned at night.

5.3.10 Analysis

Taking into consideration all the incoherences noted during the hearings of the Ops Room and the CSRS Pointe du Diable Officers, we are of the view that they have not been telling the truth despite the fact that they were deponing under oath.

PC Ujoodha was not monitoring the Sea Vision AIS and it was only at the end of the shift at 20:00 that he checked the monitor and found the ship aground at 1,5 nm off Pointe D'Esny.

PC Sujeebun was not monitoring the radar. It was only at 20:08 that he checked same after PC Jugarnuth was informed by PC Ujoodha on his mobile phone.

We strongly suspect that false entries have been made in the VHF logbooks of Ops Room and Pointe du Diable to support their statements that the ship was being monitored since entering the territorial waters.

As Officers of two different locations were involved in this incident, the instructions for making false entries in the VHF logbooks must have been given by Capt Manu and the high level Officers who had proceeded to both sites on that night to investigate. We strongly suspect that they have tried to cover-up the failure of both Pointe du Diable CSRS and Ops Room to maintain an efficient monitoring of the territorial waters.

5.4 Recommendations Regarding Tracking and Monitoring of Vessels by NCG.

5.4.1. Monitoring & Communications Equipment

5.4.1.1. The network connecting all the local terrestrial AIS to the Ops Room should be maintained and repaired whenever required as it gives real time data on ships sailing around the island and is a complementary monitoring tool to the Sea Vision AIS.

5.4.1.2. The obsolete radars of the CSRS shall have to be replaced by ARPA radars of at least 25 nm range. They should be of reputable make so as to ensure availability of spare parts. Such radar manufacturers have local agencies with experienced technicians based in Mauritius to carry out maintenance and repairs. This would result in reduced equipment downtime and maintenance cost savings as technician flight / accommodation costs would not have to be incurred.

5.4.1.3. The VHF relays connecting Ops Room to all NCG posts and CSRS should be maintained and repaired whenever required. Ops Room should be able to communicate directly to vessels sailing off the East Coast without having to go through Mauritius Radio Services of Mauritius Telecom.

5.4.1.4. Taking into consideration the number of vessels plying daily off the east coast, it is recommended to provide a dedicated Vessel Traffic

Management System (VTMS) to monitor the vessels sailing within 25 nm from the east coast in order to detect timeously those vessels, which are no longer under command due to machinery breakdown. This would then give sufficient time for a salvage tug or powerful harbour tug(s) based at Port Louis harbour to intervene. The VTMS would furthermore provide

information on suspect vessels to NCG who would then deploy their surveillance vessels.

5.4.2 Watchkeeping at Ops Room & CSRS

5.4.2.1. The span of time of duty watch of AIS monitoring Officers should be reviewed as they cannot monitor the screen efficiently after two hours.

5.4.2.2. Dedicated officers should be assigned to the CSRS. A radar officer cannot spend the day on patrol and thereafter proceed to the CSRS to monitor the radar screen.

5.4.2.3. Considering that the CSRS are located in remote places, the closest NCG post should put in place a system to check the attendance of the radar officers. This could be as simple as calling them from time to time on the fixed telephone line of the CSRS.

5.4.3 Training of Radar Operators

5.4.3.1. All radar operators should attend regular refresher courses and familiarise themselves with tracking and plotting of target vessels. Supervising officers should have a good knowledge of the technicalities of the work of their subordinates to be able to question them when required.

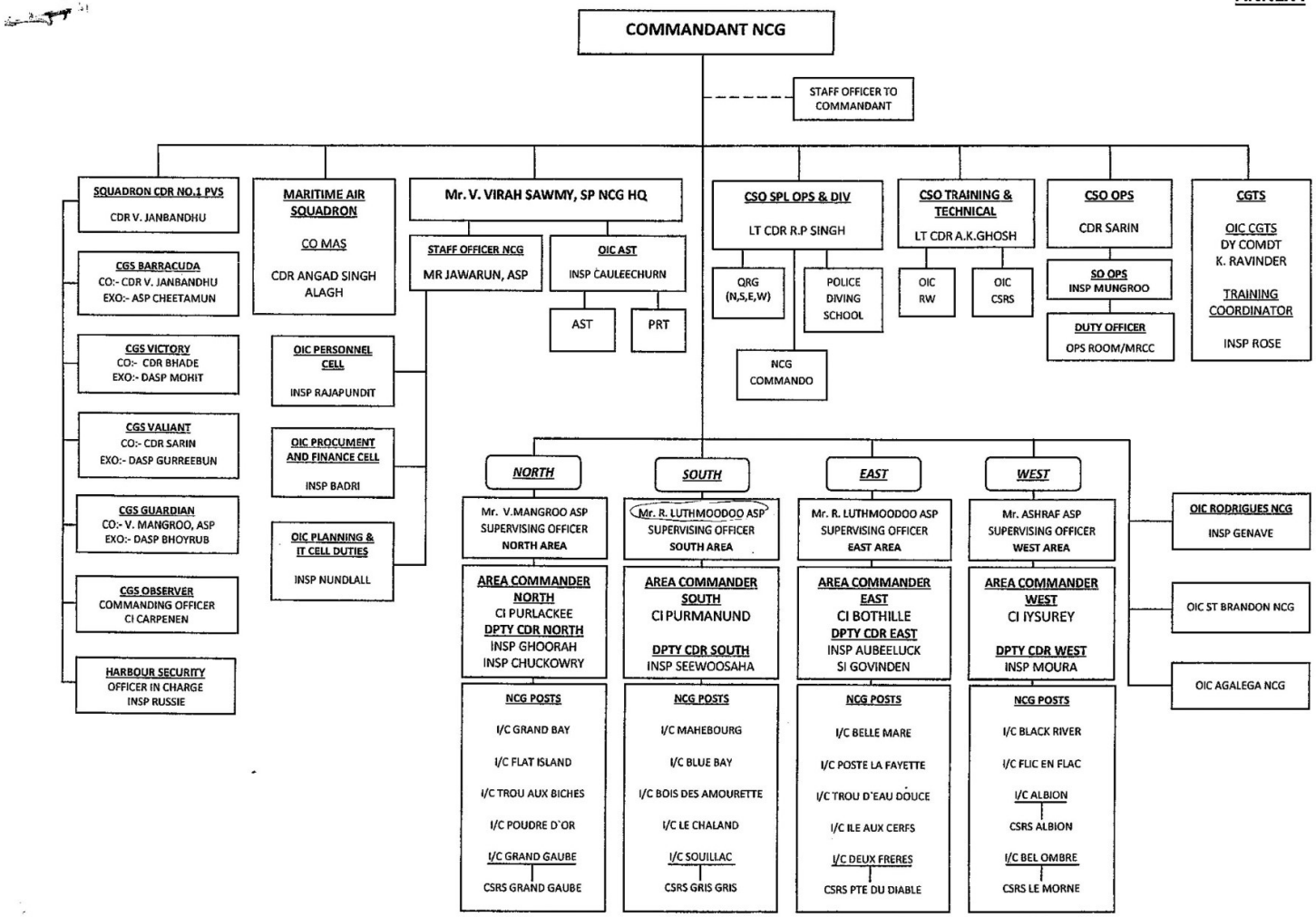
5.4.4 Availability of Mauritius Port Authority (MPA) Tugs

5.4.4.1.The MPA should review its future requirements for harbour tugs and start the replacement of its ageing tugs accordingly. The new tugs should have a capacity of at least 100 T bollard pull and be provided with suitable towing equipment and towing rope.

5.4.4.2. Immobilisation of tugs for dry-docking and repairs should be taken in consideration when determining the number of tugs that would be required in order to ensure availability of spare tugs at all times.

5.4.5 in view of the foregoing under paragraph 5.3.10 above, the whole of paragraph 5.0 (Pages 38 up to 51 and including paragraph 5.3.10), and Annex VI below (Pages 57 – 66) to be referred to The Director of Public Prosecutions for any action that he may deem appropriate.

ANNEX I


COMMANDANT NCG
STAFF OFFICER TO COMMANDANT
SQUADRON CDR NO.1 PVS
CDR V. JANBANDHU
CGS BARRACUDA
CO:- CDR V. JANBANDHU
EXO:- ASP CHEETAMUN
CGS VICTORY
CO:- CDR BHADE
EXO:- DASP MOHIT
CGS VALIANT
CO:- CDR SARIN
EXO:- DASP GURREEBUN
CGS GUARDIAN
CO:- V. MANGROO, ASP
EXO:- DASP BHOYRUB
CGS OBSERVER
COMMANDING OFFICER
CI CARPENEN
HARBOUR SECURITY
OFFICER IN CHARGE
INSP RUSSIE
MARITIME AIR SQUADRON
CO MAS
CDR ANGAD SINGH ALAGH
OIC PERSONNEL CELL
INSP RAJAPUNDIT
OIC PROCUMENT AND FINANCE CELL
INSP BADRI
OIC PLANNING & IT CELL DUTIES
INSP NUNDLALL
Mr. V. VIRAH SAWMY, SP NCG HQ
STAFF OFFICER NCG
MR JAWARUN, ASP
OIC AST
INSP CAULEECHURN
AST
PRT
CSO SPL OPS & DIV
LT CDR R.P SINGH
QRG (N,S,E,W)
POLICE DIVING SCHOOL
NCG COMMANDO
CSO TRAINING & TECHNICAL
LT CDR A.K.GHOSH
OIC RW
OIC CSRS
CSO OPS
CDR SARIN
SO OPS
INSP MUNGROO
DUTY OFFICER
OPS ROOM/MRCC
CGTS
OIC CGTS
DY COMDT
K. RAVINDER
TRAINING COORDINATOR
INSP ROSE
NORTH
Mr. V.MANGROO ASP
SUPERVISING OFFICER
NORTH AREA
AREA COMMANDER NORTH
CI PURLACKEE
DPTY CDR NORTH
INSP GHOORAH
INSP CHUCKOWRY
NCG POSTS
I/C GRAND BAY
I/C FLAT ISLAND
I/C TROU AUX BICHES
I/C POUDRE D'OR
I/C GRAND GAUBE
CSRS GRAND GAUBE
SOUTH
Mr. R. LUTHMOODOO ASP
SUPERVISING OFFICER
SOUTH AREA
AREA COMMANDER SOUTH
CI PURMANUND
DPTY CDR SOUTH
INSP SEEWOOSAHA
NCG POSTS
I/C MAHEBOURG
I/C BLUE BAY
I/C BOIS DES AMOURETTE
I/C LE CHALAND
I/C SOUILLAC
CSRS GRIS GRIS
EAST
Mr. R. LUTHMOODOO ASP
SUPERVISING OFFICER
EAST AREA
AREA COMMANDER EAST
CI BOTHILLE
DPTY CDR EAST
INSP AUBEELUCK
SI GOVINDEN
NCG POSTS
I/C BELLE MARE
I/C POSTE LA FAYETTE
I/C TROU D'EAU DOUCE
I/C ILE AUX CERFS
I/C DEUX FRERES
CSRS PTE DU DIABLE
WEST
Mr. ASHRAF ASP
SUPERVISING OFFICER
WEST AREA
AREA COMMANDER WEST
CI IYSUREY
DPTY CDR WEST
INSP MOURA
NCG POSTS
I/C BLACK RIVER
I/C FLIC EN FLAC
I/C ALBION
CSRS ALBION
I/C BEL OMBRE
CSRS LE MORNE
OIC RODRIGUES NCG
INSP GENAVE
OIC ST BRANDON NCG
OIC AGALEGA NCG

ANNEX II

S.No	Unit	Communication Equipment	Operational Base	Operating Range	Speed to be specified
01	CGS Barracuda	HF VHF with DSC Inmarsat Fleet Broad Brand Inmarsat C Navtex Receiver HF V/UHF Transceiver Satelitte Telephone	Port Louis	5000 nm	12 Knots
02	CGS Victory	HF Radio VHF Radio Air VHF Radio Satellite Phone Inmarsat C Telex	Port Louis	2000 nm	Cruising Speed- 14 knots Maximum speed- 25 knots
03	CGS Valiant	HF Radio VHF Radio Air VHF Radio Satellite Phone Inmarsat C Telex	Port Louis	2000 nm	Cruising Speed- 14 knots Maximum speed- 19 knots
04	CGS Guardian	HF VHF Air VHF Satelite Phone	Port Louis	850 nm	Cruising Speed- 12 Knots Maximum speed: 15 knots
05	CGS Observer	VHF Transceiver make Sailor RT2048 HF Transceiver make Sailor HFSSB RE2100 Air VHF Transceiver make ICOM IC-A110 VHF Portable Sets (i) ICOM ICM35 (ii) Standard Horizon Vertex	Port Louis	400 nm	Cruising Speed- 08 Knots Maximum speed: 11 knots
06	FIB	HF VHF	Port Louis	20 nm	35 knots
07	HDB H13	HF VHF	Port Louis	10 nm	30 knots
08	HDB H11	HF VHF	Port Louis	10 nm	30 knots
09	Defender D2	HF VHF	Port Louis	10 nm	30 knots

ANNEX III

Sno.	NCG Aircraft	Communication Equipment	Operational Base	Operating Range	Speed	Remarks
(a)	Dornier Aircraft MPCG-1	(i) HF – KHF1050 (Optimum range – 200 to 300 Nm) (ii) V-UHF – ARC210 (Optimum range – 70 to 80 Nm)	SSR International Airport, Plaisance	A total of 05 hrs (maximum) can be flown by the Dornier from said operating base. However the range and flying hours depends on many variables like weight, distance of area from operating base, distance of diversion from base, etc.	180 knots	Aircraft to be decommissioned Awaiting Approval.
(b)	Dornier Aircraft MPCG-3	(i) HF – KHF1050 (Optimum range – 200 to 300 Nm) (ii) V-UHF – ARC210 (Optimum range – 70 to 80 Nm)				-
(c)	Dornier Aircraft MPCG-4	(i) HF – KHF1050 (Optimum range – 200 to 300 Nm) (ii) V-UHF – ARC210 (Optimum range – 70 to 80 Nm)				-

Annex IV

National Coast Guard
Operation Room-
MRCC Mauritius
Fort William
Tel : +230 208 3935/2088317
Fax : +230 212 2757
E-mail: ncgops.mpf@govmu.org

LIST OF COMMUNICATION EQUIPMENTS AVAILABLE IN OPS ROOM

Sno	Equipment	OPS STATUS
01	GMDSS (including)	
	a) HF Set	OPS
	b) VHF Set	OPS
	c) INMARSAT C	OPS
	d) NAVTEX	OPS
02	Fix Telephone Lines	
	a) 208 3935	OPS
	b) 208 8317	OPS
	c) 5471 7989	OPS
04	International Telephone Line (212 2757)	OPS
05	Satellite Phone	OPS
06	Email : opsncghq@intnet.mu / ncgops.mpf@govmu.org	OPS
07	EP 820 19031211 / 19031212	OPS

2. Submitted please.

Annex V

LIST OF COASTAL RADAR STATIONS

Ser	Stations	Communication Equipment	Status of Station	Remarks
1.	Grand Gaube	VHF	Ops	
2.	Pointe Du Diable	VHF	Ops	
3.	Albion	VHF	Ops	
4.	Le Morne	VHF	Ops	
5.	Gris Gris	VHF	Non Ops	Non-operational due to defects in the Radar Display Processor, Uninterrupted Power Supply (UPS) and Air Conditioning System
6.	Rodrigues	VHF	Ops	
7.	Agalega	VHF	Non ops	Non-operational due to defect in the Transmission Unit
8.	St Brandon	VHF	Non ops	Non-operational due to defect on the Radar Motor and scanner unit.
Standalone AIS				
1.	Bar Le Duc	No Communication Equipment fitted. AIS Data is transmitted through network to NCG Ops Room (Control Centre)	Ops	
2.	Mt Jurancon		Ops	
3.	Mt Simonet		Ops	
4.	Signal Mt		Ops	
5.	Pte Du Diable		Ops	

Note - It is to be noted that the Radars of model Bridge Master in use at the CSRS Stations are nine years old and are no longer under production by the Original Equipment Manufacturer (OEM). Bharat Electronics Limited (BEL) has proposed an up-gradation/augmentation of CSRS.

ANNEX VI

COURT HEARINGS

Capt Manu, NCG Commandant

During the hearing of 19 January 2021, he stated the following under solemn affirmation

When he arrived at Ops Room at 21:00, PC Ujoodha had informed him that “at 19:10 he felt that the ship was much closer than this thing, on that pretext he called Pointe du Diable CSRS”,

He thinks PC Ujoodha called on VHF channel 18 used by NCG for internal communications and it never reached and was never recorded at Pointe du Diable,

The VHF calls to the ship made by Pointe du Diable CSRS as from 18:15 were followed by calls from NCG Mahebourg prior to grounding which occurred at 19:25 and finally by NCG Blue Bay after grounding,

Pointe du Diable CSRS identified the ship’s data on the AIS displayed on their radar. This is how they came to know the ship’s name and were able to make the VHF call,

NCG did not track MV M/V Wakashio in the EEZ as there are too many vessels plying there. They were able to retrace back the ship’s path afterwards on the SeaVision AIS,

NCG could not dispatch one of their vessels from Port Louis as it takes about four (4) hours to prepare same for sailing. The gyrocompass has to be re-set and the vessel is not manned 24/7 by a complete crew,

NCG was also unable to dispatch the Dornier aircraft on site as the flight crew had already gone home after their daily patrol. Re-mobilisation would have taken about two and a half hours.

PC Sujeebun, Radar Operator at CSRS Pointe du Diable

During the hearing of 19 May 2021 he stated the following under solemn affirmation

He started his training at NCG in 2009 and subsequently followed a marine electrician course from 2014 to 2016 in India,

He was on sentry duty at Quarantine Centre, Solana Beach Hotel from 08:00 till 12:00 on the day of the incident. After a break at NCG Deux Freres Post, he

arrived at CSRS Pointe du Diable at 14:52 to take over as radar operator. He confirmed that PC Jugarnath arrived at the station at 18:45,

He spotted M/V Wakashio at 11,5 nm from land on the radar monitor at 18:15 and was able to identify same by the following data displayed on the radar screen by the terrestrial AIS located at Pointe du Diable.

MMSI number of the ship / Position : Longitude & Latitude / Call sign/Time / Heading / Speed / Navigation Status,

He therefore knew the ship's name and call sign and started to call the ship on VHF channel 16. The ship did not respond at all to his calls. The following entry was recorded seven (7) times in the VHF Logbook, namely at 18:15 / 18:32 / 18:48 / 19:06 / 19:10 / 19:25 / 19:30

"Cargo Vessel M/V Wakashio this is Mauritius Coast Guard calling you on Channel 16. How do you read me?"

He had already made a few calls between 18:15 and 19:10 when PC Ujoodha called him on VHF channel 18 to instruct the Master to alter course. He informed PC Ujoodha that "he had established communication with the cargo vessel but nothing has been heard". This VHF call, which has been recorded in the Ops Room VHF Logbook, was not recorded in the VHF Logbook of Pointe du Diable,

He phoned PC Ujoodha about two minutes after the VHF call to query about the ship's name and call sign which he knew already. He said that he did not hear him clearly,

He informed PC Ujoodha on the fixed telephone line of the station between 19:25 and 19:30 that the ship was not moving and appeared to be stopped. Latter told him "to continue to monitor the vessel and that they will do the necessary action",

He heard NCG Mahebourg calling the ship on VHF after 19:30.

During hearing of 27 July 2021, he stated that:

"PC Ujoodha called on VHF at 1910 to confirm the name, type and call sign of the ship as they were also monitoring. He did not tell him that he was monitoring the ship (page 121of of transcript of proceedings),

He does not remember the time he phoned Ops Room after the VHF call to confirm the ship's name and call sign. He said it could be 45 mins to one hour after the VHF call,

When reminded that he had said during the site visit of the Court at Pointe du Diable that he phoned PC Ujoodha two to three mins after the VHF call, he said that he could not remember about the time this call was made (page 129 of transcript of proceedings),

Concerning the call to PC Ujoodah between 1925 and 1930 confirming that the latter was taking over which he had stated during the previous hearing, he said that he did not remember having made this call,

He made the call to Ops Room after 20:00 to confirm the name and call sign of the ship,

PS Boodhoo who was in charge of the East area on that day phoned at 9:15 to ask for a situation report. He informed him about the ship which was then about 7 nm from land,

It was only after 20:30 that he plotted the course of the ship and found that it was at 2,2 nm from Pointe D'Esny at 19:15.

PC Ujoodha, Control Centre (Ops Room) Operator

During the hearing of 19 May 2021 he stated the following under solemn affirmation

He was trained at NCG and Police Training Schools during six months in 2012 and was initially posted at NCG HQ. He followed in 2018 a six months' radar training course in India and was subsequently posted at Ops Room as Control Centre Operator (page 2 of transcript of proceedings),

His duties include monitoring randomly the Sea Vision (approximately every hour) as well as channelling communications from /to Police Information Office (PIO), reporting rounds, monitoring incoming vessels in the harbour, etc. (page 10 of transcript of proceedings)

He had spotted MV M/V Wakashio at 11,5 nm from the coast on innocent passage at about 18:05 on the Sea Vision monitor (page 18 of transcript of proceedings),

He did not track the ship until 19:10 when he found that she was sailing at 6,0 nm from the coast. He informed the OOD (PI Nundlall) and requested PC Sujeebun on VHF channel 18 to call the ship and instruct the Master to alter course and stay clear of the coast (page 23 of transcript of proceedings). An entry was made in the Ops Room VHF logbook by Cpl Abacousna (page 60 of transcript of proceedings),

PC Sujeebun did not tell him that he had been trying to contact the ship since 18:15 (page 38 & 42 of transcript of proceedings),

PC Sujeebun phoned him back after about two minutes to query about the name and call sign of the ship to be called (page 32 & 106 of transcript of proceedings). He also told him that he has been in communication with the ship at 18:15,

He did not monitor the ship after 19:10 as he was busy with rounds for submission to the OOD who had to brief the Commandant at 20:00 (page 116 of transcript of proceedings),

He agreed that he should have monitored continuously (page 118 of transcript of proceedings),

It was only at 20:05 that he checked the Sea Vision and found the ship "at anchor" at 1,5 nm off Pointe D'Esny (page 125 of transcript of proceedings). The following entry was made in the Ops Room Diary Book:

"20:03 : PC Ujoodha reports having sighted MV M/V Wakashio, call sign 3EKF7 actually 1,5 nm off Pointe D'Esny."

He phoned PC Emambux of NCG Mahebourg at 20:03 and told him to contact the ship (page 112 of transcript of proceedings),

it was only after PC Sujeebun phoned to inform him that he is not getting contact with the ship that he informed NCG Mahebourg to contact the ship (page 115 of transcript of proceedings),

PC Gopaulin of Blue Bay NCG phoned him at 20:24 to confirm that they managed to contact the ship on VHF channel 16 and that the latter was aground (page 110 of transcript of proceedings),

During hearing of 27 July 2021 he stated that

He no longer remembered around what time PC Sujeebun phoned him after the VHF call of 19:10 (pages 9, 46, 49 & 57 of transcript of proceedings),

He informed PI Nundlall and Cpl Abacousna when he sighted the ship at 18:10 (page 14 of transcript of proceedings),

He agreed that he called NCG Mahebourg at 20:12 instead of 20:02 as stated during the previous hearing (page 23) and that it was PC Emambux who picked up the phone. He told him to contact the ship on VHF and was not informed about the call from the anonymous lady (pages 26 & 43 of transcript of proceedings),

He was interviewed by Cdr Sarin only when the latter arrived at Ops Room. Capt Manu was querying Cpl Abacousna (page 70 of transcript of proceedings),

Telephone calls are recorded in the Diary Book,

PI Nundlall called Capt Manu at 20:24 to inform him about the grounding,

He had the mobile number of PC Jugarnath on his phone. He had lost the number of PC Sujeebun when his phone got crashed (page 109 of transcript of proceedings).

PC Jugarnath, Radar Operator at CSRS Pointe du Diable

During hearing of 25 May 2021 he stated that

He arrived at Deux Freres NCG at 0900 and carried out two (2) afloat patrols till 12:00. He did another patrol from 15:00 to 17:30 and then he went home to pick up dinner for PC Sujeebun and himself (page 5 of transcript of proceedings),

He heard the VHF call from PC Ujoodha giving instructions to PC Sujeebun to monitor the ship at 19:10 (page 10 of transcript of proceedings),

He confirmed the subsequent telephone call from PC Sujeebun to PC Ujoodha concerning the ship's name and call sign, (Comment by the COI –Such calls have never been received by MT)

The Closest Point of Approach (CPA) from Pointe du Diable was 6,5 nm and the heading was 233 degrees (page 30 of transcript of proceedings),

PC Sujeebun phoned Ops Room after 19:30 to ask for instructions and PC Ujoodha gave instructions to continue monitoring (page 32 of transcript of proceedings),

PS Boodhoo who was in charge of East on that day arrived at 22:00 (page 35 of …….). He has made an entry in the Diary Book to confirm that he had sighted the ship on the reefs at Pointe D'Esny and copied the AIS data displayed on the radar as follows :

Target 33

MMSI 372711000

Call Sign 3EKF7

Name M/V Wakashio

Destination BR TUB

Type Cargo

Range 6,6 nm

Lat 20° 26.57'S Long 057° 44.57'E

After 19:30 PC Sujeebun phoned Ops Room several times "giving the setup of what that vessel is on 6 nm" (page 48 of of transcript of proceedings),

PC Ujoodha phoned PC Sujeebun at 19:35 telling him that the ship was aground (page 89 of transcript of proceedings).

During hearing of 27 July 2021 PC Jugarnath stated that

He left NCG Deux Freres at 1730 and went home to pick up his dinner. He inadvertently swapped his mobile phone with his wife's phone which is of same make and model. He arrived at Pte du Diable at 1845,

He could no longer recall the time PC Sujeebun phoned Ops Room after 19:30 (page 186 of transcript of proceedings),

PC Sujeebun phoned PC Ujoodha at 20:20 to confirm again the name and the call sign of the ship (page 194 transcript of proceedings),

He heard the VHF communication between NCG Blue Bay and the Master of the M/V Wakashio who confirmed that his ship was aground (page 194 of transcript of proceedings),

When he was informed that this communication took place at 20:08, he could not explain why Sujeebun wanted to confirm the ship's name at 20:20 as they already knew that the ship had run aground (page 194 of transcript of proceedings),

Upon further questioning, he replied that the VHF communication was intermittent and not clear (page 198), (Comment by COI – Communication of VHF to OPS room was not possible due to terrestrial relay not being not fully operational)

It was his wife who phoned Pointe du Diable at 19:15 on his mobile phone to tell him about the swapping of cellphones. PC Sujeebun picked Up the phone and passed it over to him. That conversation lasted 1 min and 18 secs (page 219 of transcript of proceedings).

His wife phoned again twenty five mins later to confirm if he had taken her cellphone and if he had reached safely Pointe du Diable (page 220 of transcript of proceedings).

<u>CPL Abacousna, In Charge (Ops Room)</u>

During hearing of 25 November 2021 he stated that

He was in charge of duty watch at Ops Room from 09:00 till 12:30 on 25 July 2020 with PC Ujoodha as Control Centre Operator and PI Nundlall as OOD. They resumed the four hour watch at 16:00 (page 6 of transcript of proceedings),

The OOD went down to the messroom around 17:30 and came back around 18:00 (page 9 of transcript of proceedings),

He heard the VHF call which PC Ujoodha made at 19:10 instructing PC Sujeebun of CSRS Pointe du Diable to call the ship and tell them to stay clear of the coast (page 11 of transcript of proceedings),

PC Ujoodha then informed him and the OOD that he had found the ship at 6 nm from the coast on the Sea Vision monitor (page 13),

He recorded the call in the VHF Logbook (page 11 of transcript of proceedings),

The OOD instructed PC Ujoodha to monitor the ship. Latter sat before the monitor but was not there all the time (page 14 of transcript of proceedings),

There was no telephone call after the VHF call from 1910 to 1915 (page 15 of transcript of proceedings),

Around 20:00 PC Ujoodha reported that the ship was 1,5 nm off Pointe D'Esny. The OOD was reporting rounds to Capt Manu at that time and he did not inform him about this incident as he wanted to gather all information before briefing him (page 16 of transcript of proceedings),

The OOD reacted by querying "What was Pointe du Diable doing?" (page 17 of transcript of proceedings),

The OOD told him to call NCG Mahebourg to enquire about the presence of the ship (page 18 of transcript of proceedings),

They did not know if the ship which was at 1,5 nm from land was aground or not (page 21 of transcript of proceedings),

He called Mauritius Radio Service (20:05 to 20:06) and requested them to contact the ship on VHF Channel 16 (page 22 of transcript of proceedings),

Ops Room phoned NCG Blue Bay (20:06 to 20:07) to request them to call the ship on VHF Channnel 16. He cannot recall who made this call,

He picked up the call from Mauritius Radio(MRS) at 20:09. MRS had heard NCG Blue Bay establishing communication with the ship (page 25 of transcript of proceedings),

Ops Room phone Deux Freres at 20:07. He did not recall who made this call but he remembered PI Nundlall wanted to know who is working at Pointe du Diable (page 26 of transcript of proceedings),

He heard PI Nundlall talking on the phone to PS Boodhoo who was in charge of East area on that day but he did not remember at what time this took place (page 26 of transcript of proceedings),

He could not explain why the OOD did not phone Pointe du Diable CSRS directly (page 27 of transcript of proceedings),

PC Ujoodha phoned PC Jugarnath on his mobile at 20:08. He did not know why he was using his mobile phone instead of the fixed line. He could not recall the conversation (page 28 of transcript of proceedings),

He phoned PI Mungroo at 20:12 to talk about a medical report. When he was informed that PI Mungroo had stated in Court that he was first informed about that the ship running aground by Cpl Abacousna and subsequently at 20:25 by Capt Manu, he said that he was confusing two events (page 31 of transcript of proceedings),

They did not know who were on duty at Pointe du Diable CSRS as such information was not circulated in the past (page 35 of transcript of proceedings),

The terrestrial AIS network had been out of order for more than six (6) months at the time of the incident.

<u>PI Nundlall, Officer of the Day (OOD), Ops Room</u>

During hearing of 11 January 2022 he stated that

He is in charge of the Planning Cell at NCG HQ and also worked as OOD during weekends once or twice per month. As OOD, he was in charge of the administration of the duty watch which lasted twenty four (24) hours and reported directly to Capt Manu (page 9 of transcript of proceedings),

He started preparing the rounds report for the Commandant at 19:00 (page 9),

PC Ujoodha informed him that he had sighted MV M/V Wakashio at 6 nm closing mainland in the region of Mahebourg and that he had requested the radar operator at Pointe du Diable to inform the ship to alter course and keep clear of the coast (page 35 of transcript of proceedings),

According to his experience, six (6) nm is a safe distance,

He did not know why PC Ujoodha chose to contact Pointe du Diable CSRS instead of NCG Mahabourg or Blue Bay Posts (page 62 of transcript of proceedings),

When he was reporting rounds to Capt Manu over the phone from 20:00 to 20:05 PC Ujoodha told him at around 20:03 that the ship was actually at 1,5 nm off Pointe D'Esny. He did not inform Capt Manu at that time as he preferred to gather all information (page 63 of transcript of proceedings),

When he hanged up the phone, he told Cpl Abacousna and PC Ujoodha to contact Pointe du Diable CSRS and both NCG Mahebourg & Blue Bay Posts to find out what had happened and establish communication with the ship (page 67 of transcript of proceedings),

He agreed that there were shortcomings in watchkeeping at both Ops Room and Pointe du Diable CSRS (page 69 of transcript of proceedings),

He had probably spoken to Deux Freres NCG over the phone at 20:07 and asked them to see what was happening over there (page 74 of transcript of proceedings),

He did not query PC Ujoodha to see if the instructions given on VHF at 19:10 had been followed and he also did not get any feedback (page 77 of transcript of proceedings),

The dimensions of Ops Room are about 6 m x 3 m (page 78) and he stated that he may not pick up VHF conversation if he is on the phone unless he lends his ears (page 82 of transcript of proceedings),

PC Ujoodha did not inform him at 18:00 that he had spotted the ship at 11,5 nm from the coast (page 84 of transcript of proceedings),

He did not pick up the VHF conversation of 19:10. PC Ujoodha told him that he had sighted the ship at 6,5 nm from the coast and had already informed Pointe du Diable CSRS to contact the ship (page 87 of transcript of proceedings),

Anybody in Ops Room can hear the telephone ringing (page 89 of transcript of proceedings),

He did not hear any telephone conversation some two minutes after the VHF call of 19:10. He was shocked and surprised when he learned in Court that there was no such call on the MT itemized list (pages 90 & 91 of transcript of proceedings),

The telephone calls to Blue Bay NCG at 20:06 and Mahebourg NCG at 20:12 were not made by him. He was not aware if Blue Bay NCG had informed Ops Room about the anonymous call of 20:01 concerning the lights on the reefs (page 102 of transcript of proceedings),

He did not pick up the telephone call of Mauritius Radio at 20:09. He was not aware that Mauritius Radio had informed them that VHF communication with the ship had been established by Blue Bay NCG at 20:08 page 103 of transcript of proceedings),

He received confirmation of the grounding when PC Gopaulin of Blue Bay NCG phoned at 20:24,

He could not recall if either Cpl Abacousna or PC Ujoodha had succeeded in contacting Pointe du Diable CSRS (page 104 of transcript of proceedings),

He gave instructions after 20:00 to call Pointe du Diable CSRS (page 108 of transcript of proceedings),

He was informed by the Court that there must have been an attempt to call Pointe du Diable CSRS but nobody was there. Soon after the call he made to Deux Freres NCG at 20:07, somebody from Ops Room had phoned PC Jugarnath on his mobile phone at 20:08. This Officer phoned again the latter on his mobile phone at 20:16. He replied that this was beyond his imagination (page 110 of transcript of proceedings),

Capt Manu arrived first followed by Ct Cdr sarin ten (10) mins later. They checked the Sea Vision monitor and appeared to be angry. The CP arrived at 22:00 followed by ASP Jowarun. They left after ten to 15 mins (page 115 of transcript of proceedings),

He would not know if the the radar Officers at the Pointe du Diable CSRS were at the station at the time of the incident (page 135 of transcript of proceedings),

He remembered he talked to PS Boodhoo and told him to see what was happening at Pointe du Diable (page 136 of transcript of proceedings),

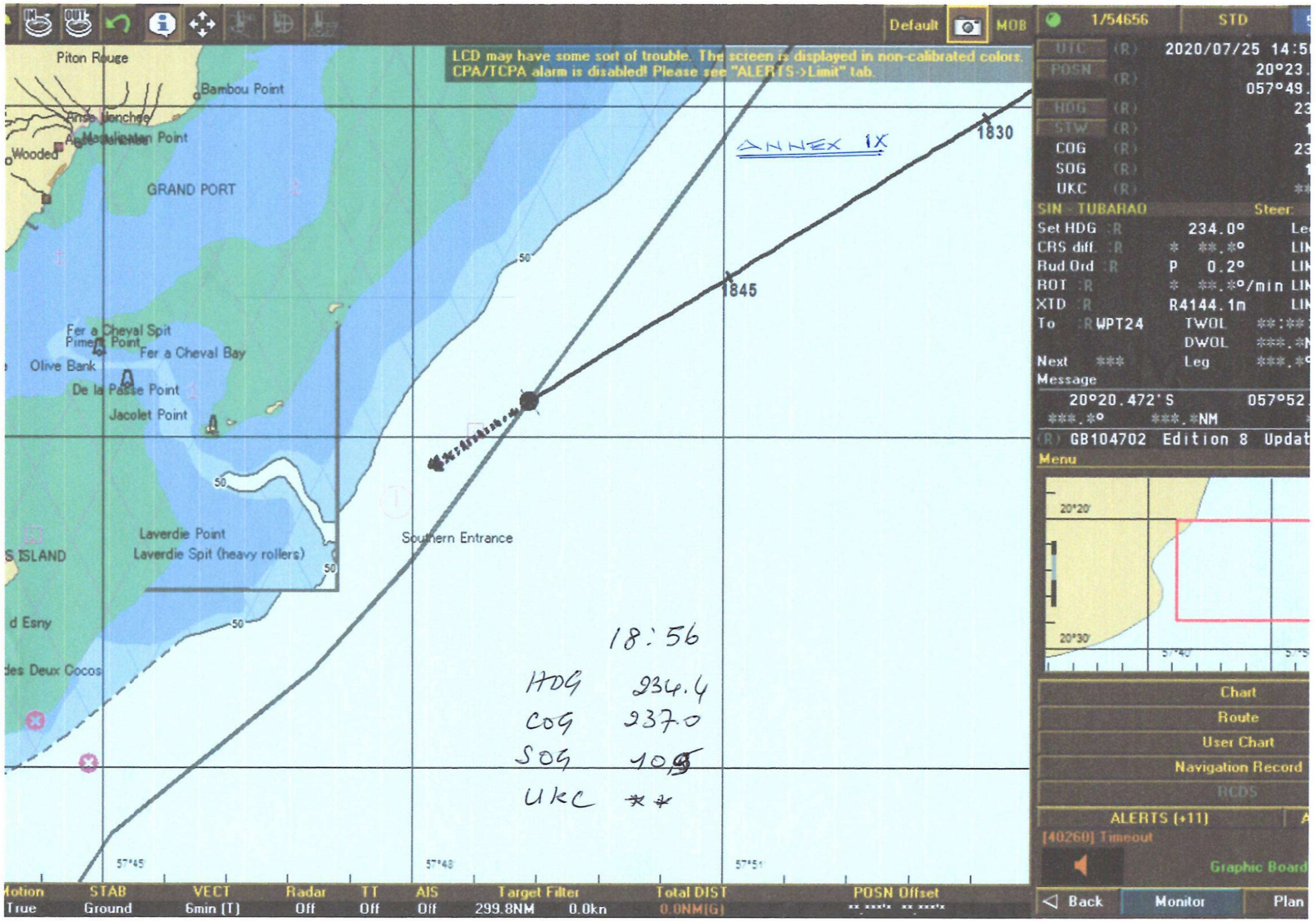
He is no longer working at Ops Room. NCG is now keeping a track of all Officers who are on duty (page 139 of transcript of proceedings)

ANNEX VII

No.

Date

Date	LT	UTC	LATITUDE	LONGITUDE	TC	GC	MC	SPD	LOG	OOW
25 Jul 20	1200	0808	19 48.5 S	059 05.4 E	241	238	267	11.4	245	
	1300	0900	19-53.0 S	058-54.8E	241	238	267	11.5	11	
	1400	1000	19-58.8 S	058-48.8E	241	241	271	11.7	22	
	1500	1100	20-03.6 S	058-32.6E	241	241	271	11.2	33	
	1600	1200	20-08.3 S	058-21.1E	241	241	271	11.6	44	
	1700	1300	20° 12.9' S	058° 10.1' E	241	241	271	11.4	55	
	1800	1400	20° 18.0' S	057° 58.7' E	241	234	264	11.4	66	
	1900	1500	20° 23.9' S	057° 48.6' E	241	234	264	11.0	77	
	1925	1525	26 26.6' S	057° 44.6' E	Vessel aground					


Default
MOB
LCD may have some sort of trouble. The screen is displayed in non-calibrated colors.
CPA/TCPA alarm is disabled! Please see "ALERTS->Limit" tab.
Piton Rouge
Bambou Point
Wooded
GRAND PORT
ANNEX IX
1830
1845
Fer a Cheval Spit
Fer a Cheval Bay
Olive Bank
De la Passe Point
Jacolet Point
Laverdie Point
Laverdie Spit (heavy rollers)
Southern Entrance
18:56
HDG 234.4
COG 237.0
SOG 10.5
UKC **
1/54656
STD
2020/07/25 14:5
SIN - TUBARAO
Steer
Set HDG 234.0°
CRS diff. **.*°
Rud Ord P 0.2°
ROT **.*°/min
XTD R4144.1m
To WPT24
TWOL
DWOL
Next
Leg
Message
20°20.472'S
057°52
***.*°
***.*NM
GB104702 Edition 8 Updat
Menu
Chart
Route
User Chart
Navigation Record
RCDS
ALERTS (+11)
[40260] Timeout
Graphic Board
Back
Monitor
Plan
Motion True
STAB Ground
VECT 6min (T)
Radar Off
TT Off
AIS Off
Target Filter 299.8NM 0.0kn
Total DIST 0.0NM(G)
POSN Offset

ANNEX X

LINE 208 3935	Description	LINE 208 8317	Description	OTHER POSTS	Description
20:00:37 to 20:05:13	PI Nundlall, OOD Ops Room called Capt Manu (Rounds Report)			20:01:47 to 20:03:32	De La Haye informed NCG Mahebourg about light on reefs
				20:03:49 to 20:04:36	NCG Mahebourg sent mobile patrol & instructed NCG Blue Bay to send afloat patrol
20:05:48 to 20:06:31	Ops Room requested Mauritius Radio to call M/V Wakashio on VHF 16.	20:06:53 to 20:07:19	Ops Room requested Blue Bay NCG to call MV M/V Wakashio on VHF 16.		
20:07:46 to 20:07:18	Ops Room called NCG Deux Freres.				
20:08:50 to 20:09:32	Ops Room called PC Jugarnuth on his cellphone.	20:09:32 to 20:09:54	Mauritius Radio informed Ops Room NCG Blue Bay communicating with ship on VHF.		
				20:09:53 to 20:10:32	NCG Mahebourg called NCG Blue Bay
		20:11:11 to 20:12:00	Ops Room called NCG Blue Bay	20:10:41 to 20:11:52	De La Haye called NCG Mahebourg
20:12:34 to 20:13:45	Ops Room called Insp Mungroo	20:12:40 to 20:15:19	Ops Room called NCG Mahebourg		
20:15:31 to 20:15:41	Ops Room called NCG Mahebourg			20:15:18 to 20:15:50	Blue Bay Police Stn called NCG Blue Bay

20:16:07 to 20:17:42	PC Ujoodha called PC Jagurnath on his cellphone	20:16:24 to 20:16:52	Ops Room called NCG Mahebourg		
		20:18:53 to 20:19:01	Ops Room called PC Boodhowa of Ops Room on his cellphone	20:17:17 to 20:18:47	NCG Mahebourg called NCG Blue Bay
20:19:20 to 20:20:35	Ops Room called NCG Blue Bay	20:20:24 to 20:21:57	Pte du Diable CSRS called Ops Room (this is the 1st outgoing call from PdD on that evening).		
20:22:06 to 20:23:06	Ops Room called NCG Blue Bay	20:22:32 to 20:24:05	Ops Room called Insp Mungroo	20:22:19 to 20:24:06	ASP Luthmoodoo called NCG Mahebourg (he had been informed about the incident by Cpl Claude)
		20:24:46 to 20:25:27	Ops Room informed Capt Manu about the grounding on his cell phone	20:24:37 to 20:26:14	NCG Mahebourg called NCG Blue Bay
				20:26:56 to 20:30:14	NCG Mahebourg informed CI Purmanund about the incident.
		20:28:38 to 20:29:34	A Donat (DoS) called Ops Room	20:27:23 to 20:28:08	Blue Bay Police Stn called NCG Blue Bay
		20:29:58 to 20:29:32	Ops Room called NCG Blue Bay		
		20:30:38 to 20:30:59	ASP Luthmoodoo called Ops Room		

MV Wakashio

ANNEX XI

EMTEL Feel Free

DH 1

Date : 25 Jul 2020@ 14 00 to
26 Jul 2020@ 04 00

DATE_TIME	A_NUMBER	B_NUMBER	CALL_TYPE	DURATION	IMEI	LOCATION
25-JUL-20 14:06:34	57469025	8685	A SENDS TO B	0	356395085765750	MER ROUGE
25-JUL-20 14:06:40	57469025	8777	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 14:06:48	59382078	57226524	B CALLS A	96	356273076029080	CAMP PECHEUR R
25-JUL-20 14:13:51	59382078	58652777	A CALLS B	41	356273076029080	CAMP PECHEUR R
25-JUL-20 14:26:01	59382078	58652777	A CALLS B	21	356273076029080	CAMP PECHEUR R
25-JUL-20 14:36:00	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	CAMP PECHEUR R
25-JUL-20 14:41:05	57469025	8685	A SENDS TO B	0	356395085765750	MER ROUGE
25-JUL-20 14:41:12	57469025	8777	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 14:53:10	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	CAMP PECHEUR R
25-JUL-20 14:55:18	57469025	2083935	B CALLS A	30	356395085765750	MER ROUGE
25-JUL-20 15:18:03	59382078	58652777	A CALLS B	131	356273076029080	CAMP PECHEUR R
25-JUL-20 15:24:36	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	CAMP PECHEUR R
25-JUL-20 15:42:32	57469025	5175697A4D6173746572	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 16:03:37	57469025	8685	A SENDS TO B	0	356395085765750	MER ROUGE
25-JUL-20 16:03:42	57469025	8777	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 16:06:00	59382078	6347249	B CALLS A	100	356273076029080	CAMP PECHEUR R
25-JUL-20 16:26:12	57469025	8685	A SENDS TO B	0	356395085765750	MER ROUGE
25-JUL-20 16:26:17	57469025	8777	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 16:28:26	57469025	58136661	B CALLS A	35	356395085765750	MER ROUGE
25-JUL-20 16:34:09	59382078	57226524	A CALLS B	25	356273076029080	CAMP PECHEUR R
25-JUL-20 16:36:16	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	CAMP PECHEUR R
25-JUL-20 16:40:48	57469025	8685	A SENDS TO B	0	356395085765750	MER ROUGE
25-JUL-20 16:40:54	57469025	8777	B SENDS TO A	0	356395085765750	MER ROUGE
25-JUL-20 16:41:39	57469025	8685	A SENDS TO B	0	356395085765750	LA TOUR KOENIG B
25-JUL-20 16:41:44	57469025	8777	B SENDS TO A	0	356395085765750	LA TOUR KOENIG B
25-JUL-20 16:41:51	59382078	58652777	A CALLS B	41	356273076029080	CAMP PECHEUR R
25-JUL-20 16:47:52	59382078	58652777	A SENDS TO B	0	356273076029080	CAMP PECHEUR R
25-JUL-20 16:49:13	59382078	58652777	A SENDS TO B	0	356273076029080	CAMP PECHEUR R
25-JUL-20 17:08:25	59382078	5175697A4D6173746572	B SENDS TO A	0	356273076029080	CAMP PECHEUR R
25-JUL-20 17:25:11	59382078	6347249	A CALLS B	89	356273076029080	ERNEST FLORENT
25-JUL-20 17:28:03	59382078	54521248	A CALLS B	30	356273076029080	ERNEST FLORENT
25-JUL-20 17:41:48	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	ERNEST FLORENT
25-JUL-20 17:54:07	59382078	54555246524553554C54	B SENDS TO A	0	356273076029080	ERNEST FLORENT
25-JUL-20 18:31:34	59382078	59048944	B CALLS A	72	356273076029080	ERNEST FLORENT
25-JUL-20 18:33:20	59382078	57418784	A CALLS B	8	356273076029080	ERNEST FLORENT
25-JUL-20 18:34:09	59382078	4176270	B CALLS A	27	356273076029080	ERNEST FLORENT
25-JUL-20 18:51:52	59382078	57496755	A CALLS B	10	356273076029080	ERNEST FLORENT
25-JUL-20 19:12:29	59382078	6347249	B CALLS A	38	356273076029080	ERNEST FLORENT
25-JUL-20 19:16:07	59382078	6347249	A CALLS B	78	356273076029080	ERNEST FLORENT
25-JUL-20 19:25:31	59382078	4176270	B CALLS A	19	356273076029080	ERNEST FLORENT
25-JUL-20 19:27:47	59382078	58652777	B CALLS A	10	356273076029080	ERNEST FLORENT
25-JUL-20 19:41:37	59382078	6347249	A CALLS B	6	356273076029080	ERNEST FLORENT
25-JUL-20 20:08:50	59382078	2083935	B CALLS A	43	356273076029080	POINTE DU DIABLE
25-JUL-20 20:16:07	59382078	2083935	B CALLS A	96	356273076029080	POINTE DU DIABLE
25-JUL-20 20:57:54	59382078	54796077	B SENDS TO A	0	356273076029080	POINTE DU DIABLE
25-JUL-20 21:22:40	59382078	4802703	B CALLS A	27	356273076029080	POINTE BAMBOUS
25-JUL-20 21:23:45	59382078	4802703	B CALLS A	165	356273076029080	POINTE DU DIABLE
25-JUL-20 21:29:38	59382078	57226524	B CALLS A	37	356273076029080	POINTE DU DIABLE
25-JUL-20 21:38:47	59382078	4176270	B CALLS A	141	356273076029080	POINTE DU DIABLE
25-JUL-20 23:27:10	57469025	58004912	B SENDS TO A	0	356395085765750	BELL VILLAGE
26-JUL-20 00:47:02	54846919	454D54454C	B SENDS TO A	0	353080104648430	L ESCALIER
26-JUL-20 02:31:51	59382078	4176270	A CALLS B	11	356273076029080	BEAU VALLON
26-JUL-20 02:33:21	59382078	4176270	B CALLS A	45	356273076029080	POINTE DU DIABLE
26-JUL-20 02:40:17	59382078	4176270	B CALLS A	105	356273076029080	POINTE DU DIABLE

Date Printed: 09-Feb-22

1 of 1

6.0 CAUSE , SCALE AND EXTENT OF DAMAGE TO MARINE AND COASTAL ENVIRONMENT

A number of witnesses have expressed their wish to be heard on the above. They have all been heard. We propose to highlight the relevant parts of their depositions and of the evidence which we consider the most authoritative and reliable, and shall indicate which of their suggestions and recommendations we are prepared to take on board, over and above recommendations of our own which we might consider advisable to make in the light thereof and transmit to the Minister.

The following salient facts emerge from the evidence of:

6.1. Mr. Kauppaymuthoo.

Mr. Kauppaymuthoo is a registered professional Environmental Engineer and is registered as a consultant with the Ministry of Environment. He holds a second Master's degree in Oceanography from Canada and has been working in the field for the past 27 years in Mauritius, both for the Government, for the private sector, for N.G.Os and for fishermen's association as an independent consultant.

He did not form part of any committee or any subcommittee directly dealing with the spill and was not involved in any ministerial work related to the M/V Wakashio.

Mr. Kauppaymuthoo explained that when we talk of environmental damage caused by M/V Wakashio, the first thing that comes to mind is the impacts on the environment linked to the oil spill. But there is another damage, which was downplayed in the press; the mechanical damage caused by the ship once it was grounded, which caused a mechanical erosion of the reef, resulting in the production of a plume of coral powder which has affected the lagoon due to the currents prevailing in the area.

It took nearly two weeks from the date the M/V Wakashio went aground for the Government to declare an environmental emergency. Had this emergency order been declared well before, the Authorities in Mauritius would have been empowered to carry out more forceful action to prevent the oil spill and the Government would have then stepped into the shoes of the vessel owner and taken control of the situation, thus sidestepping the salvage master or the owner who otherwise might have stood in the way.

The oil spill happened in an area very rich in biodiversity which includes environmentally sensitive areas (ESA) and the marine park of Blue Bay, which needs to be protected, and which was declared marine protected area by virtue

of Section 7(3) and 73 of the Fisheries and Marine Resources Act 1998. The site was further declared a Ramsar site under the Ramsar Convention and declared a wetland of international importance by the Government of Mauritius and by the Ramsar Committee on 31 January 2008. The mapping of the Environmentally Sensitive Areas (ESA) in Mauritius was carried out and it was found that the area affected by the spill covered an extent of around 4,005.27 hectares of such ESA, consisting of 1,673.93 hectares of sea grass, 2,004.14 hectares of corals, 168.22 hectares of intertidal mudflats where there are crabs beneath the mangroves, 85.96 hectares of sand beach and dunes and 73,004 hectares of Coastal marshlands.

The rotation of the ship from its perpendicular position to the reef on 25 July 2020 to the position parallel to the reef, has caused mechanical abrasion of about 600 mts X 50 mts of the reef and the formation of a plume like a suspended cloud consisting of fine particles of coral which do not settle easily and because of the current from the south, entered the lagoon instead of exiting it. Subsequently, the vessel drifted over a distance of about 700 meters, causing further irreversible damage to the corals. This plume has travelled in the lagoon along small inlets on areas of corals and sea grass as shown by satellite images. But corals need very specific water parameters to thrive, and they have been affected. The deadly path of the plume of over 4.5 kilometers from M/V Wakashio has chalked the Marine environment all along its path. The fine particles have blocked sunlight, which the coral badly need, thus stressing them and causing them to bleach. Eventually, if nothing is done, the coral will die.

There are a lot of marine organisms at the bottom of the sea, which, like us, live and breathe. The clam (tec-tec) for instance have protruding tubes through which they feed, breathe and expel waste and the plume (coral powder) has clogged those tubes, thus asphyxiating and killing them as well as those marine organisms. The same situation happened during the dredging of the harbour some time ago, resulting in the death of a number of worms, clams and other benthic organisms.

This is a big environmental damage caused by M/V Wakashio. In monetary terms, one square kilometer of damaged reef, as confirmed by the World Bank, is worth around $ 25 million in terms of nature based services provided free of charge to our country, especially in a park where you have a high level of biodiversity. Since the estimated affected area is of an extent of 96 square kilometers, the damages caused to the marine biodiversity are estimated at $2.5 billions. The estimation based on satellite images based on GIS interpretation of the area impacted by the mechanical abrasion of the reef is 205 Hectares, which is equal to 2.05 square kilometers. Hence the monetary value of the damage caused by the mechanical abrasion is

(25 million x 2.05) $ 50 millions, which should be added to the assessment of the damages caused to the marine biodiversity.

The inhabitants of Blue Bay and Pointe d'Esny had pointed out that they saw some sheens on the surface of the water on 28 July 2020 while in some areas, they found traces of oil and complained of oil odour before the spill. These signs should have been sufficient earlier alarms to prompt the authority to declare a National Emergency as, according to Mr. Kauppaymuthoo; the oil spill had already started. But the authority strictly adhered to the guideline sticking to a discharge of 10 tons of oil before triggering the National Oil Spill Contingency Plan.

Oil is a concentration of very toxic elements like heavy metal, arsenic, mercury, cadmium and PAH (Poly Aromatic Hydrocarbon). They are permanent organic pollutants and they are invisible but they have a long-term impact. Once the visual traces of oil on mangroves and the sea have been removed, it is as if the situation has been solved for most people**. But the worse is to come because of the bio-accumulation of these permanent organic pollutants in the different marine organism and in our bodies, and they create impact in the long term, may be 5, 10 or 20 years with such disease as cancer, neurological disorders, Alzheimer.**

But unless there is a strict Health surveillance, we will not be able to link it to the M/V Wakashio Oil Spill. Half of the oil that got out of the ship has evaporated in the air but it is still present, though not visible, and when the South East Trade Winds pushed these contaminated air (with the odour) around, and people breathed them, they started feeling dizzy or suffered from headache as had been reported by the press. So, there should be a health surveillance and a support to the population in the area from Shandrani Hotel to Pointe aux Feuilles to ensure that we can trace the people when they become sick. We must carry out epidemiological statistics with the M/V Wakashio grounding as the baseline and if we see a sudden surge in these diseases, we can directly link them to M/V Wakashio otherwise no direct link would be possible.

When part of the oil that floats on the water gets into immersion by action of waves, winds and turbulence in water, they get mixed in the water columns. That is why there has been contamination of the marine organism by the toxic elements in the oil as per analysis carried out by the Quanti Lab on samples taken on 7 August 2020. Fish contained an average of 5.3 milligrams of arsenic per Kg. Squid contained 6.8 milligrams per kg of arsenic where the norm is 5 milligrams. Squid contained 1.3 milligrams per kg of cadmium whereas the norm is 1 milligram. In terms of oil, the real

tangible oil content of fish is 7.6 milligrams per kg and for squid the oil content was 222.7 milligrams per kg.

Not only the water, but the benthic elements also have been contaminated by oil. The oil has gone down to the bottom and when living organism take toxic elements, we have what is called a bioaccumulation. The organism is still living, but the toxic element is there. For example, we bio accumulate fat or mercury or even other heavy metals in our body. Though it is not toxic from the start, yet when we continue eating those contaminants, a level of toxicity is reached when the body cannot fight it any more. Such a situation causes diseases, and death may eventually ensue depending on the level of toxicity. It is like a slow poisoning.

The M/V Wakashio has used low sulphur oil. However, there is no conclusive evidence to support the suggestion that low sulphur oil is 10 times more toxic than normal heavy oil. In fact, the studies carried out in Norway on samples of marine diesel oil, marine gas oil and low Sulphur fuel oil have confirmed that the sample of marine diesel oil has a very high level of PAH when compared to that of low sulphur fuel oil. However, despite the lower level of PAHS, the pollution of the lagoon and mudflats by these aromatic compounds is still very persistent, concrete and real, and this is something that will persist over many years to come. According to analyses of the spilled and new oil samples, carried out by independent researchers[76], a total of about 13 tons of aromatic compounds (PAH) are estimated to have been lost from the 1000 tons of fuel oil spilled, some of which would have entered the water column.

There has been contamination by toxic elements and this toxicity has not been cleaned up as at January 2021. The visual aspect of the pollution has been cleared and there is no foul odour of heavy oil, but the contamination of the sediments and the benthic organisms in the intertidal mudflats areas are there and this can be proved by deep analysis of the sediments by the FSL, the laboratory of Agro Industry, the Ministry of Blue Economy or even by international laboratories. The intertidal mudflats are those muddy areas, not sandy, with small holes where a lot of red crabs breed and which are uncovered in low tide and covered by water with the high tide and that is where plovers and migratory birds come to eat the benthic organism, the small crabs, shells and clams.

In any event, there has been the contamination of the whole food chain in the sea starting with the phytoplankton, which are eaten by the zooplankton, which are in turn eaten by small fish, which are eaten by migratory birds and bigger fishes. We then suddenly find that these fishes that we eat are contaminated by heavy metal, PAH (Poly Aromatic

[76] "M/V Wakashio grounding incident in Mauritius 2020: the world first major spillage of very low sulphur fuel oil" by Alan G. Scarlett, Robert K. Nelson, Marthe Monique Gagnon, Alex I; Holman, Christopher M Reddy, Paul A Sutton and Kliti Grice

Hydrocarbon) we consider, other elements too, like Monocyclic Aromatic Hydrocarbon (MAH). The problem is that it is very expensive to carry out PAH analysis on fishes because no less than 100 fishes have to be analyzed and not just 5 or 10.

In Texas, in south of U.S.A, 10-15 years following the contamination of the deep-water horizon, we are still seeing to day the impact and the contamination of shellfish and of fish by oil.

The National Oil Spill Contingency Plan is an old document and it makes no difference between the different types of oil. **We understand that an IMO consultant has been appointed by Government to review it and the different fuels have to be addressed.**

We have to learn from our past errors. Had we taken into consideration the sequence of events of MV Benita, we would not have been in the present situation to-day. Had we taken the matter with more caution using the **Precautionary Principle**, which is embedded in the **Rio Declaration**, we would have activated the environmental emergency sooner despite the vessel having only 3,800 tons of oil and thus control the situation earlier. **We recommend in this respect, in order to prevent other damages in the future, the implementation of the Rio Declaration so as to permit the timely activation of the Precautionary Principle.**

Different ministries are represented at the coordinating committees, like the Shipping Department, the Ministry of Environment and the Ministry of Blue Economy, each one with certain prerogatives. When there is no consensus amongst them, no decision is taken. But who takes the decision to overrule the opinion of the other? The coordination between the National Disaster Risk Reduction Management Centre (NDRRMC) and the National Emergency Operation Command (NEOC) should be more fluid. There is an urgent need for a review of our legal framework so that such events do not occur. **We accordingly recommend such urgent review of the relevant legal framework.**

In these types of disasters, the collaboration of the population, external scientists, independent scientists and NGOs should be enlisted. The mobilization of the population at times may be imperceptibly counter-productive. Boots worn by some people destroyed the intertidal mudflats and some volunteers, while trying to scrape off the oil, have scraped off the top level of the mudflat, which is living, thus creating more havoc to the environment. Some people have used human hair in the water to stop the oil. All these human efforts need coordination and **we recommend that a good legal framework should be put into place so that this coordination is enhanced. In future if such a disaster happens, we should adopt the Precautionary Principle.**

When pollutants have been absorbed by the skin, organism or even mud, they are trapped and there is little chance that strong currents or rainwater will be able to flush them out. The volume of water that is flushed from mountains is too small to have a real impact on depolluting the toxic substance.

The contamination will remain where it is trapped for decades and the level of toxicity of a person will depend on exposure to it. Fishermen walking in the mangroves to collect mussels or oysters are more at risk that the person who goes to Blue Bay during the weekend for swimming during fifteen minutes.

We endorse his recommendation that fishing in the area should be forbidden for at least one year to get a clear image of the level of contamination and the level to which the contaminants have reached the food chain. We further recommend that that the same should be extended over a much longer period, based on the monitoring and analysis of PAH, MAH, etc., including carcinogenic and mutagenic elements. Even if Covid restrictions have been lifted, we should maintain some level of restriction to access the sea in the area until we get a detailed scientific study of the region.

With regards to the death of dolphins, some analysis has been carried out and traces of oil have been found on some of them. Mr. Kauppaymuthoo's suggestion is that the contaminant must have entered their body through their skin, that they must have inhaled those toxic vapour, and that the dolphins in fact have been impacted by the oil spill and their main cause of death is the M/V Wakashio oil spill, is in our view speculative, given the contrary findings from numerous other authoritative bodies.

Mr. Kauppaymuthoo recommended that not only the oil spill contingency plan needs to be updated, but the list of equipment too should be reviewed. There is a dire need for regular exercises to be carried out. When the tsunami struck in 2004, we had regular exercises each year in the north, the south, the east and the west, but now it has been forgotten. But the risk of an oil spill especially because the route is very busy and sometimes busier than before because of less air traffic, we should be aware of the risk that we are facing and we should always be prepared and have the necessary personnel trained, the necessary equipments available and we may call our neighbours if we have a regional oil spill contingency plan. This oil spill is the worst environmental disaster that has struck Mauritius since its independence but it can be worse when we look at oil vessels transporting 400,000 to 500,000 tons of oil. If this happens with large carriers, we would be totally drowned and not only the East, but the whole of Mauritius would be affected. We must learn from our past mistakes. We made an error for Benita, maybe we made another error when we did not react properly for M/V Wakashio, but let us now be fully prepared for the next one.

Fortunately, dispersant was not used by the Ministry as some people wanted to. Dispersant is like a soap which just dissolves the oil and reduces it in small particles, which then sink to the bottom. British Petroleum Company used Dispersant when Deep Water Horizon spilled oil in the Gulf of Mexico. This is just

hiding the true problem. Dispersion of low Sulphur fuel in the water is really worrisome for the environment and the food chain.

The booms, whatever be the size of their skirt, should have been used. The fact that M/V Wakashio was outside the reef, the personnel was not properly trained or they were afraid to go outside the reef to place the booms, are the plausible reasons why the booms were not placed around the ship, which could have prevented the contamination.

RECOMMENDATIONS.

We fully endorse Mr. Kauppaymuthoo's recommendations and also make further recommendations as follows:

1. **A close monitoring of the areas from Pointe aux Feuilles to Shandrani Hotel, two kilometers inland, be maintained, with regular blood analysis and examination of parts of the body etc. just to see what is the level of contamination;**

2. **A thorough scientific study and the health environment of the 100 square kilometers of lagoons and analysis of 100 samples, not only of fish that we eat, but of all the food chain starting with the phytoplankton at regular reasonable intervals of 6 months to 1 year for at least 5 years.**

3. **That not only money should be disbursed by the owner of MV M/V Wakashio, Insurers, the P & I Club, in terms of compensation for physical damage to the reefs which were in existence since millions of years and the whole ecosystem, for loss of livelihood and loss of work, but also for these two abovementioned studies, including the long-term health effects of the spill.**

4. **The Adoption of all relevant Authorities and stakeholders, including Environment, shipping, MPA, NCG of the Precautionary Principle advocated by the Rio Declaration.**

5. **That the coordination between the NDRRMC and the NEOC to be made more fluid.**

6. **That a good legal framework should be put into place to regulate and coordinate the efforts of the population, external independent scientists, and NGOs.**

7. **The updating of the oil spill contingency plan.**

8. **That the list of available equipment should be reviewed.**

9. **That regular exercises be carried out consistently.**

10. **That we have a regional oil spill contingency plan, whereby we may be able to call upon our neighbours for assistance.**

11. **That we learn from our past mistakes and be ready to face the eventuality of casualty and oil spill affecting a vessel transporting 400,000 to 500,000 tons of oil. We should permanently and perpetually be in a state of preparedness for an oil spill, with**

    a) **the necessary personnel trained, and**

    b) **the necessary equipment available**.

12. **Legislation under the Maritime Zones Act to classify our waters in zones and even close certain areas of the sea as No Go Areas (NGAs).**

6.2 .RECOMMENDATIONS.

Mrs. Mrinalini Teelock, also known as Nalini Burns, who is an Economist and International Expert, deposed regarding the grounding, the breaching of the hull, the state of preparedness of the relevant Authorities and their response. She

stated that she is trained in Human, Civil, Economic and Cultural Rights, and has worked on sustainable development Laws.

We endorse her recommendations and we also make recommendations as highlighted in bold characters below.

She has called attention to the fact that as per the International Law of the Sea (ILS), which has been incorporated into our Municipal Law in the Maritime Zone Act, Innocent Passage applies only in relation to our Territorial waters. Pursuant to Articles 6 and 8 of the ILS, the baseline from which the 12 nautical miles are measured is the reef on the seaward side at low tide, not the coastline. On that basis the M/V Wakashio crashed in our internal waters, which was strictly prohibited, unlike Benita, which had an engine failure, drifted and ended up on the rocks at Le Bouchon in April 2016.

On the whole and in substance, Mrs. Teelock has covered many of the matters considered elsewhere in other witnesses' depositions regarding the cause(s) for the grounding.

6.2.1 She also called attention to the need for compliance with UNCLOS in relation to the re-routing ships away from Mauritian sensitive waters, and to declare a particular zone of our coastline as no-go areas, Special Protected Areas, or Particularly Sensitive Sea Area (PSSA); **there is urgent need for Government to prioritize environmental issues. And also to address institutional issues not only between Ministries but also between departments within Ministries.**

6.2.2 She also suggested **that local communities be roped-in to collaborate with local and national Authorities in relation to coastal zone ecological sustainable management, as they have the knowledge, motivation and interest.**

6.2.3 She has furthermore suggested **that the administrative cadres be encouraged to do more then as per their scheme of duties by giving them the opportunity, like the technical cadres, to attend conferences in desirable locations.**

6.2.4 She has deplored the Authorities' reluctance to accept the assistance of knowledgeable persons like herself, and Mr. Kauppaymoothoo, and many others.

According to her **from a Human Rights and Sustainable Development perspective, the threshold for compensation can go beyond the 18 million USD or 63 million USD ceilings, and even up to 10 billion USD. This will be for our lawyers to work on.**

6.2.5 We are informed that, post M/V Wakashio, since December 2020, Regulations have been passed in relation to Areas To Be Avoided (ATBA) around Mauritius, which are communicated to ships once they are in our waters. We recommend that the said Regulations be rigorously policed and monitored to ensure their effectiveness.

6.3. Mr. Sauvage , Representing the NGO Eco Sud

Eco Sud is an Association for the Protection of the environment, particularly the Marine Parc of Blue Bay, incorporated since more than 21 years and of which Mr Sebastien Sauvage is the Manager. The Association has participated in various campaigns for the protection of the environment, namely:

(a) The campaign in favour of Ile aux Deux Cocos in the midst of the Blue Bay Marine Parc in 1999
(b) The campaign against the construction of a highway passing through the valley of Ferney
(c) The Waste Way Energy project to burn waste for energy production, and
(d) The campaign against the City power project.

In 2010 Eco Sud initiated the Blue Lagoon Project for the monitoring of the lagoon and hence since then Eco Sud's main activity has been centered round the Blue Bay Marine Parc, the lagoon of Pointe d'Esny and Grand Port, and the reserve of Grand Port, monitoring coral, fishes and mangroves. The Association has trained more than 60 marine guides during the last four years. In collaboration with the Centre d'Albion, the Fisheries Dept and the Mauritius Oceanography Institute, Eco Sud participated in the planting of corals.

With regard to the M/V Wakashio grounding, Eco Sud is of the view that the Authorities had failed to take on board the citizen and the civil society. In spite of several letters sent to them, Eco Sud had had to mobilize the citizens and the media to finally catch the attention of the Authorities. It was felt that the Authorities were more interested to vindicate themselves than to take responsibility and act. Those in authority were hiding behind such factors as "the weather" and "experts". A lot of efforts had been made to minimize the truth instead of getting people to work together in finding solutions. A technical coordination Committee was set up in response to strong public pressure and mass mobilization in Mahebourg on the

6 August 2020. The Authorities took much time to coordinate among themselves and the crisis had been managed without transparency. Decisions that were taken were not in line with what had been discussed at the level of the National Crisis Committee. People in authority turned a deaf ear on the several requests of Eco Sud.

On the 29th July i.e 4 days after the grounding, Eco Sud wrote to the Ministry of Environment, the Representative of the Japan P & I Club and the Director of Shipping and proposed its service and assistance because of its long presence in the region. Attention was drawn to the imminence of an environmental disaster and it requested that the crisis be managed in all transparency. Assistance of experts was sought from Japan P & I Club. On the same day i.e. 29/7/20, on being tipped by the Coast Guard about a meeting at Blue Bay Coast Guard on the issue, Eco Sud made a request to the Ministry of Environment to participate but when its representative turned up at the meeting, they were refused entry.

Mr. Sauvage produced copies of the letters addressed to the Ministry of Environment, the Ministry of Blue Economy, and the director of Shipping (Marked Documents AB, AC & AD). In the absence of any response from the Authorities, Eco Sud invited them to a Citizen Meeting on 1 August 2020. Copies of letters were produced (Documents AE1, AE2, &AE3). The meeting did take place. The general impression that Eco Sud got at the end of the meeting was that the Authorities were waiting for reports of the experts as at that time the hull of the vessel had not yet breached. “Everything is under control” was the response of the Authorities.

From Pointe d’Esny many photos were taken of M/V M/V Wakashio, which were published in the press, and Eco Sud has even compiled a document in chronological order of its different publications on the social media. On the 5 August, the Ministry of Blue Economy published a communique with regards to three photos showing MV M/V Wakashio in a bad state. As per this Communique, the photos were allegedly manipulated and misleading and Mr Donat, the Director of Shipping, gave an explanation on Top FM Radio as to the reason why the vessel was tilting towards the back. These photos were taken by a member of Eco Sud and they showed the vessel was tilting towards the back.

On 6 August 2020 Eco Sud received more photos and some showing that the hull was breached and a beginning of the oil spill. On the same day members of Eco Sud were invited on radio to comment on the situation.

On 7 August 2020, Eco Sud by a stratagem managed to get invited at a meeting with the Ministry of Environment, Polyeco and The Mauritius Wild Life. The country manager of Polyeco at that meeting was computing the costs of every action that was contemplated and discussed and needed the prior approval of P & I Club. Eco Sud proposed at that meeting to set up a platform for the

volunteers, as there were many who wanted to help and requested that a window of communication be opened with them.

Eco Sud published a communique on 6 August 2020 informing the public that hydrocarbon, fuel and oil were bad for health and to refrain from bathing at sea.

In the space of three days, 3000 volunteers were registered. But Government did not want volunteers for clean-up of the shores and opted for professionals understandably because of the toxicity of the products. There was much misunderstanding on the issue and this misunderstanding could have been dispelled by Government by communicating with the volunteers and explaining to them that contact of hydrocarbon with the skin should be avoided because of its toxicity. Eco Sud posted posters along the coastal regions up to Grand River South East urging the public to protect themselves. Volunteers helped in distributing the flyers.

On 9 August 2020 the Technical Coordination Committee was set up by the Ministry of Finance in the presence of the Ministry of Environment, some experts and members of the Civil Society, Reef Conservationists, Mauritius Wild Life, Eco Sud, Business Mauritius and its main objective was to coordinate all the actions on the ground.

Volunteers had organized themselves at different levels: some were manufacturing artisanal booms, some were procuring cane leaves, others were sewing the booms, some booms were of no use and others were perfected. It was truly a people's factory, regrouping citizens of different walks like fishermen, skippers, craft owners. The latter participated in the placing of booms. Eco Sud worked with Coast Guards and helped in placing their booms.

On 14 August 2020, Eco Sud in a radio program on "Explique ou Cas" thanked the volunteers and pleaded for more coordination on the part of the Authorities. On the same day Eco Sud attended a meeting organized by UNDP, GEF and SEP and a report entitled "Civil Society Organization" was issued and is produced in Court (Marked Doc. AF).

On 16 August 2020 Eco Sud held a press conference, which was published on 17 August 2021. Eco Sud made a request for Crowd funding for support within the framework of the M/V Wakashio activities.

A request was made for more transparency in the decision-making process of the National Crisis Committee and Eco Sud pleaded for the setting up of a National Maritime Transport Commission, but when these requests were not addressed, Eco Sud withdrew from the National Crisis Committee on 25 August 2020.

On 26 August 2020, a letter was addressed to Dr. Goordyal, the Regional Health Director for medical and psychological assistance to help citizens who were ill

because of the scent of oil in the villages. Copy of the letter is filed and marked Doc. AG. But no reply was forthcoming.

Following a second meeting with the Ministry of Finance, Eco Sud reiterated the necessity of setting up The National Maritime Transport Commission and insisted that the provisional terms of reference be published in the press, inviting comments from members of the public.

On 10 September 2020, the Organisation published an account of the donations it had received from 120 countries consisting of 12,200 donors; 55% of the total donations did not exceed Rs 500/-

Eco Sud defined three areas of interventions:

(a) Protection

(b) cleaning up of mangroves

(c) setting up of a group of work on alternative livelihood.

In this connection, contacts were establisehd with SME, MITD, Ecole Hoteliere and FAREI. Eco Sud then started working on the rehabilitation of corals and mangroves. Food was distributed and Eco Sud supported some 75 families on a monthly basis.

On 19 September 2020, a summary of community meeting was published and which was produced in Court (AH).

Mr Sauvage also produced a Report on short term rehabilitation work carried out by Eco Sud dated 13 October 2020 (Doc. AJ) with regards to experts' advice on coral rehabilitation which was damaged not only by oil and the vessel but also by some of the artisanal booms.

On 12 January 2021 Eco Sud published a summary of findings on health issues encountered between 22 September 2020 to 3 December 2020 by some 277 patients examined, out of whom 45 had direct relation with the oil spill, 141 had nothing to do with it and 91 cases having hepatology symptoms with probable link with the oil spill and termed "difficult to say" in the findings. Document is filed and marked AK. The Ministry of Health responded to the above publication and showed interest to interact with our doctors, but when Eco Sud positively replied on 19 January 2021 for a follow up of the patients, no further communication was forthcoming from the Ministry.

A Newsletter was published in March 2021. In a nutshell it pointed out the inadequacy of the present oil spill plan and the exclusion of the civil society because of the blunders in managing the crisis by the Government, resulting in destruction of our environment.

The M/V Wakashio oil spill had had an impact on several types of Environmentally Sensitive Areas (ESA) namely corals, mangroves, seaweed, small islands, rivers and wetlands. The Integrated Monitoring Environmental Plan (IMEP) was finalized in October 2020, but too much time was taken in its implementation in June 2021. The impact on environment had different causes: the grounding, the oil spill, the cleanup mechanism and the impact of the booms on the corals.

Eco Sud has never understood the rationale behind the placing of booms infront of the marine parc because the current flows towards Riviere des Creoles and Vieux Grand Port and not Blue Bay. The experts advised that the booms near the marine parc be removed because in case the oil reached the parc, it would flow underneath the water and thus get entangled in the coral and this would be more difficult to remove than when the oil is floating. The booms at Blue Bay were more for a show as the oil from M/V Wakashio was going in the direction of Ile aux Aigrettes and the coast. When the booms placed in the form of basin (cuvette) drifted under the pressure of the strong current, the metal cable holding the booms cut everything in its passage causing enormous damages to the coral. It would have been easier and more efficient to place the booms in the direction along with the current.

People living in the coastal areas have had the feeling of being abandoned. Some boat owners had not received the allowance of Rs 10,200/ since December. A Social Assessment of Compounded Impact of Covid 19 and M/V Wakashio oil Spill by Dynamia Mauritius and some other collaborators is under preparation and it would be interesting for the Court to procure a copy thereof when it is ready and published.

When on 28 May 2021 MV Berjaya had a mechanical problem at some 20 nautical miles in our waters, the necessity for setting up the National Maritime Transport Commission was once again strongly felt.

Mr Sauvage produced the following documents:

(1) A press release of the police dated 29th May 2021 with regards to Berjaya which showed a definite positive change in the manner the matter was being handled(Doc. AM)
(2) A series of photos (Photos are marked AN1 to AN 29).

Upon a question by the Court, Mr Sauvage replied that some photos were taken by members of Eco Sud, while some others were received from people travelling to Rodrigues. There was no indication from whom some of these photos emanated and each photo has an explanatory text.

(3) The “Compilation Chronologique de communications publiées d’Eco Sud” (Doc AO)
(4) Notes prepared by Mr. Sauvage (Doc AP)

Eco Sud does not claim to have any expertise in oil spill or in any contingency plan in case of an oil spill. But the attention of the Authorities was drawn since 10 years to the necessity of setting up a restricted zone in the south where there are strong winds, and vessels pass near the coast. This is not the first ship wreck: Benita, a rice cargo near Poudre d'Or, another vessel in Saint Brandon not long ago, the accident involving a vessel at Pointe aux Sable and Berjaya most recently. In less than 4 years we have had no less than four accidents. The National Maritime Transport Commission is vital to address the issue and cargo travelling in the area should keep a safe distance from the coast.

To a question by the Court, Mr. Sauvage replied that Eco Sud was not much involved when Benita got grounded, but it wrote a letter to the Ministry of Environment and proposed to participate in the clean up, there was no mobilization like in the case of MV M/V Wakashio. He added that Benita must have damaged our coral and the reef and some oil spill must have ensued. Benita sunk on its way to India.

Replying to a question by the Court, Mr Sauvage stated that he did not recall having spoken to the SCR (Special Casualty's Representative), but he met with the Salvage Master after the oil spill at the National Crisis Committee.

When asked how the booms could have been placed to avert pollution of the mangroves and the ESA (environmentally sensitive areas) in view of the bad weather which prevailed for a few days, Mr Sauvage explained that it is evident from photos AN1, AN2 and AN3 that there was a strong current which flowed in the direction of Riviere des Creoles and therefore in the event of any oil spill, the oil would have been carried in that direction by the current. As at 29 July 2020, Eco Sud voiced out that the booms at the entry of the marine parc were unnecessary and that some 1.5 km of booms had to be placed in the direction and along with the current (as per photo AN6) that pushed towards the big "passe" of Ile de la Passe. After the red line in photo AN 6, a weak current pushed towards ile aux Deux Cocos. Eco Sud had proposed that the booms be placed nearer to M/V Wakashio and readiness to skim the oil. This proposition was made on social media, but at that time nobody wanted to listen to Eco Sud.

Mr Sauvage conceded that though booms were placed where they should not have been, but they were also placed where they should have been, though not in the required quantity, but the Government capacity increased when it received aids from friendly countries and gradually the number of booms were increased. By that time, the strategy was more towards following (accompagner) the flow of oil than to contain it because of the strong current.

Eco Sud has not understood why M/V Wakashio did not cast anchor when it wrecked and a small tug from Port Louis tried to hold it from behind instead of

trying to pull it backward as is clearly visible from Photo AN7. In the end the vessel did get

disentangled by itself and it then turned parallel to the reef. The vessel drifted on a distance twice its length and smashed the reef. It cannot be said how long it will take for the damaged coral reef to regenerate at 100%. The damage to the reef was then still ongoing with part of the wreck banging it under the pressure of the waves. The crane of Hong Bang 6 could not operate to remove the rest of the wreck due to the bad weather and the swells and it went elsewhere, with the result that the wreck was then still there.

Mr Sauvage holds the view that the Environmentally Sensitive Areas (ESA) had not been 100% cleaned in spite of the assertion of the Authorities. They must have removed a major part of the oil and they have stated that the cleanup operation was now over. It is to the knowledge of Mr Sauvage that region by region had been cleaned up to a considerable depth. Experts have advised that mother nature will do the rest as the oil and petrol will decompose but the mangroves breathe from their roots and when the roots are affected with oil, they are stressed and the question arises as to how they will adapt to the stress.

Mr. Sauvage did not venture to give a percentage of the Ecosystem that had been affected and he stated that Eco Sud is still waiting for the monitoring plan.

Upon a suggestion that there exists no landmark in the region to help passing vessels to navigate safety like a structure on land with light that flashes like a lighthouse to guide the vessel, Mr. Sauvage considers that the Airport itself is a good source of light.

Eco Sud is not equipped with any VHF and did not hear any communication with the vessel. Mr. Sauvage stated that more than one person had called the Coast Guard that evening and had reported that the M/V Wakashio looked like gigantic building with big lights at sea and this was something that was seen every day.

6.4. Oil spill and containment

Section 2 of the Environmental Protection Act 2002 (EPA 2002) provides for the principle of environmental stewardship, giving importance to the aspect of the precautionary principle.[77]
The Precautionary approach principle which although not regulated by statute in Mauritius unlike other countries[78] the New South Wales Land and Environment Court Tribunal upheld that the principle would apply when two underlying conditions exist, namely 1. A threat of serious or irreversible damage, and 2.

[77] The precautionary approach was first mentioned in the case of Mauritius C.T power Ltd v The Minister of environment and sustainable development brought in front of the Environment Appeal tribunal

[78] In the matter of Telstra Corporation Limited v Hornsby Shire Council(2006) NSWLSE 133

Scientific uncertainty as to the extent of possible damage were well present prior the approval of any project that has a bearing on environment. In a different way

this principle is also true locally through the imposed Environment Impact Assessment report.
Both above conditions that underpin the principle of precautionary approach existed in the case of M/V Wakashio, an unladen bulk carrier of 203,130 metric tons
navigating within close quarters of Mauritian waters with almost 4000 T of very low Sulphur fuel whose characteristics and behavior are still uncertain as these have not been fully studied scientifically, as very low Sulphur fuel is in use on all ships since very recently viz; 01 January 2020.

Based on the uncertainty of the fate of probable oil spill both the NCG and Ministry of environment failed to take prompt measures to prepare for the worst in the event that a major environmental damage could occur. This is evidenced by the NCG which did not appear to have done a proper follow-up in the tracking of M/V M/V Wakashio navigating so close as 2 nm from the coast and the Ministry of Environment not having taken appropriate steps given the lack of capacity locally to contain and mitigate the risks to sensitive areas in south-east region. No risk assessment has been conducted in the recent past years despite the fact that of the common knowledge of the high traffic along the south east coast of Mauritius and not having learnt from past incident involving the M/V Benita in 2016 which grounded at Le Bouchon spilling nearly 4,000 tons of fuel oil.

6.5. Damage caused by the grounding, drifting and oil spill to the marine and coastal environment and marine life.

6.5.1. CORAL REEFS

Several hundred meters of coral reefs were physically damaged in the path of the ship's course upon grounding on the outer reef which serves as a breakwater and is also a habitat for living organisms. More coral reef damage occurred after the grounding when the ship drifted over about 1,800 metres along the reefs towards the north.

A joint survey of the damaged coral reefs was carried out by Mauritius Oceanography Institute and Albion Fisheries Research Centre with the collaboration of NCG after the wreck removal in February 2022[79]. Their findings were as follows :

[79] Albion Fisheries Research Centre – Report on joint underwater survey in connection with sedimentation pf coral reefs due to the grounding of M/V Wakashio casualty at Pte D'Esny carried out on Sunday 27 February 2022

(a) Report on joint survey in connection with sedimentation of coral reefs due to grounding of MV M/V Wakashio casualty at Pte D'Esny carried out on Sunday 27 February 2022 (Annex I) :

- An area of approximately 3000 metres x 150 metres was found to be affected with sediments.
- The sediments consisted mainly of fine and coarse sand particles, coral rubble, broken pieces of calcareous rocks and small basaltic rocks.
- High sedimentation was recorded in the vicinity of the grounding site with sedimentation of approximately 1 metre thick whereat the coral reef structure was found to be completely submerged under the sediments.
- Sediment thickness decreases as we move further to grounding site where sediment thickness varied from a few millimetres in the light sedimentation zone to a few centimetres in the medium sedimentation zone (Annex I – Google Map).
- A few soft coral colonies have colonised part of the reef structure (Annex I – Photos).
- *Padina sp*. And turf algae have colonised part of reef structure of the light sedimentation zone.
- Few crown of thorns were also recorded in the surveyed area.
- The water column was clear.

(b) Report on joint underwater inspection of MV M/V Wakashio casualty site at Pte D'Esny carried out on Friday 25, Saturday 26 and Sunday 27 February 2022 (Annex II)

- An area of approximately 400 metres x 60 metres was surveyed.
- The water column was turbid and visibility was about 7 to 8 metres.
- The depth at which debris were recorded ranged between 8 to 12 metres.
- The seabed consisted mainly of basaltic and calcareous rocks and sand. The calcareous rocks were broken to smaller size.
- Debris of approximately 1 to 2 metres in size consisting mainly of steel bars were found to be scattered over the area.
- Some of the debris were loose while others were embedded in the seabed.
- As compared to the joint underwater survey conducted on 16 January 2022 in the company of Seaground, the debris were found to be scattered within two distinct areas probably because of high swells due to cyclones Batsirai and Emnati.

The size of the debris varied from 5,4 m x 0,9 m to 1,15 m x 0,3 m (Annex II – Table of Debris & Photos).

The physical damage sustained by the coral reefs has definitely reduced the coral cover (i.e the percentage of the reef surface that is covered by living corals). The destruction of this habitat must have had damaging effects on the pre-grounding marine life especially with regard to the fish eggs and larvae population.

The grounding and drifting of the ship has also caused water turbidity. This resulted from the fine particles of carbonates produced by the crushing and

grinding of the corals by the ship's hull as shown by the plume flowing towards the shoreline. The turbidity and resulting sedimentation prevented the tiny plant cells living within most types of coral polyps which were not physically damaged from receiving light required for photosynthesis. These cells provide the polyps with food which is essential for their survival and reproduction.

An "Integrated Environment Monitoring Plan" (IEMP) was set up by the local authority after the grounding and the oil spill clean-up to monitor environmental recovery. A programme for the restoration of the affected coral reefs has been put in place by Albion Fisheries Research Centre (AFRC) and NGOs. NGO EcoMode has proceeded this year with the construction of coral nurseries at Pointe Aux Feuilles with the financial assistance of UNDP GEF Small Grants Programme. This consists in extracting broken coral fragments from the wreck site, micro-fragmenting and nurturing for subsequent transplantation.

A similar programme has been implemented by NGO Eco-Sud in collaboration with AFRC.

However, Japanese Research Fellows J. Toyoshima, N. Nakamura, I. Fuji and Senior Research Fellow A. Watanabe have perused the first survey report of the Japan Disaster Relief team dispatched to Mauritius and stated in a paper published by The Ocean Policy Research Institute titled "Environmental Impact of Oil Spill Incidents on Coral Reefs and Mangrove Forests – Toward Environmental Restoration in Mauritius' that:

"In cases where the restoration of coral reefs and mangrove forests require coral transplantation and afforestation of mangrove trees, more cautious monitoring is necessary. Advance in technologies has increased the rate of success in coral transplantation. However, effectiveness of coral transplantation in restoring an entire coral reef is still limited."

The environmental experts are not in a position now to estimate the number of years required to achieve at least partial recovery of the coral reefs as the restoration project is subject to other external factors such as global warming.

As regards the annual mass spawning of coral in the impacted areas in October / November, the Court is not aware if the same has been monitored by the IEMP.

6.5.2. FOOD CHAIN CONTAMINATION

Heavy fuel oil contains toxic polluants which can contaminate living corals and other living organisms such as fish at early life stages (eggs and larvae). The latter are highly susceptible to polycyclic aromatic hydrocarbons (PAHs) contained in fuel oil. PAHs are a class of widespread environmental carcinogens.

The affected shoreline was declared off limits and fishing as well as recreational activities were banned. The latter was re-authorised in November 2020 but fishing is still banned at the grounding site.

According to Mr Kauppaymuthoo, Environmental Engineer and Oceanographer, the entire food chain in the impacted area has been contaminated as follows :

phytoplankton ⟶ zooplankton ⟶ small fish ⟶ big fish ⟶ humans

As we have pointed earlier, he has recommended a close health monitoring of the local population residing within two km from the shore from Pointe aux Feuilles to Shandrani Hotel.

6.5.3. PROTECTED SITES (Marine Protected Area & Ramsar)

The south east coast is home to a Marine Protected Area known as Blue Bay Marine Park which covers an area of 353 ha and has a diverse ecosystem including coral reefs, mangroves and massive coral colonies. The park is also a registered RAMSAR wetland site with mudflats and mangroves.

There are also registered Ramsar Wetland sites such as Pointe D'Esny covering an area of 22 ha of shallow water, mudflats with mangrove trees.

There is a nature reserve at Ile aux Aigrettes hosting rare and endemic birds and geckos which were immediately relocated ashore.

Protection booms were first deployed off Blue Bay to no avail as the oil spill was proceeding in a northerly direction away from the park, In fact, it did more harm than good as the booms were damaging the corals in the lagoon.

Under the effect of the South Easterly currents the oil spill passed between Ile aux Aigrettes and the shoreline and drifted up to Pointe du Diable. Mudflats and exposed mangrove roots along the shoreline were covered with oil. The clean-up

was carried out by Polyeco and Defloch Depollution under the supervision of international experts.

The assessment of shoreline clean-up endpoints was carried out from 19 to 25 January 2021 by the Centre de Documentation, de Recherche et d'Experimentations sur les pollutions accidentelles des eaux (CEDRE) who advised that, based on the field observations and findings, all the inspected sites were eligible for no further treatment status.

Their recommendation for "no further treatment" on fringe mangroves is supported by observations of various positive signs on trees (for example: open lenticels, propagules, growth of new adventitious roots and young plants). Those signs suggest that residual oil that may remain in those sensitive habitats (oil residues not recoverable without creating environmental damage, especially in sheltered/muddy areas) :

(1) Is no longer present under a form and /or in quantities that seems to inhibit (e.g by smothering effect) the ongoing natural recovery processes from initial oiling;
(2) Should be left to sites' potential for natural attenuation, both through physical processes (e,g. tidal cycles/flow) and biochemical processes (oil-degrading bacteria/micro-organisms, etc).

6.6 RECOMMENDATIONS

In view of all the above, We recommend having regard to Eco Sud's specialized knowledge and involvement in the various relevant fields, its long experience and consistent presence in the affected areas, that:

6.6.1. The Authorities pay more attention to the voice of Eco Sud;

6.6.2. Its repeated proposal for the setting up of a National Maritime Transport Commission be given serious consideration.

6.6.3. The Authorities seriously consider roping in Eco Sud in relevant committees and meetings in the event of any future similar potential or actual marine casualty.

6.6.4. A close health monitoring of the local population residing within two km from the shore from Pointe aux Feuilles to Shandrani Hotel.

6.7 CONSOLIDATED RECOMMENDATIONS RE. PROTECTION OF THE ENVIRONMENT

PLEASE SEE PARAGRAPH 8.9 BELOW

7. MANAGEMENT AND SUPERVISION OF SALVAGE

7.1 Salvage Contract

7.2 Narrative

7.3 Grounding damage and salient features

7.4 Findings

7.5 Analysis

7.6 Recommendations

ANNEXURES

Annex I : Lloyds Open Form 2020 (LOF 2020)

Annex II : Capacity plan

Annex III : Vessel Midship Section

Annex IV : Bathymetric Survey dated 29 July 2020

Annex V : Extracts from Condition Report dated 31 July 2020

Annex VI : Overview of soundings and freeboard

Annex VII : Daily Progress Report No 008 dated 02 August 2020

Annex VIII : Allowable Still Water Bending Moment and Shearing Force

Annex IX : Extracts from Salvage Plan dated 07 August 2020

Annex X : Extracts from Salvage Plan dated 29 July 2020

Annex XI : IMO Mandatory Ship Reporting Systems

Annex XII : RESOLUTION MSC 389(94) (Adopted on 21 November 2014).

AMENDMENTS TO THE EXISTING MANDATORY SHIP REPORTING SYSTEM "OFF CHENGSHAN JIAO PROMONTORY"

7.1 Salvage Contract

7.1.1 Both the IMO Salvage Convention of 1989 and the local Merchant Shipping Act (MSA) of 2007 recognise salvage contracts between Owners and Salvors (Article 6 & Section 147 respectively).

7.1.2 Remuneration of the salvors under the Salvage Convention is governed by the following articles :

- Article 13 of the Salvage Convention is based on the "No Cure – No Pay" principle and covers the remuneration of the Salvor in case the ship is salved.

- Article 14 of the Salvage Convention concerns remuneration to be made in case the ship is not salved and the salvor has shown that he has used his best endeavours to prevent damage to the environment.

7.1.3 The Lloyds Open Form 2020 salvage contract was signed by the Owners Nagashiki & Salvors Smit Salvage on 26 August 2020 (Annex 1 – LOF 2020). The duties of the salvor as listed in the signed contract are in line with the requirements of the IMO 1989 Convention and MSA 2007 (Articles 8 & Section 147 respectively), namely :

- Salvors agree to use their best endeavours to salve the ship,

- Salvors shall also use their best endeavours to prevent or minimize damage to the environment.

Section 147 of the Merchant Shipping Act 2007

- Salvors shall carry out the salvage operations with due Care

- Exercise due care to prevent or minimize danger to the environment in performing the above duty

7.1.4 LOF 2020 is based on No Cure – No Pay principle in line with Article 12 of the Salvage Convention. The salvors may opt to replace Article 14 by incorporating and invoking the Scopic Clause (Special Compensation Protection and Indemnity Club). In that case, they do not have to prove that they have used their best endeavours to prevent damage to the environment.
In fact the SCOPIC Clause excludes ART 14 whenever invoked and do not require salvors to demonstrate the existence of a pollution threat. Besides the remedy is available under the P& I cover.
Based on the above there arises a legitimate question as to the motive of invoking the SCOPIC clause at time of signature of the LOF 2020 as form the day following the grounding knowing that there was neither immediate available means to board the vessel nor were salvors able to provide acceptable towing assistance when attending the vessel on the 31 July 2020 as sea going tugs only arrived on site on 7th and 9th August 2020.

7.1.5 Remuneration under the SCOPIC clause is based on daily tariffs for tugs, equipment and personnel agreed by the International Salvage Union (ISU) and the International Group of both property insurers (Hull & Machinery) and liability insurers (Protection & Indemnity). The insurers will appoint a Special Casualty Representative (SCR) to attend the salvage operation on their behalf and ensure that the claims of the salvors are justified.

7.1.6 Remuneration of salvors is done under arbitration by the Council of Lloyd's in London in accordance with Lloyd's Salvage Arbitration Clauses. However, in case the ship is salvaged, the salvor will receive only the sum that is over and above the salvage award made against salved property under Article 13 of the Salvage Convention.

7.1.7 In the case of MV M/V Wakashio, the Scopic Clause was incorporated in the LOF 2020 contract signed on 26 July 2020 and it was invoked by Smit Salvage on the same day. The insurers had to provide a bank security of USD 3 million to Smit Salvage within two days.

7.2 Narrative

7.2.1 The Port Master, Captain B Barbeau, while deponing before the Court of Investigation stated that he was informed of the casualty by a resident of Pointe D'esny around 19.45. He first informed the Director of Shipping, the Director General of the Mauritius Ports Authority and later on informed the Commissioner of Police. On the other hand the Master has also informed his company of the grounding of the vessel at about the same time and by 20.10 local Authorities that have an immediate interest in the grounding of M/V M/V Wakashio have all been made aware of the grounding. Actually the National Oil Spill Contingency Plan (NOSCP)[80] and NEOC level II were activated on 25th of July 2020[81], which at that time was limited to monitoring only.

7.2.2 It took the salvors some time to arrive in Mauritius. They boarded the vessel on the 31st July i.e almost one week after the event. However at the time the salvors have submitted their assessment report carried out between 31st July – 02 August 2020 to the National committee on 2nd of August 2020 for information, the transverse bulkhead aft of cargo hold N° 9 has already experienced buckling with cracks starting to develop thus affecting the integrity of the said bulkhead.

[80] The National Oil Spill contingency plan dates back to February 2003 and has never been updated since despite casualties like MV Angel 1, a 34 942 dwt carrier which went aground on 08 August 2011 after engine failure and MV Benita which grounded on the outer reefs of Ilot Brocus on 17th August 2016

[81] Source Situation report N° 18 issued by the National Emergency Operational command – NEOC Level II on 3rd August 2020

During the same period the vessel has changed heading several times from 241° to as much as 45° on the 4th of August.

7.2.3 High level committee meetings followed on the day following the incident and the initial plan was to stabilise the vessel, remove the fuel and at a later stage re-float the vessel based on the outcome of the initial plan. Regrettably enough the ship was considered safe in terms of risks of pollution with the bow embedded into the reefs and by trying to get the stern to sit on the sea bed. What really occurred was totally the opposite and over the days that followed the incident, the stricken vessel had in fact moved more than 750 m in the opposite direction mainly because of the SE trade winds acting on a large windage area. The result being that the whole ship was lively and the stern pounding onto the seabed under the influence of incessant wave action.

7.2.4 What seemed surprising is the alignment of Authorites and even the casualty representative with decisions of salvors although it is normal that the latter should have dissenting opinions that are brought to the attention of the salvors. Instead we have seen the daily report of salvors exempt of any dissenting opinions or any expressed concerns.

One concern of great importance was the deterioration of the longitudinal strength of the vessel while everybody was waiting for tug assistance.

The decision to flood of N° 8 cargo hold as from 31/07/2020 in an attempt to ground the vessel exacerbated by the stern pounding on the sea bed led to the deterioration of the longitudinal strength of the vessel. The tank eventually became tidal on 3rd of August at which time the casualty representative with little experience of a casualty of that size admitted in court that he was aware that the vessel floated free and was moving forward under the action of the SE trade winds. Yet there was no opinion expressed by the casualty representative in the daily report.

The salvors failed to provide a proper service by not providing tug assistance when it was really needed.

7.2.5 On the other hand local Authorities were not proactive as it took several days before they actually boarded the vessel. In fact it was on the 6th of August that the Shipping department initiated the process for a preliminary enquiry under Section 10(1) of the Merchant Shipping Act 2007 and the first boarding of a representative of the Shipping Division, Police and a radio technician took place on the 9th of August.

https://www.fleetmon.com/maritime-news/2020/30533/major-oil-spill-mauritius-island

7.2.6 In the meantime during the first week of August, it was seen from reports that the vessel has moved 750 m from the initial grounding position which confirms that the vessel was at times floating although not completely but had adequate bollard pull been available during the time the vessel was swaying due to the combined effect of the SE trade winds and wave motion, the vessel could have been pulled out clear from the reefs or at the very least prevented from moving thereby ensuring her stability while waiting for the sea going tugs on the casualty site.

7.2.7 We have seen in the case of the bulk carrier M/V Benita that grounded on 17th June 2016 in the south of Mauritius that the ocean sea going tug Ionian Sea Fos pulling on a tow line attached to the bulk carrier to prevent excessive movement and provide constant tension[82] gave positive results.

7.2.8 The Stanford Hawk which was the first tug to arrive on site on 31st July was of not much use to assist the salvors in stabilising the grounded vessel as she is not provided with a towing winch. Even the 60 T bollard pull of harbour tug VB Cartier hired as from 31st July to assist salvors in salvaging the vessel was also of no worthy assistance as not having enough pulling capacity to pull the 299.95 metres vessel off the reefs.

[82] Cedre Sea & Shore Technical Newsletter 42-43

7.2.9 It is worth mentioning here that the aft part of the vessel is more slim that the rest of the bulk carrier offering less buoyant force. The low draft aft of the

vessel and flooding of the engine room meant that the vessel could, as a second option, have been manoeuvered so that the aft part sits undisturbed on the sea bed preventing an overhang of the aft part of the vessel which was getting heavier due to water ingress counterbalanced by a lesser buoyancy force resulting in a resultant downward force. Unfortunately the tugs to move the aft part of the vessel was not available and in that configuration with an overhang aft, the weakened aft section was bound to shear and shearing occurred at frame F 42 forward of the engine room at the change of section.

7.2.10 When the vessel was at the mercy of the waves and cracks were spreading through the strength deck and shear strake; salvors were helpless having to wait for the two powerful tugs with sufficient pulling power. We wish to underline here that the salvors being conscious that actions taken so far as from 31st July to 5th August to salve the vessel were not giving positive results. The unavailability of tugs Boka Expedition and Boka Summit as from the first week of the incident has been a contributory factor in the continued deterioration of the strength of the vessel. The salvors have miserably failed in their planning to have proper tug assistance on site when needed. Salvors were well aware that the tugs would not reach Mauritius early enough to assist with the salvage operations and as the condition on board M/V M/V Wakashio was getting unsafe, a decision was taken to evacuate the 10 remaining crew members on the 5th of August upon advise of the salvors. As the situation deteriorated further on the 6th of August, breakage of the vessel was imminent and the salvors requested the Authorities to air lift them from the vessel. It can be said without being mistaken that salvors had the knowledge of the fate of the vessel watching helplessly without the possibility to take concrete actions to salve the vessel and protect the environment in the absence of tugs assistance.

7.2.11 In our view the salvors had not respected their part of the contract to salve the stricken vessel since the very start of the operation. In fact the LOF form was signed on the 26th July but salvors were only available and attended on board on 31th of July losing precious time for a successful outcome[83]. Further down the line actions by salvors have not been up to the reputation pretended.

7.2.12 The casualty representative Mr Lars Tesmar stated that there was no salvage pumps on broad M/V M/V Wakashio as from day 1 and ballast pumps were used to transfer water from engine room and to fill hold N° 8. As the vessel's ballast pumps were under water as from midnight on 05 August 2020, only fire hoses were being used but at this height the effect was very minor.

[83] The Salvors agree to use their best endeavours to salve the property. Lloyds Open Form 2020

7.2.13 Efforts to fill hold N° 8 were not successful because there was no salvage equipment available. Salvage equipment was on AHT Boka Summit, which was still on her way to Port Louis. She only arrived on the 9th of August but could not get close due to swells.

7.2.14 Although 7500 mt of ballast water was pumped into hold N° 8 that was not sufficient to ground the vessel to stabilise her. Hold N° 8 finally became tidal on 03/08 at 12.30 hrs. reducing all hopes to ground vessel as expected.

7.2.15 The aft part of vessel started to sit on the sea bed on 07 August due to deformation of hull and on 08 August the forward part of vessel up to cargo hold N° 8 was free floating.

7.2.16 In addition to the cracks in the hull on starboard side of hold N° 8 which has weakened the hull envelope at that point other cracks started to appear on port side of Hold N° 8. The free movement of the Fwd part of the hull weakened further the ship structure in that region and cracks started to appear on deck between Hold N° 9 and the accommodations but also fwd of Hold N° 8.

7.2.17 At the beginning of the salvage operations the worst scenario envisaged by local Authorities was a tier 1 response i.e a spill of less than 10.0 T. Being given it was a known fact that a spill could occur it is of concern that it never occurred to both the Ministry of Environment and the Shipping Division during the numerous occasions that they met or exchanged their views that it was their duty to press upon the salvors to come up with a risk assessment to ensure that the assessment be regularly reviewed and updated as the situation unfolds.

7.2.18 Mauritius is Party to the Salvage convention since 17th December 2002 and has transposed the requirements of the Convention into the Mauritian legislation[84]. The objective of the Convention is to establish a set of uniform rules to govern maritime salvage operations. By signing or acceding to the Convention; Parties to the Convention are conscious that the salvage operations are meant to be efficient and timely as mentioned in the first paragraphs of the said Convention.[85] Bearing such a requirement in mind, it can be said that salvors have not taken expedient and timely actions to be on the casualty site soon after the LOF form has been signed[86].

7.2.19 It is also to be noted that according to Art 9 of the salvage Convention, a coastal State has certain rights when it comes to salvage[87]. That does not mean

[84] Part VI, sub Part III of the Merchant Shipping Act 2007

[85] Conscious of the major contributions which efficient and timely salvage operations can make to the safety of the vessel and other property in danger and the protection of the environment

[86] Contractors' basic obligations s specified on the LLoyds Standard Form of Salvage Agreement: The Contractors identified agree to use their best endeavours to salve the property.

[87] Nothing in the Convention shall affect the right of the coastal state concerned to take measures in accordance with generally recognised principles of International law;

that a coastal state can intervene in the operations of salvage but a State can give directions to salvors for a successful outcome. It is to be remembered here that the SCOPIC clause was invoked at the very beginning when the LOF form was signed[88] and it is clear that salvors and local Authorities were aware of the possibility and imminent risks of an oil pollution. The very fact of invoking the SCOPIC clause is testament that the operations would not be limited to the initial scope i.e stabilise, remove fuel and refloat.

7.2.20 As indicated above Art 9 provides the necessary means for a State to react before-hand and before a pollution occurs by giving directions to salvors. This is established course of action when a State feels that its coastline could be endangered by a threat of pollution. Mauritius could have acted promptly by giving specific directions to salvors and to co-salvors and the latter would have been obliged to comply. By all means salvors have to exercise a duty of care when carrying salvage operations[89] and if and when they would have been informed of the directions of the Coastal state salvors would not be able to plead ignorance of the duty of care expected by the state and would be obliged to more diligently exercise that duty of care envisaged by the Coastal State.

7.2.21 Unfortunately without proper technical salvage experience, Mauritius did not make use of this provision available to sufficiently protect its marine environment[90]. Mauritius had the leverage through the above provision to force salvors to take proactive decisions regarding quick availability of appropriate tugs which only reached Mauritius with pumping equipment on board after the casualty already became a wreck[91] as from the 5th of August. The situation became so dangerous for the remaining crew that the remaining 10 crewmembers that were still on board were air lifted on the same day and brought to shore.

7.2.22 Had the State taken the initiative to provide directions to salvors, the latter or other reticent local Authorities that have impeded actions for swift salvage operations would have been forced along with all and everyone involved to promptly start operations soon after the incident or as early as possible. It is not really understood why the Health Authorities imposed more than severe restrictions to board the vessel almost 2 weeks after the incident.

7.2.23 Booms have been deployed since 1st of August to protect the marine park and sensitive RAMSAR sites. The National Coast Guard with Polyeco in

[88] SCOPIC Clause invoked on 26 July 2020. See contractual mile stones of Salvors daily report
[89] Art 8 of the Salvage convention requires that salvors, as part of other duties have to carry salvage operations with due care to prevent damage to the environment
[90] Wakashio was the 1st incident where the crisis committee had to deal with a casualty of this kind. The crisis committee mostly deals with land based incidents as per Act of 1996
[91] Vessel showed signs of weakening and started to develop cracks as from 5th of August.

consultation with the Ministry of Environment have deployed additional booms as leakage started to occur on 6th of August. Although different types of booms were

deployed it was clear that the booms were not of suitable and appropriate type for the region as waves and winds prevailing in the SE region have drastically reduced the effect of the booms due to their low skirts. Instead deployment of ocean booms would have been more appropriate but none was readily available as the country, despite previous sad experiences like Angel 1 in 2011 or Benita in 2016, chose to limit itself to only a Tier I response. Had appropriate booms been available to contain the spill there would have been less damage to the environment and other interests in the region.

7.3.0 Grounding Damage and salient features.

7.3.1. The ship was on a ballast voyage to load iron ore at the port of Tubarao, Brasil. All the seawater ballast tanks (WB) were full prior to grounding, except WB 5 Starboard which was about half-full as shown in the sounding table below and Annex II – Capacity Plan.

7.3.2. Each ballast tank with the exception of the Forepeak Tank consists of a double bottom tank connected to an upper topside tank via ducting (Annex III – Vessel Midship Section).

7.3.3. All cargo holds were empty with the exception of designated ballast cargo hold No 6 which contained about 21,000 m3 of seawater.

7.3.4. Upon grounding, the bottom plating of all ballast tanks was breached and the water level in these tanks dropped from some 24 metres (18,5 m3 in the case of the Forepeak Tank) to about 3 to 10 metres until it reached the seawater level as per sounding table below. It would subsequently vary with the tide, i.e the level in these tanks was tidal.

Ballast Tank / Cargo Hold	Initial Sounding (m)	Initial Volume (m3)	Final Sounding (m)	Final Volume (m3)
Forepeak Tk	18,50	6,015	3,38	718
No 1 Port	24,77	2,634	4,85	1,318
No 1 Stbd	24,90	2,645	4,73	1,304

No 2 Port	24,31	6,397	6,11	3,460
No 2 Stbd	24,67	6,607	6,15	3,472
No 3 Port	23,90	6,393	7,77	3,821
No 3 Stbd	24,92	6,488	7.64	3,803
No 4 Port	24,00	6,506	8,89	3,863
No 4 Stbd	24,01	6,513	9,06	3,868
No 5 Port	20,11	3,884	10,78	3,344
No 5 Stbd	11,97	3,488	10,83	3,334
Hold No 6	Ullage/3,0	23,672	Ullage/6,2	21,334

7.3.5. The fuel overflow tank was also breached upon grounding and its suction valve had broken away causing ingress of oil and seawater in the engine room bilge. There was 2,3 m3 of oil in the overflow tank prior to grounding. This ingress of seawater was mitigated by pumping same to the port topside slop tank and the water level in the bilge was kept below the lowest platform.

7.3.6. On Monday 27 July, the cofferdam separating the main engine lubricating oil tank from the surrounding tanks was found to be breached upon sounding. There was no ingress of water in the engine room bilge as the self-closing sounding cock was closed and the piping connected to the cofferdam was intact.

7.3.7. On Wednesday 29 July, the waste oil tank which contained 2,4 m3 prior grounding was also found to be breached upon sounding. There was no ingress in the engine room bilge as the self-closing sounding cock was closed and the piping connected to that tank was intact.

7.3.8. The Chief Engineer has stated during the hearing of 16 January 2021 that the aft section was pounding on the reefs with the incoming swell. One portside tie bolt of the main engine was broken and the engine had shifted off its foundation plate by about 2 cm.

7.3.9. He has further stated that he had noted leakages on the main seawater transverse pipe flanges and a crack on the forward engine room bulkhead before he was airlifted on Sunday 02 August. The crew remaining onboard had sent him later a picture of the crack which had extended to the shell plating and started to leak (transcript pages 64 & 66).

7.3.10. A bathymetric survey around the vessel was carried out on 29 July 2020. Water depths of about nine (9) metres were recorded on the aft and starboard sides of the vessel (Annex IV – Bathymetric Survey dated 29 July 2020).

7.3.11. The Smit Salvage team led by the Salvage Master van Gelder and the SCR Captain Lars Tesmar of Brand Marine Consultants had to fly from Paris to Reunion as there was a total Covid lockdown imposed by the Mauritian Government. From there they boarded the platform supply vessel PSV Stanford Hawke which was sailing north off Madagascar and had been diverted and hired by Salvage as support vessel for the Salvage team who were not authorized to come ashore. The vessel arrived at Port Louis on 30 August 2020 for Covid testing and proceeded to the grounding site on the following day.

7.3.12. The Salvage team and the SCR arrived by helicopter onboard MV M/V Wakashio on Friday 31st at around 1000 am. The Salvage Master informed the Naval Architect by phone that the vessel was turning and moving forward. The latter produced a Condition Report based on the tank status report submitted by the ship's Master (Annex V – Extracts from Condition Report dated 31/07/2020) and instructed the Salvage Master to stabilize the vessel by ballasting cargo holds Nos 2, 4 & 8. Considering that the ground reaction was located aft, they decided to first fill up Cargo Hold No 8 to increase same in anticipation of adverse weather and sea conditions whilst awaiting the arrival of tugs Boka Summit and Boka Expedition.

7.3.13. Filling up of Cargo Hold No 8 was started at around 14:00 on 31 July 2020. However, they had to use the ship's fire pump instead of the ballast pump of higher pumping rate as the ballast remote operated valves were inoperable due to ingress of water in the pipe tunnel and also because the pump kept tripping due to a low insulation resistance. Fire hoses were connected from fire hydrants on the main deck to the hatch of the cargo hold. Due to the low pumping rate, only 4,500 m3 had been pumped in the hold by 24:00 on 31 July 2020.The vessel changed heading from 353 to 039 degrees and started to shift on 31 July 2020.

7.3.14. On Saturday 01 August, Salvage proceeded with the sounding of the seabed on both port and starboard sides from main deck level as well as the measurement of freeboard (height of shell plating from main deck to seawater level) to determine the grounding points. It was found that the stern section was aground as from Cargo Hold No 6 (Annex VI – Overview of soundings and freeboard).

7.3.15. Following ballasting of Cargo Hold No 8, the following change was noted in the ship's forward and aft drafts.

Draft / Date	Fwd Draft (m)	Aft Draft (m)
30/07/2020	5,6	9,0
31/07/2020	4,53	11,1

31/07/2020 (after shifting)	4,2	10,2
01/08/2020	4,1	10,4
02/08/2020	2,0 (approx.)	10,2
05/08/2020	3,3	18,0

7.3.16. On Sunday 02 August 2020, buckling of the bulkhead and webbing frames above the tank top between the Engine Room and Cargo Hold No 9 was observed at 04:00 thereon affecting the longitudinal strength of the hull (Annex VII – Daily Progress Report No 008 dated 02/08/2020). The level of water in the ER bilge had increased following leakage from seawater piping flanged connections.

7.3.17. On Sunday 02 August, both the Salvage Master and the SCR, who were not authorized to come ashore, communicated around 14:00 with the local Authorities by telephone. The Salvage Master confirmed that the risks of an oil spill were minimal. He has stated during the hearing of 27 January 2022 that he could not predict that the oil spill was imminent after the buckling of the engine room forward bulkhead (transcript page 41). It was only around 4th/5th August that he realized that there was a real risk of pollution (transcript page 13).

7.3.18. The starboard anchor was dropped at 08:00 on Sunday 02 August as the vessel was moving forward. More buckling of the bulkhead was noted at 18:00 and the crew advised to avoid going in the engine room.

7.3.19. On Monday 03 August, Cargo Hold No 8 was breached and tidal. Cargo Hold No 9 started to leak. Cargo Holds Nos 1 to 5 were dry and Cargo Hold No 6 was intact with some 20,000 m3 of ballast water. Draft forward was estimated at 2,0 m. At 16:20 the vessel moved 70 metres forward. The structural integrity started to deteriorate due to movement of the vessel on incoming seas and swells. The Engine Room aft bulkhead started to leak and buckle.

7.3.20. On Tuesday 04 August, the water level in Cargo Holds Nos 5 and 7 had risen to 0,3 m and 1,5 m respectively. At 20:00 the auxiliary engine cooling water pump was submerged and the generator was stopped. Power was then supplied by the emergency generator located on the upper deck. Co-Salvors Nippon Salvage arrived on board.

7.3.21. On Wednesday 05 August the Engine Room was tidal. The vessel was settling with the stern in the seabed. The emergency generator tripped at 05:40 and there was no power onboard. The crew was evacuated by helicopter. Water levels in Cargo Holds Nos 7, 8 and 9 were rising. Salvage started to transfer equipment from PSV Stanford Hawk and to prepare for transferring bunkers. Salvage advised Polyeco to start adjusting oil booms.

7.3.22. On Thursday 06 August Salvage tug AHT Expedition arrived on site at 06:00. At 07:50, heavy fuel oil (HFO) started to leak from a crack on the starboard shell plating of Fuel Oil Tank (FOT) No 1 Starboard. Oil was flowing out. All Salvors left the ship at 08:55. Smit Naval Architect Mr Van Loon arrived on site.

7.3.23. On Friday 07 August Salvage opened FOT No 1 manhole cover for pumping oil to 1 m3 IBC tanks to be airlifted ashore by helicopter. An attempt to connect towing line from Expedition failed. Salvage Plan was submitted to the local Authorities.

7.3.24. On Saturday 08 August, Salvage opened FOT No 1 S at 07:45.Bunker barge Elise berthed on portside at 09:38 and 138 m3 HFO was transferred from FOT No 1 P to the barge. 392 m3 were transferred from FOT No 1 S to the barge as from 12:52.Elise cast off at 20:15 with 531 m3. Tug Expedition towing line was connected to the port anchor chain. Tug Summit arrived at Port Louis at 19:15 and arrived on site on 09 August at 07.00 LT.

7.3.25. On Sunday 09 August, a team comprising of Police Officers, Capt Noel (Principal Nautical Surveyor), Capt Coopen (Deputy Director of Shipping) and Mr A. Jacobsen (VDR technician) went onboard the vessel. VDR and computers were taken away by the Police. Tug Summit proceeded to Ananas bank for transfer of HFO from Elise. Salvage transferred 525 m3 from FOT No 2 S to FOT No 1P. 27 x IBC with 0,45 m3 each were removed by helicopter.The portside shell and deck plating were buckling and cracking forward of Cargo Hold No 8. The side shell plating of this cargo hold was eventually breached in way of Portside Frame 76 and Stbd side Frame 82/83. The bulkhead between Cargo Holds Nos 3 & 4 was buckling. FOT No 1S was breached and HFO bunker was flowing out. A crack had developed from stbd side to the centreline between the accommodation and Cargo Hold No 9. Senior Salvage Master Chris Bos arrived in Mauritius and stayed at the hotel for isolation as per Covid regulations.

7.3.26. On Monday 9 August, salvage tug Summit arrived on site. Cargo holds Nos 7, 8 and 9, and the engine room were breached and tidal. The starboard main deck forward of the accommodation and the starboard side shell plating in way of FOT 1 S were buckling. There was water up to a depth of 0,5 m in Cargo Hold No 5 but there was no sign of breaches. 553 m3 of LSFO were transferred to barge Elise.

7.3.27. On Monday 10 August, Salvage Master Chris Bos arrived on site.1103 m3 LSFO were transferred to bunker barge Tresta and 460 m3 to Elise. 75 x IBC (38 m3) were removed. Total of 2,699 m3 to date.

7.3.28. On Wednesday 12 August, 445 m3 of fuel were transferred to bunker barge Gulf Star and 72 x IBC (48 m3) were removed. Total to date : 3,192 m3. It was observed that oil booms were damaging coral reefs.

7.3.29. On Thursday 13 August Salvage team was skimming the oil on the water surface in the engine room and transferring same to 34 x IBC (24 m3). Total to date : 3,217 m3. The anchor windlass was powered by the Salvage generator and the starboard anchor was recovered.

7.3.30. On Friday 14 August the Lubrication Oil tank was pumped out. The fuel in the Diesel Oil Service Tank was transferred by hot tap. About 200 kg pollutants (paints / thinners) were removed.

7.3.31. On Saturday 15 August, the hatch covers in way of the breached cargo holds were breaking away from the hatch coamings and falling overboard. Salvage was pumping oil from the Engine Room tanks. 96 x IBC (61,9 m3) were removed. Total to date : 3,294 m3. Tug Expedition pulled the bow section and separated it from the stern section.

7.4 Findings

7.4.1 The 300 m long ship was in ballast condition with freeboard of around 14 m. The area exposed to the SE trade winds at the grounding location was quite extensive at about 4200 m2. Furthermore, the sea condition was bad with swells up to 3 m. This caused the vessel to shift over 750 metres of coral reefs in a Northeasterly direction resulting in further hull and machinery damage.

7.4.2 The attempt of Salvage to stabilize the vessel by ballasting cargo holds Nos 2, 4 and 8 did not succeed. Starting with cargo hold no 8 resulted in trimming the vessel further by the stern and caused more pounding damage in way of the engine room which was eventually breached and tidal by Wednesday 05 August.

7.4.3 The ship could have been towed away during high tide in the first week following the grounding, as at 31st July 2020 one third of the stern was still in good water (NEOC Situation Report No 17 dated 02 August 2020). Unfortunately, there were no salvage tugs available in the area and Mauritius Port Authority was reluctant to provide tug assistance as the port would have had to be closed due to unavailability of tugs.

7.4.4 The local Authorities (NCG & Shipping) did not dispatch their Officers on board to make their own assessment of the condition of the ship and carry out an oil spill risk assessment. They relied instead on the reports of the ship's Master and the Salvage Master. They claimed that they were not authorized by the Ministry of Health to do so due to COVID regulations in force at that time. It is to be noted that the vessel had been at sea for eleven days at the time of grounding and the crew had undergone PCR tests by the Health Authority on 28 July 2020 and were found to be Covid-negative.

7.4.5 The Naval Architect used the values of allowable still water bending moments and shear forces for port intact conditions as reference to determine whether the calculated Shearing Forces (SF) and Bending Moments (BM sagging or hogging) as per his Condition Report of 31 July 2020 were within limits (Annex VI – Allowable Still Water Bending Moment And Shearing Force). According to this report, 35.3% of the maximum allowable BM (sagging) had been attained at Frame Nos 69 about one metre aft of the forward bulkhead of Cargo Hold No 9 and 62,9% of the maximum allowable SF had been attained at Frame 122 about one metre aft of the forward bulkhead of Cargo Hold No 6. It is to be noted that the ship broke into two sections in the way of Cargo Holds Nos 8 and 9. The first bulkhead to buckle was the aft bulkhead of Cargo Hold No 9.

7.4.6 By the time the Salvage tugs AHT Expedition and AHT Summit arrived on site, it was too late as the vessel had already sustained extensive hull and machinery damage.

7.4.7 The Director of Shipping did not receive any oil spill risk assessment prior to the oil spill. It was only after the spill that he received a copy the Salvage Plan issued on Friday 07 August. A copy of this plan was subsequently produced by the Director of Shipping. According to this plan, the risk assessment for oil spill was very high (Annex IX – Extracts from Salvage Plan dated 07 August 2020).

7.5 Analysis

7.5.1 Smit Salvage was aware that the chances of salvage were rather slim due to the fact that the ship being in ballast condition was exposed to SE winds and swells and salvage tugs were not available in the area at that time. They have thus invoked the Scopic Clause upon signing the LOF 2020 on Sunday 25 August.

7.5.2 In our view the salvors had not respected their part of the contract to salve the stricken vessel since the very start of the operation. In fact the LOF form was signed on the 26th July but salvors were only available and attended on board on 31th of July losing precious time for a successful outcome[92]. Further down the line actions by salvors have been not been up to the reputation pretended. It is worth mentioning here that in the case of the bulk carrier M/V Benita that grounded on 17 June 2016 in the south of Mauritius near a fish farm and the RAMSAR immediate deployment of salvage equipment to pump out the bunker fuel oil took place promptly the next day[93].

7.5.3 It is to be noted that at the time salvors have submitted their assessment report carried out between 31st July – 02nd of August 2020 to the National

[92] The Salvors agree to use their best endeavours to salve the property. Lloyds Open Form 2020

[93] Cedre Sea & Shore Technical Newsletter 42-43

committee on 2nd of August 2020 the vessel has changed heading several times.

7.5.4 The flooding of N° 8 cargo hold coupled with the stern pounding on the sea bed led to the deterioration of the longitudinal strength of the vessel while everybody was waiting for tug assistance. The salvors failed to provide a proper service by not providing tug assistance when it was really needed.

7.5.5 It has been seen from reports that the vessel had moved about 750 m from initial grounding position which confirms that the vessel was at times floating although not completely but had adequate bollard pull been available during the time the vessel was swaying due to the combined effect of the SE trade winds and wave motion, the vessel could have been pulled out clear from the reefs or at the very least been prevented from moving, thereby ensuring her stability while waiting for the sea going tugs on the casualty site.

7.5.6 Such positive move has been successful in the case of the bulk carrier M/V Benita that grounded on 17th June 2016 in the south of Mauritius when the ocean sea going tug Ionian Sea Fos remained onsite with a tow line attached to the bulk carrier to prevent excessive movement and provide constant tension.

7.5.7 Contrary to M/V Benita, the casualty representative Mr Lars Tesmar stated that there was no salvage pumps on board M/V M/V Wakashio as from day 1 and ballast pumps were used to transfer water from engine room and to fill hold N° 8. As the vessel's ballast pumps were under water as from midnight on 05 August 2020, only fire hoses were being used but at this height the effect was very minor.

7.5.8 It is worth mentioning here that the after part of the vessel is more slim that the rest of the bulk carrier offering less buoyant force. The low draft aft of the vessel and flooding of the engine room meant that the vessel could, as a second option, have been manoeuvered so that the aft part sits undisturbed on the sea bed preventing an overhang of the aft part of the vessel which was getting heavier due to water ingress counterbalanced by a lesser buoyancy force resulting in a resultant downward force. Unfortunately the tugs to move the aft part of the vessel was not available and in that configuration with an overhang aft, the weakened aft section was bound to shear and shearing occurred at frame F 42 forward of the engine room at the change of section.

7.5.9 Although 7500 mt of ballast water was pumped into hold N° 8 that was not sufficient to ground the vessel to stabilise her. Hold N° 8 finally became tidal on 3rd August at 12.30 hrs reducing all hopes to ground vessel as expected.

7.5.10 They did not inform the local Authorities that the risks of oil spill were high and that it was most urgent to

(1) dispatch pumping equipment and piping by air,

(2) dispatch two MPA harbour tugs for towing/immobilization pending arrival of Salvage tugs,

(3) hire the local bunker barges for the transfer of the fuel bunkers.

7.5.12 Smit Salvage have realized that they have not used their best endeavours to prevent or minimize damage to the environment as they failed to carry out an oil spill risk assessment upon arriving on the casualty site. The purpose of this initial risk assessment as per their own procedure is

"to have a clear overview of the involved project risks to be managed. This is to enable all stakeholders to be in control during the whole duration of the project."

It was only after the oil spill that they submitted to the Director of Shipping a Salvage Plan showing a risk assessment matrix with rating of risk of egress of bunkers from bunker tanks as high and intolerable (Annex IX – Extract from Salvage Plan issue date 07/08/2020). This confirms that the risk assessment was done after the oil spill.

7.5.11 The Salvage Masters have tried to cover up their failure by producing during the hearing a revised copy of the Salvage Plan backdated to 29 July 2020[94]. In this copy, the risk of egress of bunkers from bunker tanks has been deleted from the risk assessment matrix as this was not in line with their affirmation to the local Authorities that the risk of oil spill was minimal (Annex X – Extracts from Salvage Plan issue date 29 July 2020).

7.5.12 At the beginning of the salvage operations the worst scenario envisaged by local Authorities was a tier 1 response i.e a spill of less than 10.0 T. Being

given it was a known fact that a spill could occur it is of concern that it never occurred to both the Ministry of Environment and the Shipping Division during the numerous occasions that they met or exchanged their views that it was their duty to press upon the salvors to come up with a risk assessment to ensure that the assessment be regularly reviewed and updated as the situation unfolds.

7.5.13 Had the local Authorities been on board after confirmation that the crew was not Covid contaminated, they would have observed that the ship was lively

[94] Initial Salvage plan with risk assessment has been submitted to the Authorities on 07 August 2020 as per Daily Progress Report SSF-001, Rev 1. The Salvage plan issued bears a foot note 07 Aug 2020 and addresses the event " Egress of bunkers from bunker tanks" which is categorized as an intolerable risk carrying a weight of 20 out of a maximum of 25.

with the incoming seas and the stern section was pounding and the bottom shell plating was coming in contact with the reefs. They would have then realised that further damage would be sustained with deteriorating sea and weather conditions.

7.5.14 The obvious solution would have been to assist Salvage in hiring MPA tugs and local bunker barges timeously. However, it should be pointed out that the weather and sea conditions were deteriorating and could have affected the lightering operations.

7.6 Recommendations

7.6.1 The National Coast Guard Act dates back to 1988 and it has never addressed safety of navigation. This is evidenced by the inclusion of safety of navigation for the first time on the 2021 action plan. Actually the main focus has been more on Piracy & terrorism than safety of vessel although powers available at sections 12(f) and (g)[95] contain enabling provisions to monitor activities in our waters and to prevent activities likely to cause pollution. It is therefore considered important to make provisions for the application of the act or creation of a legal framework to deal with safety of navigation to prevent similar incidents like M/V Wakashio. Enhancement of the capability of the NCG to include surveillance and monitoring of vessel traffic in our near coastal waters at section 6 of the National Coast Guard Act would be beneficial instead of creating another civilian body to scrutinise our coastal waters as the infrastructure already exists at the NCG posts.

7.6.2 All high ranking officers responsible for the supervision of coastal radar surveillance systems operations need to receive training in the objectives of radar tracking and monitoring to ensure that they are fully conversant with the routines of radar surveillance and can oversee the work of their juniors

7.6.3 To draw a plan of maintenance of communication and surveillance equipment at NCG operation room and outward posts to ensure that equipment is fully operational at all times and to be able to plan in advance the purchase of replacement parts

7.6.4 It is recommended that Mauritius pursues its efforts through the Commission de l'Ocean Indien (COI)for the establishment of a solid regional response and preparedness related to pollution prevention of

[95] National Coast Guard Act 1988 – Section 12(f) – Powers Monitor and control all seaborne activities within the maritime zones.
Section 12(g) Prevent any form of marine pollution or any activity likely to cause marine pollution

marine pollution which is part of the Maritime security architecture developed under the MASE program funded by international bodies like EU, IMO and UN.

7.6.5 During an incident of the scale of M/V M/V Wakashio it has been clear that there are too many committees, overlapping of responsibilities and each ministry having its own agenda. As a matter of fact there is a need to reach consensus delaying proper decisions. It is therefore important to get away from the present situation by having a good regulatory framework for co-ordination of unified activities instead of fragmented decisions.

7.6.6 At present there is no obligation for passing vessels to establish contact with local Authorities. To make it mandatory to call NCG or Harbour Radio to interrogate vessel when sailing near the coast at 12 nm or 24 nm.

7.6.7 Given the number of northbound and southbound vessels passing off the island every day, the local authority should ideally have at their disposal a salvage tug stationed at Port Louis to tow vessels which are no longer under command (machinery breakdown / crewing issues) away from land.

7.6.8 This would be an expensive option as the hire rates of such tugs are rather on the high side. The best option would be to upgrade the tug fleet of MPA and include a harbour tug of sufficient bollard pull and equipped with towing equipment to assist in salvage of vessels in the territorial waters. This tug should be manned round the clock and normally operate as a harbour tug. The crew of this tug should be trained in towing of vessels.

7.6.9 Arrangements should be made to ensure that sufficient and adequate resources are available by sea and by air to promptly assist when a casualty occurs at sea. Fast intervention crafts of sturdy construction should be readily available nearby probable casualty sites so that they can be deployed within short notice.

LOF 2020

LLOYD'S STANDARD FORM OF SALVAGE AGREEMENT

(Approved and Published by the Council of Lloyd's)

NO CURE - NO PAY

1. Name of the salvage Contractors: SMIT Salvage Pte Ltd (referred to in this agreement as "the Contractors")	2. Property to be salved: The vessel: mv 'Wakashio' IMO: 9337119 her cargo freight bunkers stores and any other property thereon but excluding the personal effects or baggage of passengers master or crew (referred to in this agreement as "the property")
3. Agreed place of safety: TBA	4. Agreed currency of any arbitral award and security (if other than United States dollars)
5. Date of this agreement 26th of July 2020	6. Place of agreement Singapore
7. Is the Scopic Clause incorporated into this agreement? State alternative: Yes/No	
8. Person signing for and on behalf of the Contractors Signature:	9. Captain or other person signing for and on behalf of the property Signature: Okiyo Maritime Corp. General Manager

A **Contractors' basic obligation:** The Contractors identified in Box 1 hereby agree to use their best endeavours to salve the property specified in Box 2 and to take the property to the place stated in Box 3 or to such other place as may hereafter be agreed. If no place is inserted in Box 3 and in the absence of any subsequent agreement as to the place where the property is to be taken the Contractors shall take the property to a place of safety.

B **Environmental protection:** While performing the salvage services the Contractors shall also use their best endeavours to prevent or minimise damage to the environment.

C **Scopic Clause:** Unless the word "No" in Box 7 has been deleted this agreement shall be deemed to have been made on the basis that the Scopic Clause is not incorporated and forms no part of this agreement. If the word "No" is deleted in Box 7 this shall not of itself be construed as a notice invoking the Scopic Clause within the meaning of sub-clause 2 thereof.

D **Effect of other remedies:** Subject to the provisions of the International Convention on Salvage 1989 as incorporated into English law ("the Convention") relating to special compensation and to the Scopic Clause if incorporated the Contractors services shall be rendered and accepted as salvage services upon the principle of "no cure - no pay" and any salvage remuneration to which the Contractors become entitled shall not be diminished by reason of the exception to the principle of "no cure - no pay" in the form of special compensation or remuneration payable to the Contractors under a Scopic Clause.

E **Prior services:** Any salvage services rendered by the Contractors to the property before and up to the date of this agreement shall be deemed to be covered by this agreement.

F **Duties of property owners:** Each of the owners of the property shall cooperate fully with the Contractors. In particular:

(i) the Contractors may make reasonable use of the vessel's machinery gear and equipment free of expense provided that the Contractors shall not unnecessarily damage abandon or sacrifice any property on board;

(ii) the Contractors shall be entitled to all such information as they may reasonably require relating to the vessel or the remainder of the property provided such information is relevant to the performance of the services and is capable of being provided without undue difficulty or delay;

(iii) the owners of the property shall co-operate fully with the Contractors in obtaining entry to the place of safety stated in Box 3 or agreed or determined in accordance with Clause A.

G **Rights of termination:** When there is no longer any reasonable prospect of a useful result leading to a salvage reward in accordance with Convention Articles 12 and/or 13 either the owners of the vessel or the Contractors shall be entitled to terminate the services hereunder by giving reasonable prior written notice to the other.

H **Deemed performance:** The Contractors' services shall be deemed to have been performed when the property is in a safe condition in the place of safety stated in Box 3 or agreed or determined in accordance with clause A. For the purpose of this provision the property shall be regarded as being in safe condition even though that property (or part thereof) is damaged or in need of maintenance provided that (i) the Contractors are not obliged to remain in attendance to satisfy the requirements of any port or harbour authority, governmental agency or similar authority and (ii) the continuation of skilled salvage services from the Contractors or other salvors is no longer necessary to avoid the property becoming lost or significantly further damaged or delayed.

I **Arbitration and the LSA Clauses:** The Contractors' remuneration and/or special compensation shall be determined by arbitration in London in the manner prescribed by Lloyd's Salvage Arbitration Clauses ("the LSAC") in force at the date of this agreement. The provisions of the said LSAC are deemed to be incorporated in this agreement and form an integral part hereof. Any other difference arising out of this agreement or the operations hereunder shall be referred to arbitration in the same way.

J **Governing law:** This agreement and any arbitration hereunder shall be governed by English law.

K **Scope of authority:** The Master or other person signing this agreement on behalf of the property identified in Box 2 enters into this agreement as agent for the respective owners thereof and binds each (but not the one for the other or himself personally) to the due performance thereof.

L **Inducements prohibited:** No person signing this agreement or any party on whose behalf it is signed shall at any time or in any manner whatsoever offer provide make give or promise to provide or demand or take any form of inducement for entering into this agreement.

IMPORTANT NOTICES

1 **Salvage security.** As soon as possible the owners of the vessel should notify the owners of other property on board that this agreement has been made. If the Contractors are successful the owners of such property should note that it will become necessary to provide the Contractors with salvage security promptly in accordance with Clause 4 of the LSAC referred to in Clause I. The provision of General Average security does not relieve the salved interests of their separate obligation to provide salvage security to the Contractors.

2 **Incorporated provisions.** Copies of the applicable Scopic Clause and LSAC in force at the date of this agreement may be obtained from (i) the Contractors or (ii) the Salvage Arbitration Branch at Lloyd's, One Lime Street, London EC3M 7HA.

3 **Awards.** The Council of Lloyd's is entitled to make available the Award, Appeal Award and Reasons on www.lloydsagency.com (the website) subject to the conditions set out in Clause 13 of the LSAC.

4 **Notification to Lloyd's.** The Contractors shall within 14 days of their engagement to render services under this Agreement notify the Council of Lloyd's of their engagement and forward the signed agreement or a true copy thereof to the Council as soon as possible. A copy of any other agreement that amends or varies the provisions or terms of this Agreement must also be provided to the Council as soon as possible. The Council will not charge for such notification.

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15.1.08 3.12.24 13.10.26 12.4.50 10.6.53 20.12.67 23.2.72
21.5.80 5.9.90 1.1.05 1.9.2000 6.5.2011 1.1.2020

LOF 2020

LLOYD'S STANDARD FORM OF SALVAGE AGREEMENT

(Approved and Published by the Council of Lloyd's)

NO CURE - NO PAY

1. Name of the salvage Contractors: SMIT Salvage Pte Ltd and The Nippon Salvage Co., Ltd. as Co-Salvors (referred to in this agreement as "the Contractors")	2. Property to be salved: The vessel: mv "Wakashio" IMO: 9337119 her cargo freight bunkers stores and any other property thereon but excluding the personal effects or baggage of passengers master or crew (referred to in this agreement as "the property")
3. Agreed place of safety: TBA	4. Agreed currency of any arbitral award and security (if other than United States dollars)
5. Date of this agreement 26th of July 2020	6. Place of agreement Singapore
7. Is the Scopic Clause incorporated into this agreement? State alternative: Yes/~~No~~	
8. Person signing for and on behalf of the Contractors for Yoshiaki Nishibe Signature: Executive Managing Director The Nippon Salvage Co., Ltd.	9. Captain or other person signing for and on behalf of the property O. Okaichi Signature: Osamu Okaichi General Manager Okiyo Maritime Corp.

A **Contractors' basic obligation:** The Contractors identified in Box 1 hereby agree to use their best endeavours to salve the property specified in Box 2 and to take the property to the place stated in Box 3 or to such other place as may hereafter be agreed. If no place is inserted in Box 3 and in the absence of any subsequent agreement as to the place where the property is to be taken the Contractors shall take the property to a place of safety.

B **Environmental protection:** While performing the salvage services the Contractors shall also use their best endeavours to prevent or minimise damage to the environment.

C **Scopic Clause:** Unless the word "No" in Box 7 has been deleted this agreement shall be deemed to have been made on the basis that the Scopic Clause is not incorporated and forms no part of this agreement. If the word "No" is deleted in Box 7 this shall not of itself be construed as a notice invoking the Scopic Clause within the meaning of sub-clause 2 thereof.

D **Effect of other remedies:** Subject to the provisions of the International Convention on Salvage 1989 as incorporated into English law ("the Convention") relating to special compensation and to the Scopic Clause if incorporated the Contractors services shall be rendered and accepted as salvage services upon the principle of "no cure - no pay" and any salvage remuneration to which the Contractors become entitled shall not be diminished by reason of the exception to the principle of "no cure - no pay" in the form of special compensation or remuneration payable to the Contractors under a Scopic Clause.

E **Prior services:** Any salvage services rendered by the Contractors to the property before and up to the date of this agreement shall be deemed to be covered by this agreement.

F **Duties of property owners:** Each of the owners of the property shall cooperate fully with the Contractors. In particular:

(i) the Contractors may make reasonable use of the vessel's machinery gear and equipment free of expense provided that the Contractors shall not unnecessarily damage abandon or sacrifice any property on board;

(ii) the Contractors shall be entitled to all such information as they may reasonably require relating to the vessel or the remainder of the property provided such information is relevant to the performance of the services and is capable of being provided without undue difficulty or delay;

(iii) the owners of the property shall co-operate fully with the Contractors in obtaining entry to the place of safety stated in Box 3 or agreed or determined in accordance with Clause A.

G **Rights of termination:** When there is no longer any reasonable prospect of a useful result leading to a salvage reward in accordance with Convention Articles 12 and/or 13 either the owners of the vessel or the Contractors shall be entitled to terminate the services hereunder by giving reasonable prior written notice to the other.

H **Deemed performance:** The Contractors' services shall be deemed to have been performed when the property is in a safe condition in the place of safety stated in Box 3 or agreed or determined in accordance with clause A. For the purpose of this provision the property shall be regarded as being in safe condition even though that property (or part thereof) is damaged or in need of maintenance provided that (i) the Contractors are not obliged to remain in attendance to satisfy the requirements of any port or harbour authority, governmental agency or similar authority and (ii) the continuation of skilled salvage services from the Contractors or other salvors is no longer necessary to avoid the property becoming lost or significantly further damaged or delayed.

I **Arbitration and the LSA Clauses:** The Contractors' remuneration and/or special compensation shall be determined by arbitration in London in the manner prescribed by Lloyd's Salvage Arbitration Clauses ("the LSAC") in force at the date of this agreement. The provisions of the said LSAC are deemed to be incorporated in this agreement and form an integral part hereof. Any other difference arising out of this agreement or the operations hereunder shall be referred to arbitration in the same way.

J **Governing law:** This agreement and any arbitration hereunder shall be governed by English law.

K **Scope of authority:** The Master or other person signing this agreement on behalf of the property identified in Box 2 enters into this agreement as agent for the respective owners thereof and binds each (but not the one for the other or himself personally) to the due performance thereof.

L **Inducements prohibited:** No person signing this agreement or any party on whose behalf it is signed shall at any time or in any manner whatsoever offer provide make give or promise to provide or demand or take any form of inducement for entering into this agreement.

IMPORTANT NOTICES

1 **Salvage security.** As soon as possible the owners of the vessel should notify the owners of other property on board that this agreement has been made. If the Contractors are successful the owners of such property should note that it will become necessary to provide the Contractors with salvage security promptly in accordance with Clause 4 of the LSAC referred to in Clause I. The provision of General Average security does not relieve the salved interests of their separate obligation to provide salvage security to the Contractors.

2 **Incorporated provisions.** Copies of the applicable Scopic Clause and LSAC in force at the date of this agreement may be obtained from (i) the Contractors or (ii) the Salvage Arbitration Branch at Lloyd's, One Lime Street, London EC3M 7HA.

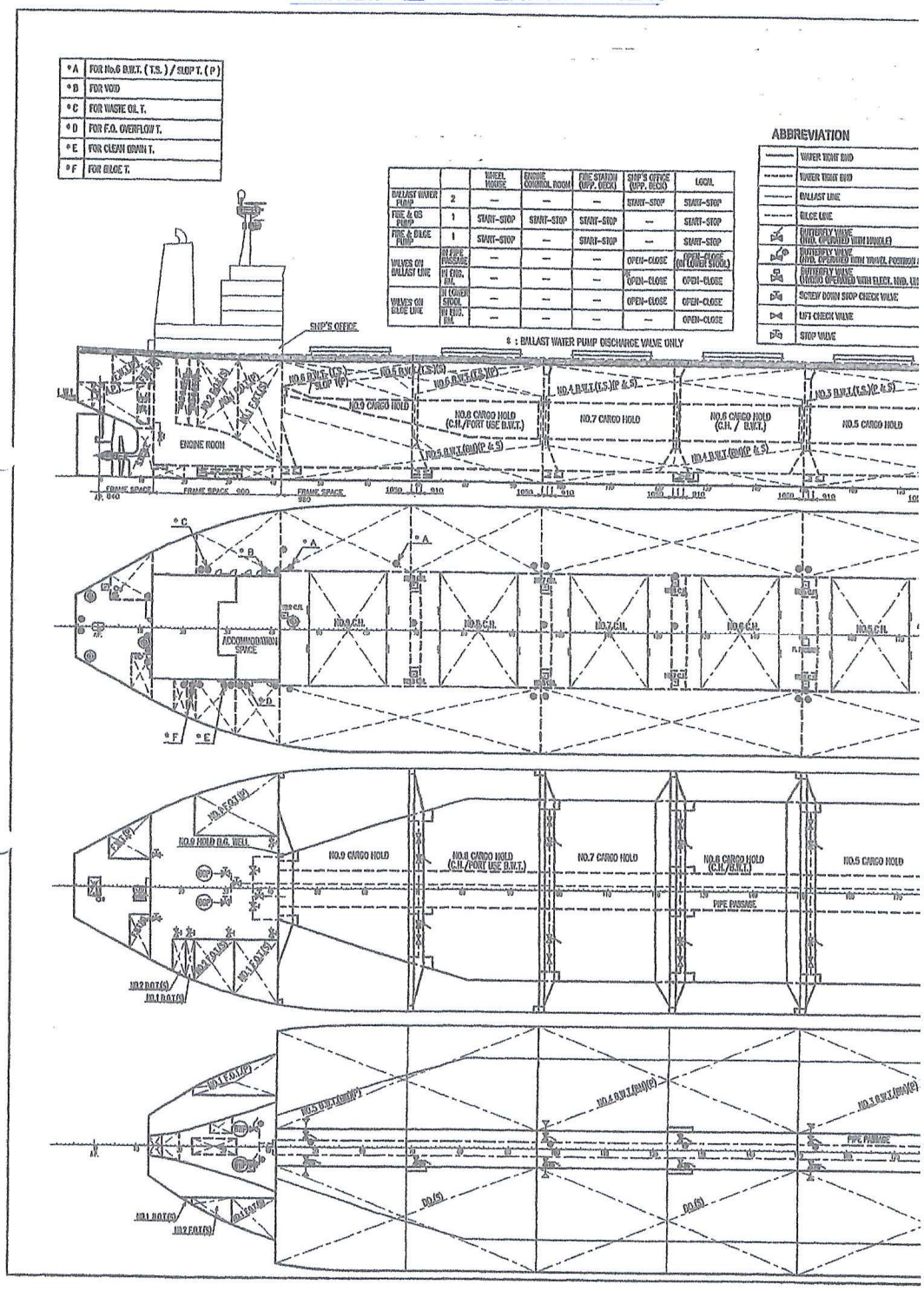
3 **Awards.** The Council of Lloyd's is entitled to make available the Award, Appeal Award and Reasons on www.lloydsagency.com (the website) subject to the conditions set out in Clause 13 of the LSAC.

4 **Notification to Lloyd's.** The Contractors shall within 14 days of their engagement to render services under this Agreement notify the Council of Lloyd's of their engagement and forward the signed agreement or a true copy thereof to the Council as soon as possible. A copy of any other agreement that amends or varies the provisions or terms of this Agreement must also be provided to the Council as soon as possible. The Council will not charge for such notification.

Tel.No. + 44(0)20 7327 5408/5407
Fax No. +44(0)20 7327 6827
E-mail: lloyds-salvage@lloyds.com
www.lloyds.com/agency

15.1.08 3.12.24 13.10.26 12.4.50 10.6.53 20.12.67 23.2.72
21.5.80 5.9.90 1.1.95 1.9.2000 6.5.2011 1.1.2020

ANNEX II - CAPACITY PLAN



Page 1 of 2

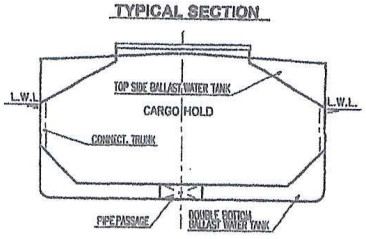
SHIO

	BELLMOUTH
	BALLAST WATER PUMP 2000 m3/h x 20 m/q
	FIRE & GS FIRE / FIRE & BILGE PUMP 80x150 m3/h x 70x35 m/q
	4.0 FIRE HOSE WITH FLAT TYPE CLOSING APPLIANCE (COAMING HEIGHT = 760mm)
	MUSHROOM VENTILATOR WITH WEATHER TIGHT COVER (COAMING HEIGHT = 900mm)
	GOOSENECK VENTILATOR WITH WEATHER TIGHT COVER (COAMING HEIGHT = 900mm)
	WALL LOUVER/WALL VENTILATOR WITH WEATHER TIGHT COVER
	WEATHER TIGHT HATCH COVER (COAMING HEIGHT = 600mm)
	WEATHER TIGHT DOOR
	MANHOLE WITH (WATER TIGHT)

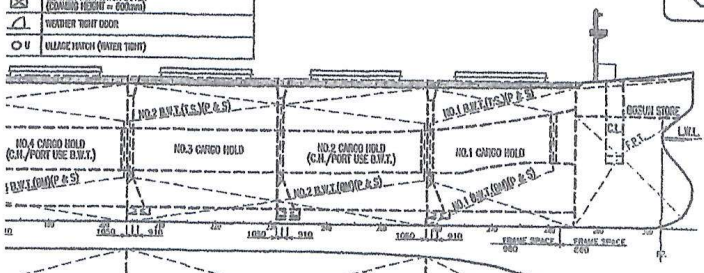
NOTES;

1. ALL WEATHER TIGHT DOORS, HATCHES, VENTILATORS AND etc. SHALL BE KEPT CLOSED DURING NAVIGATION EXCEPT WHILE IN USE.
2. REMOTE CONTROL VALVES OF BALLAST LINES AND HOLD BILGE LINES SHALL BE CLOSED WITH THE EXCEPTION OF DURING USE AND SHALL BE KEPT CLOSED DURING NAVIGATION.

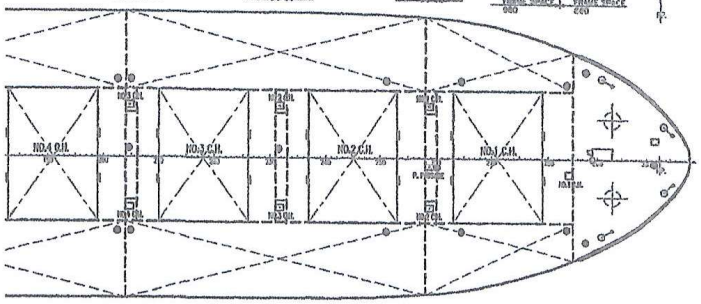
TYPICAL SECTION



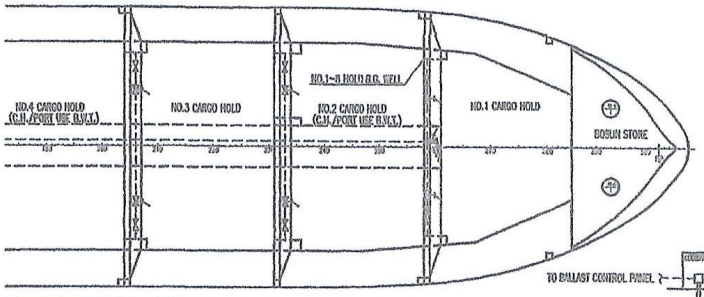
PROFILE



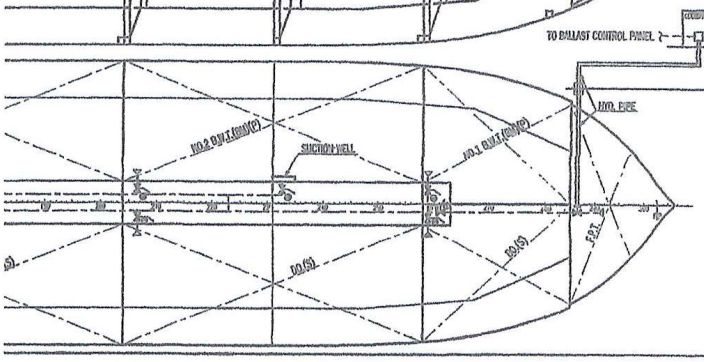
UPPER DECK



HOLD AND BOSUN STORE FLAT



DOUBLE BOTTOM



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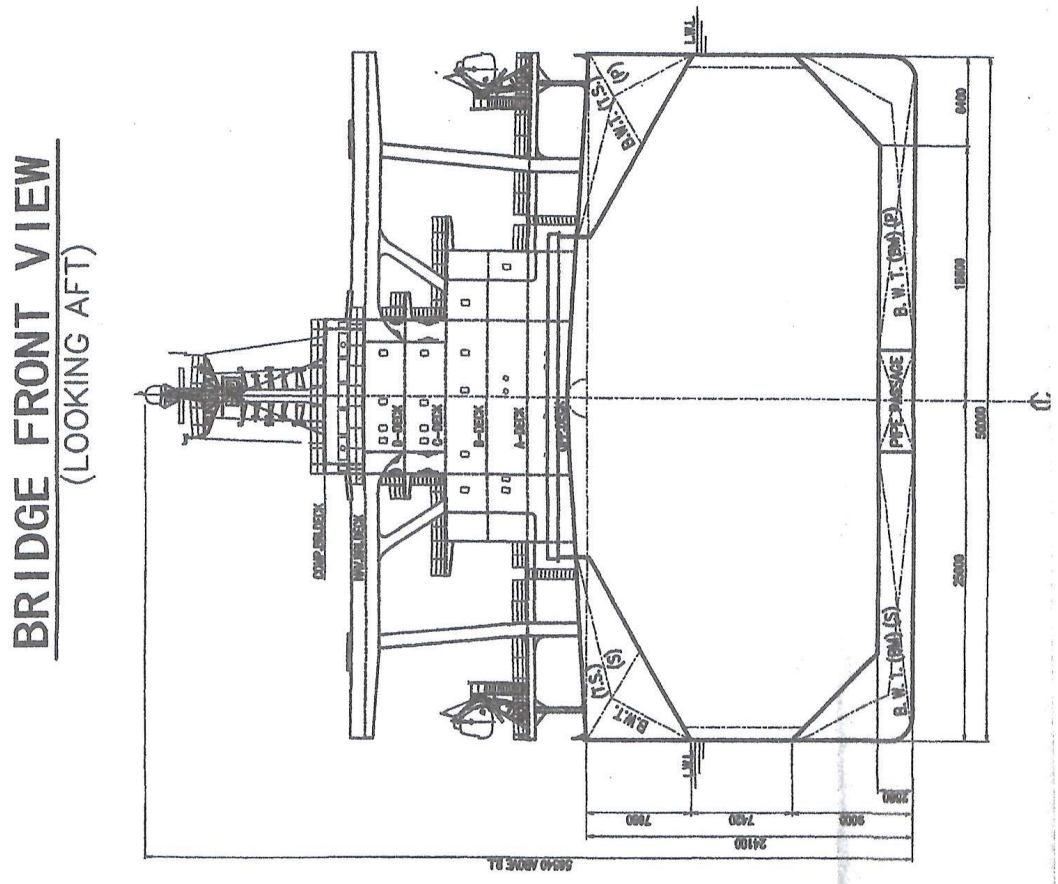
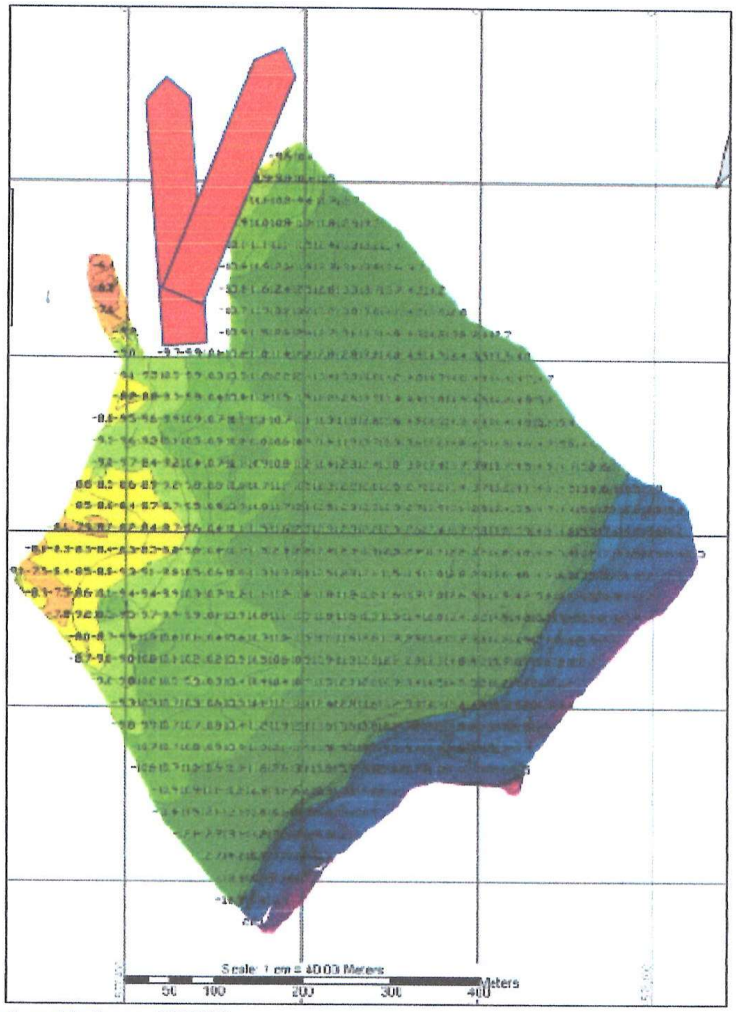
ANNEX III - VESSEL MIDSHIP SECTION

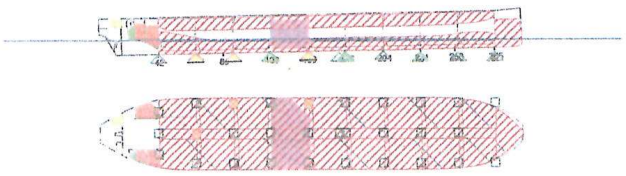


ANNEX IV - BATHYMERIC SURVEY



Bathymetric Survey 29/07/20

Current Condition
Condition Summary



Stability		Trim	
GMt Upright (Corrected)	100.206 m	Specific Gravity	1.0250
GMt @ Equil	226.788 m	LCF Draft	7.460 m
		LCF	1.045A m-MS
		LCB	1.830A m-MS
		LCG	6.736A m-MS
		KB	3.894 m-BL
		TCB	1.002S m-CL
		TCG	0.343S m-CL
		TP1cm	109 MT/cm
		MT1cm	1,784 m-MT/cm
		Trim at Perps	5.334A m
		Heel Angle	2.03S deg
Drafts - Perps		**Drafts - Draft Marks**	
AP	10.108 m	Aft PS	9.904 m
MS	7.441 m	Aft SB	9.984 m
FP	4.774 m	Mid PS	6.566 m
		Mid SB	8.337 m
		Fwd PS	4.662 m
		Fwd SB	4.941 m
Strength --Intact Port--			
Shear (Min)	-10,067 MT	29.184A m-MS	62.90 %
Shear (Max)	6,672 MT	3.252A m-MS	--- %
Shear (Max %Allow)	-10,067 MT	29.184A m-MS	62.90 %
Moment (Max Hog)	244,487H m-MT	82.417A m-MS	--- %
Moment (Max Sag)	103,129S m-MT	3.252A m-MS	--- %
Moment (Max %Allow)	103,273H m-MT	108.564A m-MS	35.30 %

Notes

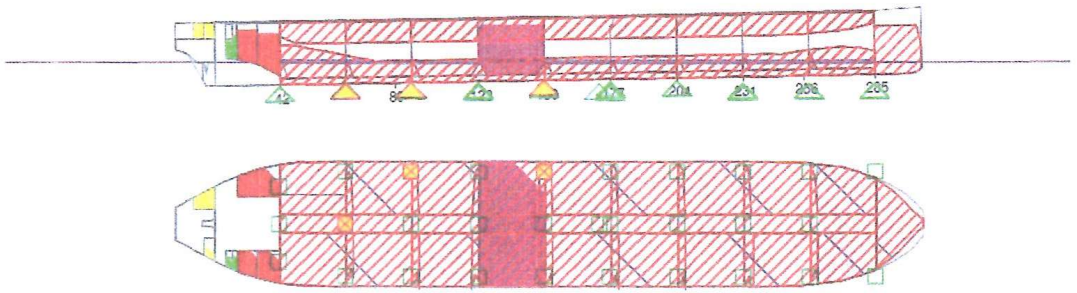
Drafts from Baseline
Hull from Offsets
GMt from GZ Curve Slope
Tanks from Tables

Current Condition
Alarms Summary

No.	Status	Description	Attained	Pass If	Type
1	PASS	Calculation Status	OK	Status = OK	Requirement
2	PASS	Max BMom %Allow	35.30 %	-100.00 =< BM% <= 100.00	Recommendation
3	PASS	Max Shear %Allow	62.90 %	-100.00 =< SF% <= 100.00	Recommendation
4	WARN	Ground Reaction	6,860 MT	GReact = 0 MT	Recommendation

Current Condition

Damage Summary



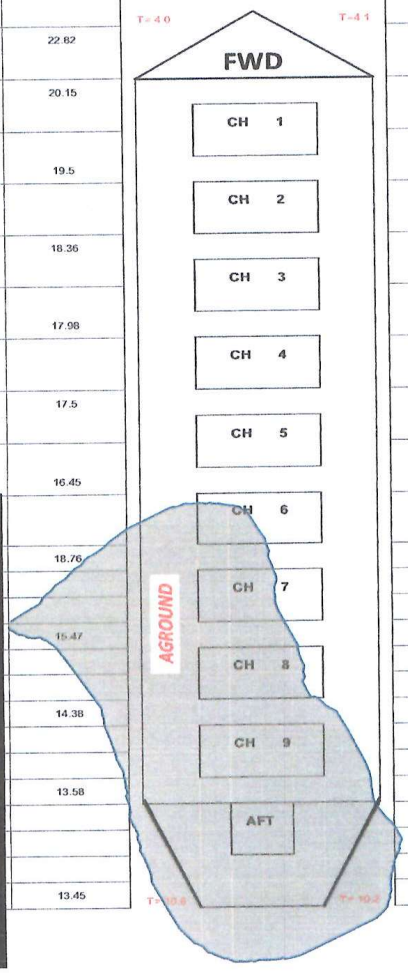
Ground Reaction

Ground Type	Mult. Pins
Total Reaction	6,860 MT
LCR	69.109A m-MS
TCR	4.955P m-BL
Force to Free	10,290 MT
Eff. Friction Coeff.	1.500

Page 3 of 3

ANNEX VI - Overview of soundings (12)

DATE	1-Aug-20	WAKASHIO	TIME	8:00
SOUNDING TO SEABED	FREE BOARD	HDG 50 deg	FREE BOARD	SOUNDING TO SEABED
(m)	(M)		(M)	(M)
[redacted]	22.82		22.57	33.9
32.35	20.15		20	30.9
31.12	19.5		19.76	31
28.92	18.36		18.24	30.48
28.42	17.98		18.09	28.55
26.28	17.5		17.95	29.04
24.7	16.45		16.3	28.76
[redacted]				
	18.76		16.03	28.13
	15.47		15.58	24.8
	14.38		14.75	24.27
	13.58		13.86	23.06
	13.45		13.93	23.06



Overview of soundings and freeboard – 01/08/20.Heading 050°

ANNEX VII - DAILY PROGRESS REPORT

AM	PM	Covid-19 protocols activated and in force
		AHT Expedition Underway to Reunion. ETA 4/8 early AM LT/wp. **AHT Sherpa** 0115 LT finished offloading salvage equipment alongside Galle jetty. 1040 LT casting off heading back to Singapore **AHT Summit** 0140 LT commenced loading salvage equipment alongside Galle jetty. 1010 LT casting off after sea fastening Salvage equipment and salvage crew to Port Louis ETA 8/8 12:30 LT/wp
0400		Observed buckling of bulkhead and webbing frames between ER and CH#9 just above tank top. FO overflow tank pipe connection above tank top which was leaking since grounding started leaking more due to pipe bending. Cooling water line flange connection started leaking during impact of casualty to the bottom. Water level engine room raising. Water pumped to slop tank #6 Instructed the ER crew not to enter engine room alone and only go to the bottom part in emergency.
0610	0640	Requested the VB Cartier to come alongside to connect towing wire STB side aft. Captain VB Cartier observed the situation and stopped the operation due to weather situation. Too much wind and swell.
0700	0800	Discussed with Captain Wakashio to send off non-essential personnel. Start arranging helicopter arrangements and talking to SMIT rep. onshore for possibilities.
0750	0905	Launch boat assisted to bring messenger line across from casualty to Stanford Hawk by help of Salvage drone.
0800		Informed Coast guard about the casualty situation with the request to pick up 10 PAX non-essential personnel from casualty.
		Salvage team conducted continuous inspections on board the vessel. Assisting ER crew in stabilizing the situation, taking tank soundings, deploy messenger line by drone, Deploy STB anchor.
		SHEQ engineer is working in shift to assist the Salvage crew with watchkeeping. Set up watch keeping 24/7.
		To stabilize the vessel continuing fill cargo hold#8 with sea water by means of Fifi-hoses as the ballast system is not operational to increase ground reaction in anticipation of adverse weather and sea conditions while awaiting tugs. @ 24:00 7500 mT (8,75mtr) inside
		Preparing and altering Salvage Plan due to changing conditions.
		Wakashio pumping from engine room into slop tank #6 to maintain/reduce water level due to ingress.
0915	1045	Meeting with Authorities in Port Louis attended by Capt.Olivier/Rogers Shipping. SM and SCR attending partly the meeting by telephone conference call. Questions were asked regarding situation on board of casualty and answered. Email request was send by SM regarding the current COVID-19 procedure for the Salvage management to attend the meetings onshore. During the afternoon an email was send to the SM that it is not allowed to go ashore and attend these meetings which is hampering the operation.
1300	1320	Stanford Hawk moved away (from 300 mtr -740 mtr)of casualty as the engines were heating up into clear water. Dyneema line could not be connected due to length and changes of damaging.
1620	1700	4 police helicopter flights were performed to pick up 10 pax non-essential casualty crew
1650		Dropped STB anchor 3 length in the water to stop casualty moving forward. Position: 20°26.355'S - 057° 44.639'E
1800		Observed more buckling of webbing frames and bulkhead between ER and CH#9. More water ingress in leaking pipe from FO settling tank. Instructed personnel to keep a good watch for more signs of damages.
		Organising and mobilising activities by offices NL/Singapore/Cape Town
		Regular updates distributed to stakeholders
		Updates received from Captain of Wakashio on situation on board/soundings/etc.
		Naval Architects updated the casualty situation calculations during the day as the situation is changing.
		Over the day conducted 4 TBT's with the Salvage team and vessel crew
		During afternoon received a message from the Authorities that reply on a renewed request for attending ashore by the Salvage Master, shore coordinator and SCR is not allowed

(691) (64)

4) ALLOWABLE STILL WATER BENDING MOMENT AND SHEARING FORCE

LOCATION OF FR. NO.	INTACT CONDITION								FLOODED CONDITION			
	AT SEA				IN PORT							
	SHEARING FORCE (KN)		BENDING MOMENT (KN-M)		SHEARING FORCE (KN)		BENDING MOMENT (KN-M)		SHEARING FORCE (KN)		BENDING MOMENT (KN-M)	
	POSITIVE	NEGATIVE	HOGGING	SAGGING	POSITIVE	NEGATIVE	HOGGING	SAGGING	POSITIVE	NEGATIVE	HOGGING	SAGGING
42A	118,000	-116,300	-	-	136,100	-135,300	-	-	125,300	-123,900	-	-
42F	85,800	-84,000	1,836,000	-1,706,000	103,800	-103,000	2,870,000	-2,789,000	93,000	-91,600	2,250,000	-2,139,000
69	129,700	-126,700	3,319,000	-3,084,000	161,400	-159,900	5,188,000	-5,042,000	142,400	-140,000	4,067,000	-3,867,000
96	116,300	-113,300	4,802,000	-4,462,000	148,000	-146,500	7,507,000	-7,295,000	129,000	-126,600	5,884,000	-5,595,000
119+0.2A	-	-	4,824,000	-4,483,000	-	-	8,246,000	-8,066,000	-	-	6,193,000	-5,916,000
119+0.2F	-	-	4,824,000	-4,483,000	-	-	8,246,000	-8,066,000	-	-	6,269,000	-5,992,000
123	131,300	-131,000	4,824,000	-4,483,000	157,100	-157,000	8,364,000	-8,189,000	141,600	-141,400	6,316,000	-6,041,000
140+0.4A	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,349,000	-6,076,000
140+0.4F	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,492,000	-6,219,000
150	99,800	-99,800	4,824,000	-4,483,000	125,000	-125,000	8,446,000	-8,276,000	109,900	-109,900	6,492,000	-6,219,000
161+0.3A	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,492,000	-6,219,000
161+0.3F	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,492,000	-6,219,000
177	112,900	-112,900	4,824,000	-4,483,000	138,100	-138,100	8,446,000	-8,276,000	123,000	-123,000	6,492,000	-6,219,000
181+0.78A	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,492,000	-6,219,000
181+0.78F	-	-	4,824,000	-4,483,000	-	-	8,446,000	-8,276,000	-	-	6,273,000	-6,000,000
204	111,300	-113,500	4,824,000	-4,483,000	143,900	-145,000	8,265,000	-8,086,000	124,400	-126,100	6,200,000	-5,924,000
231	112,600	-115,800	3,863,000	-3,589,000	148,700	-150,300	6,349,000	-6,193,000	127,000	-129,600	4,857,000	-4,631,000
258	109,900	-113,100	2,380,000	-2,211,000	145,500	-147,100	3,912,000	-3,816,000	124,100	-129,900	2,992,000	-2,853,000
285	71,700	-72,900	917,000	-852,000	85,400	-86,000	1,507,000	-1,470,000	77,200	-78,200	1,153,000	-1,099,000

NOTE; The forward draft should be kept not less than 8.54 m under heavy weather condition to avoid occurrence of bottom slamming damage.

ANNEX VIII

ANNEX IX

07/08/2020

Salvage Plan mv 'WAKASHIO'

DOCUMENT NUMBER: SAL-001

PROJECT NAME: Wakashio
PROJECT NUMBER: SSG 202006
CLIENT NAME: Okiyo Maritime Corp.
CLIENT REFERENCE: TBN

Revision Status

Rev	Issue Date	Reason for Issue	Prepared	Checked	Approved
1.0	07-08-2020	Issued for distribution	RvG/JWD	RR	

Likelihood		Impact
Zero	0	Zero
Very Unlikely	1	Minimal
Unlikely	2	Moderate
Possible	3	Serious
Likely	4	Major
Very Likely	5	Catastrophic

Risk Classification	
1 ≤ Risk < 5 Low Risk	Acceptable – maintain Standard control & reduction measures and improve where possible
5 ≤ Risk ≤ 12 Medium Risk	Caution – Additional control & reduction measures needed, until risk is As Low As Reasonably Practicable (ALARP)
Risk > 12 High Risk	Intolerable – activity cannot take place; Additional control & reduction measures necessary to reduce the risk

(Risk = Likelihood x Impact)

	Likelihood	Impact	Risk
Covid-19 restrictions by countries and Authorities	5	4	20
Extended logistical supply lines	5	3	15
Seasonal weather and associated sea-and swell conditions	5	3	15
Breached water ballast tanks FPT, WBT #1-5, holds#7,8,9, pipe duct and engine room	5	4	15
Ingress of sea water into the engine room through overflow tank, waste oil tank is ruptured, cofferdam p/s has been breached	5	4	20
Pounding and rolling vessel due to seas/swell from perpendicular direction increasing damage to the hull	5	4	20
Environmentally sensitive area	5	4	20
Further deterioration of the vessel condition	5	4	20
Shifting of vessel and heading change	4	4	16
Vessel unable to refloat in current condition	5	4	20
Egress of bunkers from bunker tanks	5	4	20
Further promulgation of cracks and buckling areas in way of bunker tanks	3	4	12

ANNEX X
31/07/20

Salvage Plan mv 'WAKASHIO'

DOCUMENT NUMBER: SAL-001

PROJECT NAME: Wakashio
PROJECT NUMBER: SSG 202006
CLIENT NAME: Okiyo Maritime Corp.
CLIENT REFERENCE: TBN

Revision Status

Rev	Issue Date	Reason for Issue	Prepared	Checked	Approved
1	31-07-2020	Issued for Internal Review	RvG	RR/JWD	
2		Issued for distribution			

pictured below. This refloating plan is typically prepared in the initial and planning Phase, where the main implementation is taking place in the execution Phase.

More detailed information about the Way of Working is found in the Group Manual and the User Guide.

1.1. Scope of Document

The scope of this document is to present a solution for stabilizing the vessel, removal of bunkers, refloating and towing the vessel to a safe place of delivery.

The plan is based on the current condition of the vessel and information available is based on information as received from Owners through the 'Casualty Information Sheet', information received from the vessel, information received from local sources and own assessment and observations on site.

As not all information is available at this stage and future planning requires finetuning in due time, the plan should be considered as generic and a living document whereas details will be addressed as and when required by the operation.

Stakeholders will be kept informed of any changes in the operation.

1.2. Initial Risk Assessment

This paragraph outlines an initial project risk assessment based on the available information at hand. Purpose of this paragraph is to have a clear overview of the involved project risks to be managed. This to enable all stakeholders to be in control during the whole duration of the project.

Likelihood		Impact	Risk Classification	
Zero	0	Zero	1 ≤ Risk ≤ 5 Low Risk	Acceptable – maintain Standard control & reduction measures and improve where possible
Very Unlikely	1	Minimal		
Unlikely	2	Moderate	5 ≤ Risk ≤ 12 Medium Risk	Caution – Additional control & reduction measures needed, until risk is As Low As Reasonably Practicable (ALARP)
Possible	3	Serious		
Likely	4	Major	Risk > 12	

PAGE 2 OF 3

Likelihood		Impact	Risk Classification	
Very Likely	5	Catastrophic	High Risk	Intolerable – activity cannot take place; Additional control & reduction measures necessary to reduce the risk

(Risk = Likelihood x Impact)

	Likelihood	Impact	Risk
Covid-19 restrictions by countries and Authorities	5	4	20
Extended logistical supply lines	5	3	15
Seasonal weather and associated sea-and swell conditions	5	3	15
Breached water ballast tanks FPT, WBT #1-5 and pipe duct	5	3	15
Ingress of sea water into the engine room through overflow tank, waste oil tank is ruptured, cofferdam p/s has been breached	4	3	12
Pounding vessel due to seas/swell from astern possibly increasing damage to the hull in way of the engine room	4	3	12
Environmentally sensitive area	4	4	16
Further deterioration of the vessel condition, and especially in way of the engine room due to pounding on the seabed of the aft ship caused by seas and swell from SE-ly direction	4	4	20
Shifting of vessel and heading change	4	4	16
Additional damage due to rolling of vessel on seas/swell	4	4	16

ANNEX XI

INTERNATIONAL MARITIME ORGANIZATION

4 ALBERT EMBANKMENT
LONDON SE1 7SR

Telephone: 0171-735 7611
Fax: 0171-587 3210
Telex: 23588 IMOLDN G

IMO

E

Ref. T2/2.07

SN/Circ.201
26 May 1998

MANDATORY SHIP REPORTING SYSTEMS

1 The Maritime Safety Committee, at its sixty-ninth session (11 to 20 May 1998), adopted in accordance with the provisions of Assembly resolution A.858(20), and by the annexed resolution MSC.73(69), mandatory ship reporting systems:

.1 "In the Straits of Malacca and Singapore"; and

.2 "In the Strait of Bonifacio".

2 The two mandatory ship reporting systems will enter into force at 0000 hours UTC on 1 December 1998.

3 Member Governments are requested to bring the attached information to the attention of masters of their ships and advise them that they are required to comply with the requirements of the adopted ship reporting systems, in accordance with regulation V/8-1(h) of the International Convention for the Safety of Life at Sea, 1974, as amended in 1994 (resolution MSC.31(63)).

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I:\CIRC\SN\201

ANNEX

RESOLUTION MSC.73(69)
(adopted on19 May 1998)

MANDATORY SHIP REPORTING SYSTEMS

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/8-I of the International Convention for the Safety of Life at Sea (SOLAS), 1972 concerning the adoption by the Organization of ship reporting systems,

RECALLING FURTHER resolution A.858(20) which authorizes the Committee to perform the function of adopting ship reporting systems on behalf of the Organization,

TAKING INTO ACCOUNT the Guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64),

HAVING CONSIDERED the recommendations of the Sub-Committee on Safety of Navigation at its forty-third session,

1. ADOPTS, in accordance with SOLAS regulation V/8-I, mandatory ship reporting systems:

   - "In the Straits of Malacca and Singapore" area described in Annex 1 to the present resolution; and

   - "In the Strait of Bonifacio" area described in Annex 2.

2. DECIDES that the aforementioned mandatory ship reporting systems will enter into force at 0000 hours UTC on 1 December 1998;

3. REQUESTS the Secretary-General to bring this resolution and its Annexes to the attention of Members of the Organization and Contracting Governments to the 1974 SOLAS Convention.

ANNEX 1

DESCRIPTION OF THE MANDATORY SHIP REPORTING SYSTEM IN THE STRAITS OF MALACCA AND SINGAPORE

1 Categories of ships required to participate in the system

1.1 Ships of the following categories are required to participate in the ship reporting system:

.1 vessels of 300 GT and above;

.2 vessels of 50 metres or more in length;

.3 vessels engaged in towing or pushing with a combined GT of 300 and above, or with a combined length of 50 metres or more;

.4 vessels of any tonnage carrying hazardous cargo, as defined in paragraph 1.4 of resolution MSC.43(64);

.5 all passenger vessels that are fitted with VHF, regardless of length or GT; and

.6 any category of vessels less than 50 metres in length or less than 300 GT which are fitted with VHF and in an emergency, uses the appropriate traffic lane or separation zone, in order to avoid immediate danger.

2 Geographical coverage of the system and the number and edition of the reference chart used for the delineation of the system

2.1 The operational area of STRAITREP covers the Straits of Malacca and Singapore between longitudes 100° 40'E and 104° 23'E as shown in the chartlets attached as appendix 1 and appendix 2. The area includes the routeing system in the Straits of Malacca and Singapore. The area is divided into nine sectors, each has an assigned VHF channel as shown in appendix 3.

2.2 The reference charts which include the operational area of STRAITREP are the Malaysian Chart Series MAL 515, 521 and 523 of the Hydrographer, Royal Malaysian Navy or the equivalent charts published by the competent hydrographic authority.

3 Format, content of report, times and geographical positions for submitting reports, authority to whom reports should be sent, available services

The ship report short title STRAITREP, shall be made to the VTS authorities as follows:

3.1 **Format**

The ship report shall be drafted in accordance with the format shown in appendix 4. The information requested from ships is derived from the Standard Reporting Format given in paragraph 2 of the IMO resolution A.851(20).

3.2 **Content**

The report required from a ship contains only information which is essential to meet the objectives of the STRAITREP:

.1 Information considered essential;

A - Name of ship, call sign, IMO identification number (if available);

C or D - Position;

P - Hazardous cargo, class if applicable; and

Q or R - Breakdown, damage and/or deficiencies affecting the structure, cargo or equipment of the ship or any other circumstances affecting normal navigation in accordance with the provisions of the SOLAS and MARPOL Conventions.

.2 Information considered necessary when requested by VTS authority;

E and F - Course and speed of ship.

Note:

On receipt of a position message, operators of the VTS will establish the relation between the ship's position and the information supplied by the facilities available to them. The information on heading and speed will facilitate the VTS operator's task of identifying a ship within a group.

3.3 **Geographical position for submitting reports**

.1 Ships entering the operational area shall report when crossing the limits mentioned in paragraph 3 or when crossing a line joining Tg. Piai (01°15'.50N 103°30'.75E) and Pulau Karimun Kecil (01°09'.20N 103°24'.35E) or when leaving port or anchorages in the area or before joining the traffic lane of the TSS.

.2 Ships entering the operational area shall also report when approaching from the south via Selat Riau, abeam of Karang Galang Lt. (01°09'.58N 104°11'.47E) or via Selat Durian, report when Pulau Jangkat Beacon (00°57'.89N 103°42'72E) is abeam and when approaching from the East Johor Strait, abeam of Eastern Buoy (01°17'.87N, 104°05'.99E).

.3 A ship approaching from any direction other than those specified above shall on reaching sector 7, sector 8 or sector 9 as appropriate report by giving the vessel's position in term of bearing and distance from one of the following reference points:

(i)	Pu Iyu Kechil Lt	(01°11'.48N 103°21'.23E)
(ii)	Sultan Shoal Lt	(01°14'.38N 103°38'.98E)
(iii)	Raffles Lt	(01°09'.60N 103°44'.55E)
(iv)	Sakijang Lt Bn	(01°13'.30N 103°51'.37E)
(v)	Bedok Lt	(01°18'.54N 103°56'.06E)
(vi)	Tg. Stapa Lt	(01°20'.57N 104°08'.24E)
(vii)	Horsburgh Lt	(01°19'.81N 104°24'.44E)

As an alternative the position can also be given in latitude and longitude.

3.4 **Authority**

The VTS authorities for the STRAITREP are as follows:

(i) Sector 1 to Sector 5 - Klang VTS;

(ii) Sector 6 - Johor VTS; and

(iii) Sector 7 to Sector 9 - Singapore VTS.

4 Information to be provided to ships and procedures to be followed

4.1 STRAITREP also provides information to ships about specific and critical situation which could cause conflicting traffic movements and other information concerning safety of navigation.

4.2 Depending on the sector which a ship is in, every ship shall also maintain a VHF radio telephone listening watch on the appropriate VHF Channel. Information of general interest to ships will be broadcast on VHF channel 16 and any other channel as may be specified by the appropriate VTS authority. This broadcast will be preceded by an announcement on the appropriate VHF channel assigned to the sector.

5 Radiocommunications required for the system, frequencies on which reports should be transmitted and information to be reported

The radiocommunications required for the STRAITREP is as follows:

5.1 STRAITREP will be based on VHF voice radiocommunication and will be interactive. The call to the appropriate VTS authority shall be made on the VHF channel assigned to the particular sector in which the ship is located as indicated in appendix 3, and the report shall be transmitted on that channel or any other available channel as assigned by the appropriate VTS authorities.

5.2 The language used for communication shall be English, using the IMO *Standard Marine Communications Phrases* where necessary.

5.3 Information of commercial confidentiality may be transmitted by non-verbal means.

6 Rules and regulations in force in the area of the system

6.1 The International Regulations for Preventing Collisions at Sea, 1972 are applicable throughout the operational area of STRAITREP.

6.2 The Rules For Vessels Navigating Through The Straits of Malacca and Singapore as approved by IMO are applicable throughout the area.

7 SHORE-BASED FACILITIES TO SUPPORT OPERATION OF THE SYSTEM

The facilities of the STRAITREP are as follows:

.1 Klang VTS

- Telephone, facsimile and telex communication
- 6 sets of VHF radio communication equipment
- 6 real-time display consoles for 'X' and 'S' bands radar signals from remote radar stations.

.2 Johor VTS

- Telephone, facsimile and telex communication
- 4 sets of VHF radio communication equipment
- 4 real-time display consoles for 'X' and 'S' bands radar signals from remote radar stations.

.3 Singapore VTS

- Telephone, facsimile and telex communication
- 11 sets of VHF radio communication equipment
- 4 real-time display consoles for "X" band radar signals from remote radar stations.
- 4 sets of VHF radio directions finder in marine bands.

.4 Remote Stations:

.1 Pulau Angsa

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.2 Bukit Jugra

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.3 **Cape Rachado**

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.4 **Pulau Undan**

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.5 **Bukit Segenting**

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.6 **Tanjung Piai**

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.7 **Bukit Pengerang**

- 1 "X" band radar facility
- 1 "S" band radar facility
- VHF transmitters and receivers

.8 **Sultan Shoal Lighthouse**

- VHF transmitters and receivers
- 1 "X" band radar facility

.9 **Raffles Lighthouse**

- 1 "X" band radar facility

.10 **St. John's Island**

- 1 "X" band radar facility

.11 **Bedok Lighthouse**

- 2 sets of VHF/DF radio direction finder

.12 **Bedok**

- 1 "X" band radar facility

.13 **Horsburgh Lighthouse**

- VHF transmitters and receivers
- 1 "X" band radar facility

.14 **Jurong Control**

- 2 sets of VHF/DF radio direction finder.

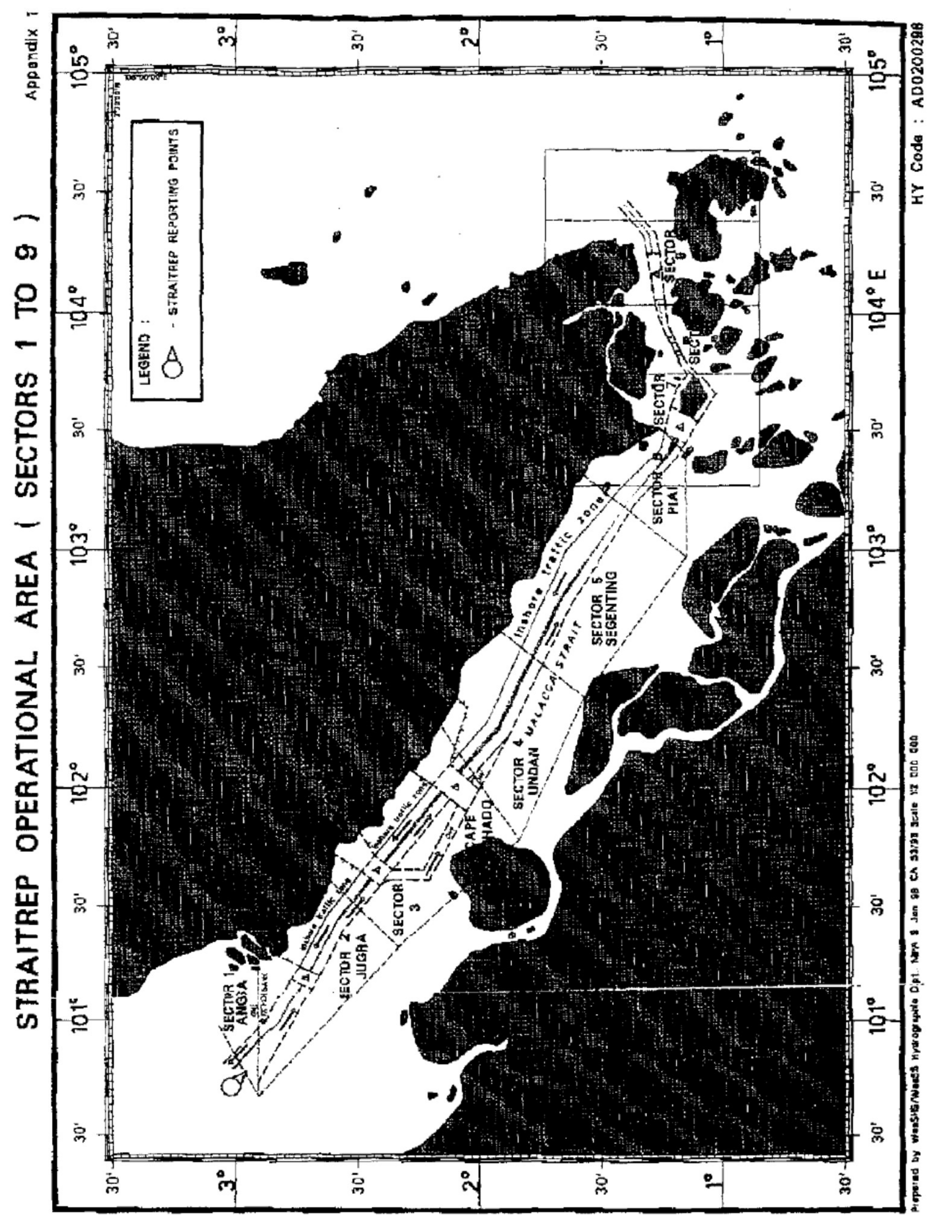
8 Alternative communication if the communication facilities of the shore-based authority fail

8.1 STRAITREP is designed to avoid, as far as possible, any irretrievable breakdown of equipment which would hinder the functioning of the services normally provided by the respective VTS authorities.

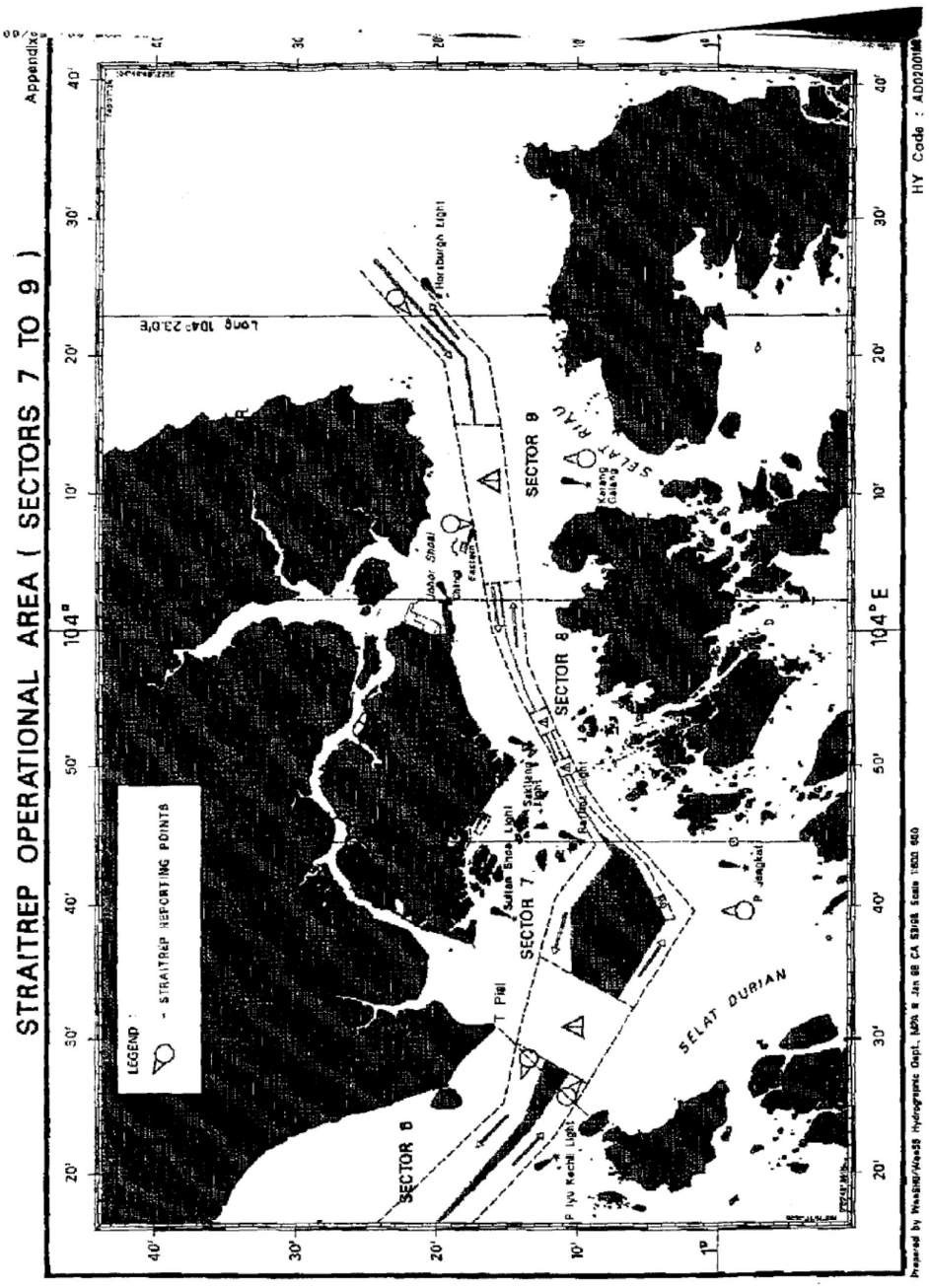
8.2 The most important items of equipment and power sources are duplicated and the facilities are provided with emergency generating sets as well as with Uninterruptable Power Supply (UPS) units. A maintenance team is available 24 hours a day to attend to any breakdown.

8.3 STRAITREP is also designed in such a manner that if one station fail, the adjacent station can provide the necessary coverage.

APPENDIX 1


Appendix 1
STRAITREP OPERATIONAL AREA (SECTORS 1 TO 9)
LEGEND :
- STRAITREP REPORTING POINTS
SECTOR 1 ANGSA
SECTOR 2 JUGRA
SECTOR 3
CAPE RACHADO
SECTOR 4 UNDAN
SECTOR 5 SEGENTING
MALACCA STRAIT
Inshore traffic zone
SECTOR 6 PIAI
SECTOR 7
SECTOR 8
HY Code : AD0200288
105°
104° E
103°
102°
101°
3°
2°
1°
30'

APPENDIX 2


STRAITREP OPERATIONAL AREA (SECTORS 7 TO 9)
LEGEND
- STRAITREP REPORTING POINTS
SECTOR 9
SECTOR 8
SECTOR 7
SECTOR 6
SELAT DURIAN
104° E

APPENDIX 3

ASSIGNED VHF CHANNELS FOR SECTORS IN THE MANDATORY REPORTING SYSTEM IN THE STRAITS OF MALACCA AND SINGAPORE (STRAITREP)

SECTOR	VHF CHANNELS	VTS AUTHORITIES
Sector 1	VHF channel 66	KLANG VTS
Sector 2	VHF channel 88	KLANG VTS
Sector 3	VHF channel 84	KLANG VTS
Sector 4	VHF Channel 61	KLANG VTS
Sector 5	VHF Channel 88	KLANG VTS
Sector 6	VHF Channel 88	JOHOR VTS
Sector 7	VHF Channel 73	SINGAPORE VTS
Sector 8	VHF Channel 14	SINGAPORE VTS
Sector 9	VHF Channel 10	SINGAPORE VTS

APPENDIX 4

DRAFTING OF RADIO REPORTS TO THE MANDATORY SHIP REPORTING SYSTEM IN THE STRAITS OF MALACCA AND SINGAPORE (STRAITREP)

Designator	Function	Information required
A	Ship	Name and call sign
C	Position	A 4-digit group giving latitudes in degrees and minutes suffixed with N (north) or S (south) and a 5-digit group giving longitudes in degrees and minutes suffixed with E (east) or W (west); or
D	Position	True bearing (first 3 digits) and distance given in nautical miles from an clearly identifiable point (state landmark)
E	True course	A 3-digit group
F	Speed in knots and tenths of knots	A 3-digit group
P	Hazardous cargo on board	Indicate "Yes" or "No" to whether vessel is carrying hazardous cargo. If "Yes" the class if applicable.
Q	Defects/damage/ deficiencies/other limitations	Brief detail of defects, deficiencies or other limitations
R	Description of pollution or dangerous goods lost overboard	Brief detail of type of pollution (oil, chemicals, (etc.) or dangerous goods lost overboard; position expressed as in (C) or (D)

ANNEX 2

DESCRIPTION OF THE MANDATORY SHIP REPORTING SYSTEM IN THE STRAIT OF BONIFACIO

1 CATEGORIES OF SHIPS REQUIRED TO PARTICIPATE IN THE SYSTEM

Ships of 300 gross tonnage and over are required to participate in the system.

2 GEOGRAPHICAL COVERAGE OF THE SYSTEM - REFERENCE CHART

The reporting system covers a circular area with a radius of 20 (twenty) nautical miles centred on Bonifacio. The reference chart is the French Chart No.7024 of the SHOM (Hydrographic and Oceanographic Service of the French Navy) International chart No.3350.

3 FORMAT AND CONTENTS OF THE REPORT, TIMES AND GEOGRAPHICAL POSITIONS FOR SUBMITTING REPORT, AUTHORITY TO WHOM REPORTS SHOULD BE SENT, AVAILABLE SERVICES

3.1 Content

The report required shall include:

- information considered essential:
  - the name of the ship, her callsign or IMO identification umber (letter A)
  - time and position (letters C or D)
  - course and speed (letters E and F)
  - draught (letter O)
- additional information, if appropriate
- cargo (in case of transport of petroleum products, dangerous or polluting substances) (letter P)
- defects or damage (letter Q)

In addition, in accordance with provisions of SOLAS and MARPOL Conventions, ships must report information on any defect, damage, deficiency or limitations as well as, if necessary, information relating to pollution incidents or loss of cargo. Possession of this information enables the operators to broadcast safety messages to other ship traffic and to ensure more effective tracking of the trajectories of ships concerned.

Ships shall transmit their reports on entering the precautionary areas defined in the documents about routeing measures in the Strait of Bonifacio, or when passing the following lines:

- East Bound:

  - A line linking the beacon of Cap De Fano in Corsica to Point
    41° 19'.18 N 009° 06'.51 E
    (West end of the North limit of the two way route)

  - A line linking the beacon of Capo Testa in Sardinia to Point
    41° 16'.75 N 009° 06'.18 E
    (West end of the South limit of the two way route).

- West Bound

  - A line linking Pointe De Rondinara in Corsica to Point
    41° 22'.55 N 009° 22'.38 E
    (East end of the North limit of the two way route)

  - A line linking Punta Galera in Sardinia to Point
    41° 21'.58 N 009° 23'.30 E
    (East end of the South limit of the two way route)

3.2 **Recipient of report**

The shore-based authorities are La Maddalena Coast Guard Station (Sardinia, Italy) and Pertusato Naval Signal Station, (Corsica, France), common call sign: **Bonifacio Traffic**.

4 INFORMATION TO BE PROVIDED TO SHIPS AND PROCEDURES TO BE FOLLOWED

Detected and identified ships are monitored by radar which in no way releases their master from their responsibility for safe navigation.

Following receiving report **Bonifacio Traffic** will provide:

- information on navigational conditions (status of aids to navigation, presence of other ships and their position at the moment of contact); and

- information on weather conditions.

5 RADIOCOMMUNICATIONS REQUIRED FOR THE SYSTEM, FREQUENCIES ON WHICH REPORTS SHOULD BE TRANSMITTED AND INFORMATION TO BE REPORTED

5.1 The radiocommunication equipment required for the system is VHF. Ship reports shall be transmitted by voice on VHF channel 10, back up VHF channel 16, both permanently watched by the station. An IMO circular will provide for another back up VHF channel, if necessary, after 1 February 1999. Use of automatic identification system will be implemented in accordance with IMO decisions.

5.2 The report required from a ship is mentioned in paragraph 3.1 above in the appendix "Summary". The language used shall be English or languages indicated in nautical publications.

5.3 Information of commercial confidentiality may be transmitted by non-verbal means. Detail of fax call number to be published in nautical information documents.

6 RULES AND REGULATIONS IN FORCE IN THE AREA OF THE SYSTEM

6.1 The international regulations for preventing collisions at sea (COLREGs) are applicable throughout the area of coverage of the system.

6.2 The IMO resolution A.766(18) about navigation in the Strait of Bonifacio, adopted on 4 November 1993 remains in force as far as it recommends each flag State to prohibit or at least strongly discourage the transit by certain categories of ships (operative paragraph 1). Its ship reporting provisions are replaced by those of the present instrument.

6.3 The regulation (arrêté) of the Préfet maritime for Mediterranean region n° 23/83 dated 6 May 1983 rules navigation in the approaches of the French coast in order to prevent accidental marine pollution, for ships carrying hazardous or polluting cargoes. This instrument has the following provisions:

.1 for ships intending to enter French territorial waters, mandatory ship reporting with a six-hour advance warning. In addition to information concerning the identity of the ship, the report must specify the place and time of entry into French waters, the port arrived from and the destination, the cargo and the status of manoeuvrability and navigational capacities;

.2 mandatory watch on VHF channel 16 while travelling through territorial waters; and

.3 mandatory reporting of any damage occurring at less than 50 miles from the Franch coast.

6.4 French regulations (arrêté) of the Préfet maritime n° 1/83 dated 15 February 1983 and 7/93 dated 5 March 1993 and Italian decree of the Minister of Merchant Marine dated 26 February 1993 prohibit transit through the Strait of Bonifacio for French and Italian ships carrying oil products or hazardous goods. They will remain in force.

7 SHORE-BASED FACILITIES TO SUPPORT OPERATION OF THE SYSTEM

7.1 Stations will be equipped with radar installations assisted by computer covering the whole area.

7.2 Stations will be equipped with a duplicated VHF equipment.

7.3 Personnel operating the system: Stations will be manned by Naval personnel on a 24-hour basis. Duty officers are qualified Senior Chief Petty-officers.

8 ALTERNATIVE COMMUNICATION IF THE COMMUNICATION FACILITIES OF THE SHORE-BASED AUTHORITY FAIL

Each station will assure relief of the other one in case of failure.

APPENDIX

SUMMARY
(Ship Reporting System)

1 General

1.1 Vessels concerned:

All ships of 300 GT and over

1.2 Area on entering which vessels shall report:

Ships shall transmit their reports on entering the precautionary areas defined in the documents about routeing measures in Strait of Bonifacio, or when passing the following lines:

- East Bound:
  - A line linking the beacon of Cap De Fano in Corsica to geographical position 41° 19'.18 N 009° 06'.51 E (West end of the North limit of the two way route)
  - A line linking the beacon of Capo Testa in Sardinia to geographical position 41° 16'.75 N 009° 06'.18 E (West end of the South limit of the two way route).
- West Bound
  - A line linking Pointe De Rondinara in Corsica to geographical position 41° 22'.55 N 009° 22'.38 E (East end of the North limit of the two way route)
  - A line linking Punta Galera in Sardinia to geographical position 41° 21'.58 N 009° 23'.30 E (East end of the South limit of the two way route)

1.2 Reference chart

French (SHOM) chart No.7024 International chart No.3350

2 **Reporting format** (in accordance with resolution A.851(20) - General principles for ship reporting systems and ship reporting requirements, including guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants).

Name of system: BONIFREP

Data to be transmitted:

Heading	Information
A	Name + call sign + IMO number
C or D	Time and Position
E and F	Course and speed
O	Draught
P	Cargo (in case of transport of oil products, hazardous or pollution substances)
Q	Defect or damage (if relevant)
P	Polluting/dangerous goods lost overboard (if relevant)

In the event of defect, pollution or goods lost overboard, additional information may be requested.

3 **Authority to whom the report shall be sent**

Pertusato Naval Signal Station (France) - La Maddalena Coast Guard Station (Italy); common call sign: BONIFACIO TRAFFIC

4 **Communications facilities**

The reports are to be transmitted on VHF channel 10 (or on channel 16 if not possible)

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ANNEX 16

RESOLUTION MSC 389(94)
(Adopted on 21 November 2014)

AMENDMENTS TO THE EXISTING MANDATORY SHIP REPORTING SYSTEM "OFF CHENGSHAN JIAO PROMONTORY"

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO regulation V/11 of the International Convention for the Safety of Life at Sea, 1974 (SOLAS Convention), in relation to the adoption of mandatory ship reporting systems by the Organization,

RECALLING FURTHER resolution A.858(20) resolving that the function of adopting ship reporting systems shall be performed by the Committee on behalf of the Organization,

TAKING INTO ACCOUNT the guidelines and criteria for ship reporting systems adopted by resolution MSC.43(64), as amended by resolutions MSC.111(73) and MSC.189(79),

HAVING CONSIDERED the recommendations of the Sub-Committee on Navigation, Communication and Search and Rescue at its first regular session,

1 ADOPTS in accordance with SOLAS regulation V/11, the amended mandatory ship reporting system "Off Chengshan Jiao Promontory", as set out in the annex;

2 DECIDES that the above-mentioned amended mandatory ship reporting system will enter into force at 0000 hours UTC on 1 June 2015;

3 REQUESTS the Secretary-General to bring this resolution and its annex to the attention of Contracting Governments to the SOLAS Convention and to members of the Organization.

ANNEX

MANDATORY SHIP REPORTING SYSTEM "OFF CHENGSHAN JIAO PROMONTORY"

1 Categories of ships required to participate in the system

1.1 The following ships are required to participate in the system:

.1 *passenger ships;*

.2 *all oil tankers 150 gross tonnage and above, all ships carrying hazardous cargo;*

.3 *ships of LOA more than 200 m or draft more than 12 m;*

.4 *ships engaged in towing or pushing another ship, regardless of gross tonnage; and*

.5 *ships are compulsory to report to VTS in circumstances where they:*

.1 are "not under command" or at anchor in the TSSs,

.2 are "restricted in their ability to manoeuvre"; or

.3 have defective navigational equipment.

1.2 The meaning of hazardous cargoes is as follows:

.1 goods classified in the International Maritime Dangerous Goods (IMDG Code);

.2 substances classified in chapter 17 of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) and chapter 19 of the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code);

.3 oils as defined in MARPOL Annex I;

.4 noxious liquid substances as defined in MARPOL Annex II;

.5 harmful substances as defined in MARPOL Annex III; and

.6 radioactive materials specified in the Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes in Flasks on Board Ships (INF Code).

2 Geographical coverage of the system and the numbers and editions of the reference charts used for the delineation of the system

2.1 The waters covered by the Ship Reporting System is the water area with the VTS Centre (geographical position is 37°23′.65N, 122°42′.12E) as the centre and 24 miles as the radius.

2.2 The relevant charts are Chinese charts Nos.*1305, 35001*. Chart datum is World Geodetic System 1984 (WGS 84) Datum.

3 Format, reporting time and geographical positions for submitting reports, authority to whom the reports should be sent, available services

3.1 Format

The format for reporting is as set forth in paragraph 2 of the appendix to Assembly resolution A.851(20)

A	Name of ship, call sign, and IMO number (if applicable)
C or D	Position (latitude and longitude or in relation to a landmark)
E	Course
F	Speed
G	Port of departure
I	Port of destination (optional)
Q	Defects and limitation (ships towing are to report length of tow and name of object in tow)
U	Overall length and gross tonnage

3.2 Content and geographical position for submitting reports

3.2.1 Participating ships are to report the information in paragraph 3.1 when entering the ship reporting system area. Reports are not required when a participating ship leaves the area.

3.2.2 When a participating ship leaves a port that is located within the reporting area, it shall report its name, position, departure time and port of destination.

3.2.3 When a participating ship arrives at a port or anchorage within the reporting area, it shall report, on arrival at its berth, its name, position and arrival time.

3.2.4 When a traffic incident or a pollution incident occurs within the reporting area, the ship(s) shall immediately report the type, time, and location of the incident, extent of damage or pollution, and whether assistance is needed. The ship(s) shall provide any additional information related to the incident, as required by the shore-based authority.

3.3 Authority

The competent authority is *Weihai* Maritime Safety Administration, China. The voice call sign is "Chengshan Jiao VTS Centre".

4 Information to be provided to ships and procedures to be followed

4.1 The Chengshan Jiao VTS Centre, where appropriate, will provide participating ships with information such as conflicting ship traffic, abnormal weather conditions, and maritime safety information.

4.2 Participating ships shall maintain a listening watch on the designated VTS *working channel*.

5 Radio communications required for the system, frequencies on which reports should be transmitted and the information to be reported.

5.1 The working channels of the Chengshan Jiao VTS Centre are:

Primary-Channel 08
Secondary-Channel 09 or 65

5.2 The language used for reports in the system will be Chinese or English. Marine communication phrases in a prescribed format will be used in all direct-printing telegraphy and radiotelephony communications.

6 Rules and regulations in force in the area of the system

China has taken appropriate action to implement international conventions to which it is a party including, where appropriate, adopting domestic legislation and promulgating regulations through domestic law. Relevant laws in force include domestic legislation and regulations to implement the Convention on the International Regulations for Preventing Collisions at Sea, 1972, the International Convention for the Safety of Life at Sea, 1974, and the International Convention for the Prevention of Pollution from Ships, 1973/1978.

7 Shore-based facilities to support operation of the system

7.1 Chengshan Jiao VTS Centre is comprised of radar, VHF communications, information processing and display, information transmission, recording, replay, and hydro-meteorological sensors. Its functions are data collection and evaluation, provision of information, navigation assistance, and support to allied services.

7.2 Chengshan Jiao VTS Centre maintains a continuous 24 hour watch.

8 Alternative communications if the communication facility of the shore-based authority fails

Chengshan Jiao VTS Centre has built in redundancies with multiple receivers on each channel. Alternative means of ship to shore communication are by HF (SSB), telex (facsimile), email, or cellular telephone.

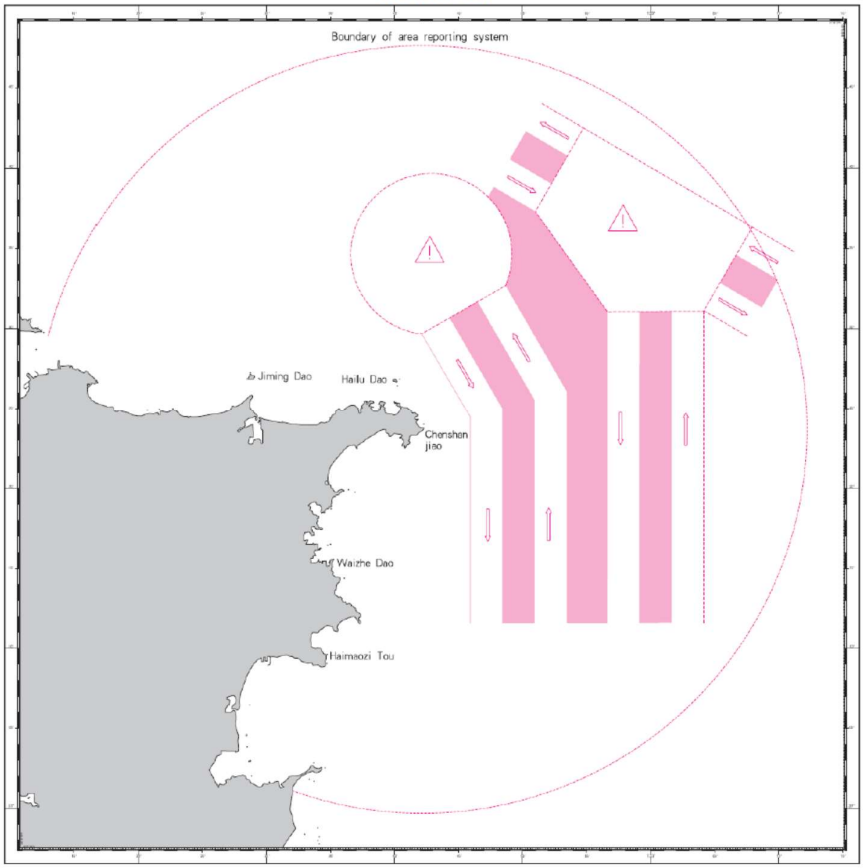
Fax：+86-631-5232467
Email：whvts@whmsa.gov.cn
Mobile phone：+86-631-5203320 +86-631-5190330

9 Measures to be taken if a ship fails to comply

9.1 Appropriate measures will be taken to enforce compliance with the system, consistent with international law.

APPENDIX 1

CHARTLET



**BOUNDARY OF MANDATORY SHIP REPORTING SYSTEM
"OFF CHENGSHAN JIAO PROMONTORY"**

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8. EFFECTIVENESS OF THE OVERALL PREPAREDNESS AND RESPONSE OF THE RELEVANT AUTHORITIES

8.1 Role of relevant Ministries

The competent authority responsible for oil spill preparedness and response is the Department of Environment as per Environment Protection Act 2002 (EPA 2002).

Part V Reg 36 of EPA 2002 provides for the requirement of a contingency plan in respect of any activity which may cause a spill. The aim of the NATIONAL OIL SPILL CONTINGENCY PLAN (NOSCP) issued in February 2003 is

“To maintain a national integrated Government /industry organizational framework capable of effective and prompt response to oil pollution incidents in the territorial waters and exclusive economic zone of Mauritius”.

The oil spill response structure is as per tables below. The Director of the Environment is the Director of NOSCP and the Deputy Director of Environment is the Spill Coordinator. There are two on-scene coordinators OSC SEA and OSC LAND who will carry out response actions at the spill source at sea and on the shoreline respectively.

Oil spills are classified according to the size of the spill and to their proximity to the shoreline likely to be impacted as follows:

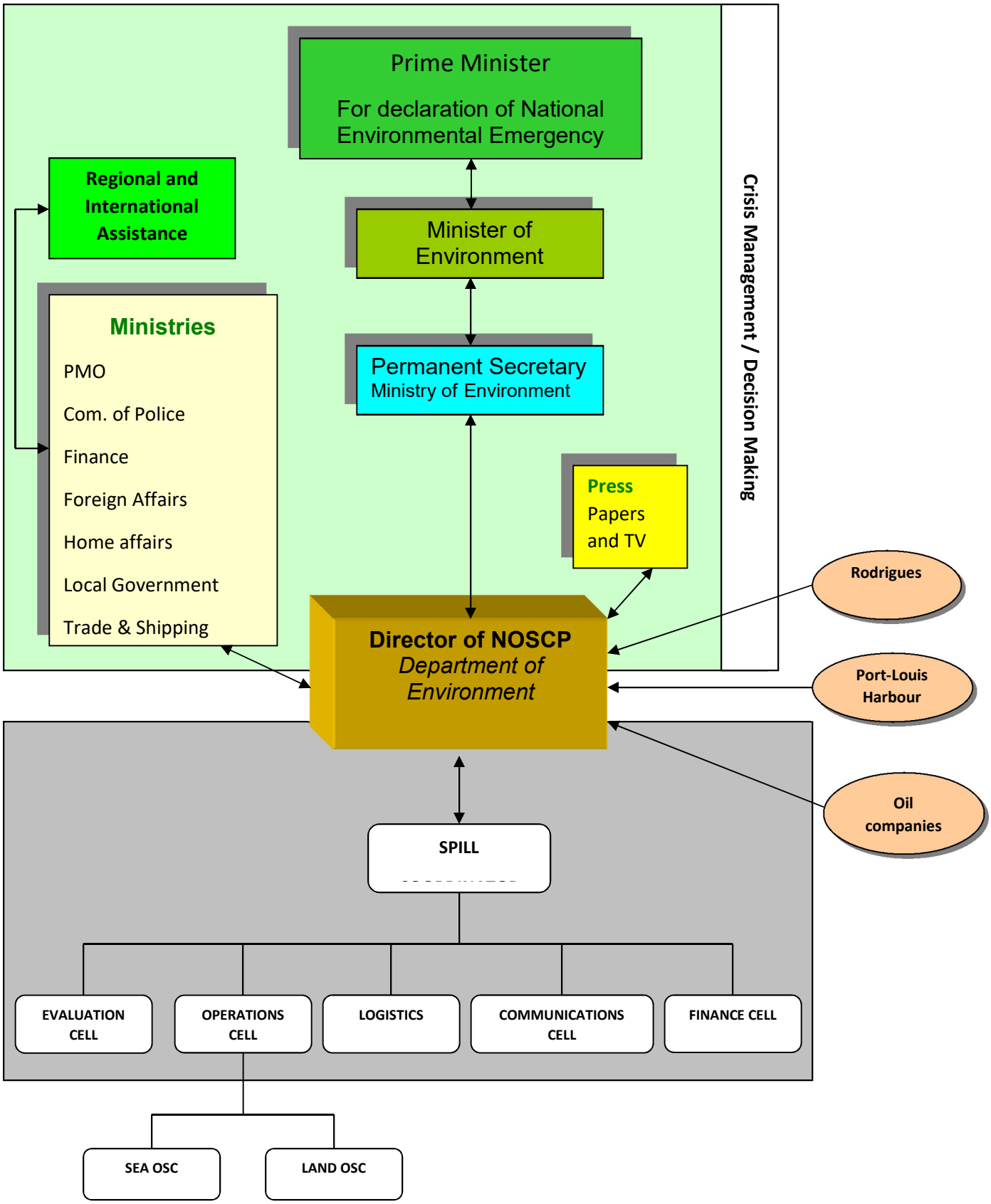
Tier I – Up to 10 MT

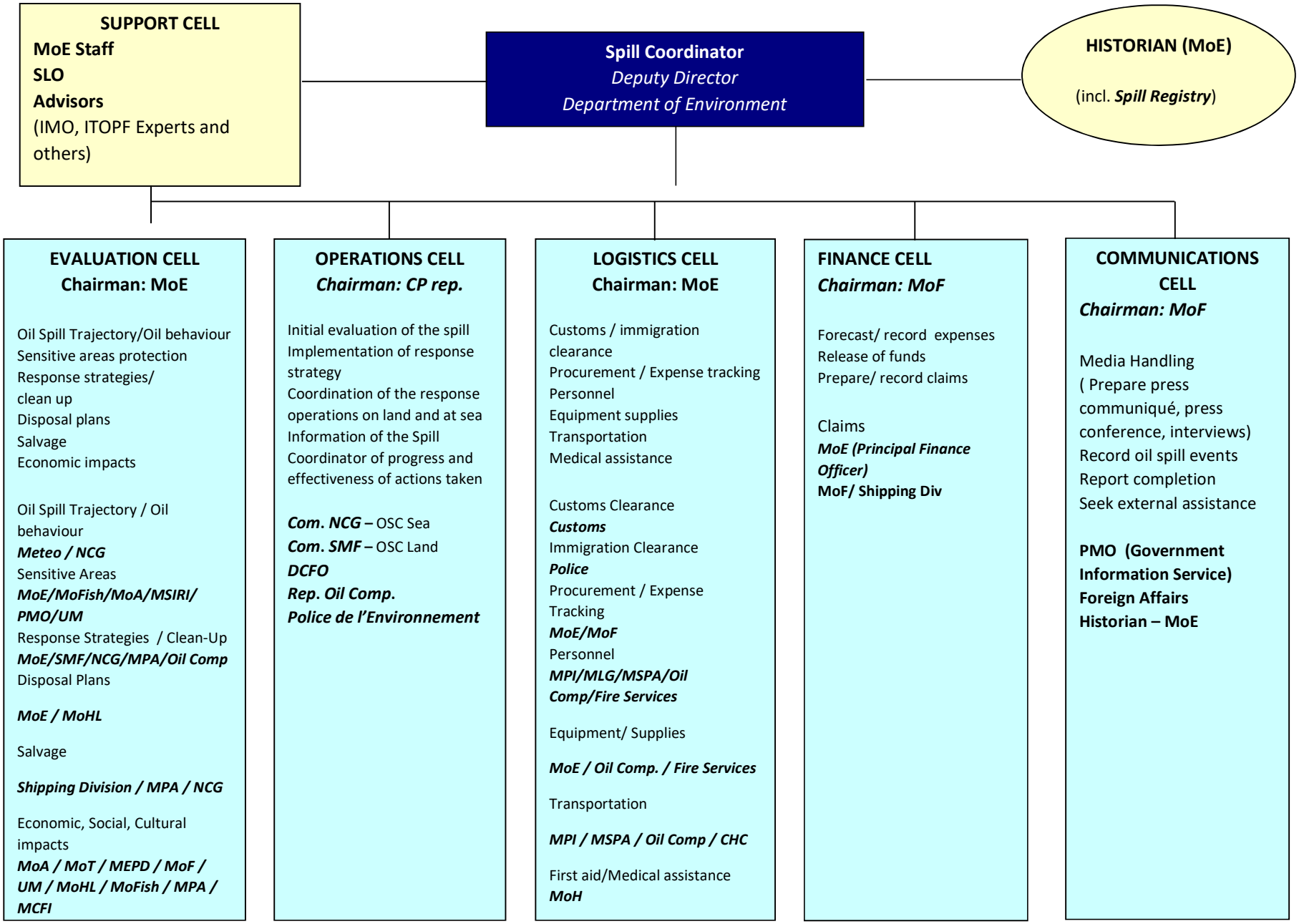
Tier II – From 10 to 100 MT

Tier III – Above 100 MT

Regular training programs and exercises for personnel likely to be involved in a response to an oil spill should be organized in accordance with the NOSCP.

The training consists of a desktop exercise every year and a Tier 2/3 drill every two years to test the plan.


Prime Minister
For declaration of National Environmental Emergency
Regional and International Assistance
Minister of Environment
Ministries
PMO
Com. of Police
Finance
Foreign Affairs
Home affairs
Local Government
Trade & Shipping
Permanent Secretary
Ministry of Environment
Press
Papers and TV
Crisis Management / Decision Making
Rodrigues
Director of NOSCP
Department of Environment
Port-Louis Harbour
Oil companies
SPILL
EVALUATION CELL
OPERATIONS CELL
LOGISTICS
COMMUNICATIONS CELL
FINANCE CELL
SEA OSC
LAND OSC


SUPPORT CELL
MoE Staff
SLO
Advisors
(IMO, ITOPF Experts and others)
Spill Coordinator
Deputy Director
Department of Environment
HISTORIAN (MoE)
(incl. Spill Registry)
EVALUATION CELL
Chairman: MoE
Oil Spill Trajectory/Oil behaviour
Sensitive areas protection
Response strategies/ clean up
Disposal plans
Salvage
Economic impacts
Oil Spill Trajectory / Oil behaviour
Meteo / NCG
Sensitive Areas
MoE/MoFish/MoA/MSIRI/ PMO/UM
Response Strategies / Clean-Up
MoE/SMF/NCG/MPA/Oil Comp
Disposal Plans
MoE / MoHL
Salvage
Shipping Division / MPA / NCG
Economic, Social, Cultural impacts
MoA / MoT / MEPD / MoF / UM / MoHL / MoFish / MPA / MCFI
OPERATIONS CELL
Chairman: CP rep.
Initial evaluation of the spill
Implementation of response strategy
Coordination of the response operations on land and at sea
Information of the Spill
Coordinator of progress and effectiveness of actions taken
Com. NCG – OSC Sea
Com. SMF – OSC Land
DCFO
Rep. Oil Comp.
Police de l'Environnement
LOGISTICS CELL
Chairman: MoE
Customs / immigration clearance
Procurement / Expense tracking
Personnel
Equipment supplies
Transportation
Medical assistance
Customs Clearance
Customs
Immigration Clearance
Police
Procurement / Expense Tracking
MoE/MoF
Personnel
MPI/MLG/MSPA/Oil Comp/Fire Services
Equipment/ Supplies
MoE / Oil Comp. / Fire Services
Transportation
MPI / MSPA / Oil Comp / CHC
First aid/Medical assistance
MoH
FINANCE CELL
Chairman: MoF
Forecast/ record expenses
Release of funds
Prepare/ record claims
Claims
MoE (Principal Finance Officer)
MoF/ Shipping Div
COMMUNICATIONS CELL
Chairman: MoF
Media Handling
(Prepare press communiqué, press conference, interviews)
Record oil spill events
Report completion
Seek external assistance
PMO (Government Information Service)
Foreign Affairs
Historian – MoE

The Shipping Division which falls under the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping is responsible for

(a) verifying that ships above 500 tons sailing in Mauritius waters comply with the requirements of the International Safety Conventions including the International Convention for the Prevention of Pollution from Ships (MARPOL) and
(b) the supervision of salvage and wreck removal as per the Merchant Shipping Act 2007.
(c) According to Section 150 of The Merchant Shipping Act 2007 concerning the Powers of the Director of Shipping, he may
(d) Par 1a
(e) give directions in relation to any salvage operation; and
(f) Par 1b
(g) take measures in accordance with generally recognized principles of international law to protect the environment from pollution following a maritime casualty, or acts relating to such casualty which may reasonably be expected to result in harmful consequences.
(h) Par 2
(i) He shall, in exercising his powers under subsection (1), take into account the need for cooperation between salvors, other interested parties and the public authorities in order to ensure the efficient and successful performance of salvage operations and to prevent damage to the environment.

(j) It is to be noted however that neither the Director of Shipping nor the Director of Environment have the required means at their disposal to intervene in case salvors are unable to attend timeously.

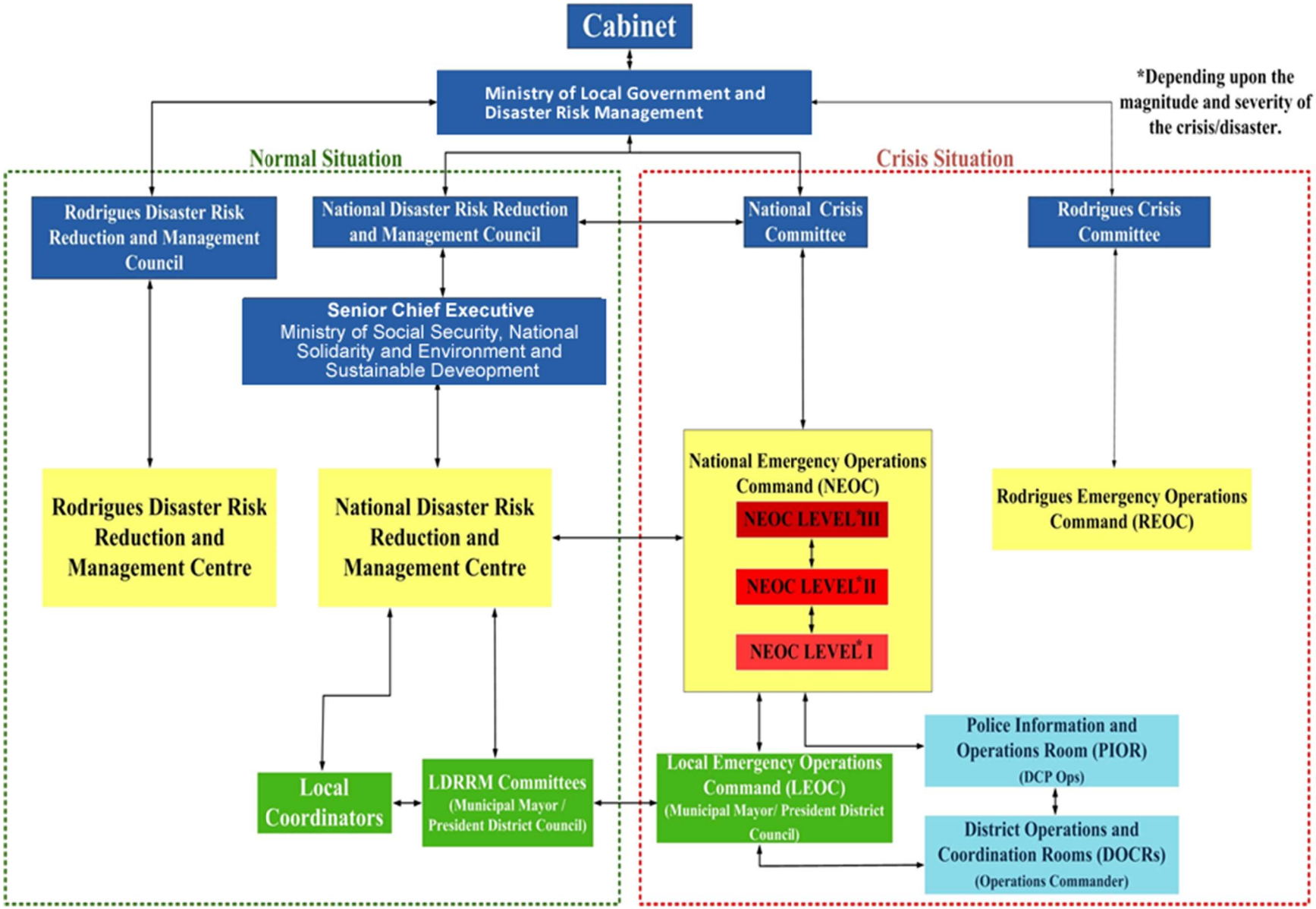
The Ministry of Local Government and Disaster Risk Management is responsible for disaster management. The National Disaster Risk Reduction and Management Centre (NDRRMC) was put in place after the flood disaster at Port Louis in 2013 to manage disasters and reduce risks. It is governed by The National Disaster Risk Reduction and Management Centre Act of 2016. The disaster risk management structure is set up to function either in a normal or crisis mode as per table below.

The National Crisis Committee (NCC), which is chaired by the Minister of Local Government and Disaster Risk Management to whom responsibility for the subject of disaster has been assigned, shall take decisive and timely actions through the operations arm of the Centre, the National Emergency Operations Command (NEOC) to ensure that general preparedness plans are activated at all levels and to supervise the organization of disaster response operations. Depending upon magnitude and severity or **potential** magnitude and severity of crisis/disaster there are **THREE** levels:

Level I: Monitoring of situation by NDRRMC staff.

Level II: Monitoring by NDRRMC staff assisted by representatives from First Responders (SMF, NCG, Police, MFRS + other ministries/public bodies as required).

Level III: Full scale activation with all designated NEOC members. NEOC monitors the activities carried out by the responders and submits daily reports to the National Crisis Committee.


Cabinet
Ministry of Local Government and Disaster Risk Management
*Depending upon the magnitude and severity of the crisis/disaster.
Normal Situation
Crisis Situation
Rodrigues Disaster Risk Reduction and Management Council
National Disaster Risk Reduction and Management Council
National Crisis Committee
Rodrigues Crisis Committee
Senior Chief Executive
Ministry of Social Security, National Solidarity and Environment and Sustainable Deveopment
Rodrigues Disaster Risk Reduction and Management Centre
National Disaster Risk Reduction and Management Centre
National Emergency Operations Command (NEOC)
NEOC LEVEL* III
NEOC LEVEL* II
NEOC LEVEL* I
Rodrigues Emergency Operations Command (REOC)
Police Information and Operations Room (PIOR)
(DCP Ops)
Local Coordinators
LDRRM Committees
(Municipal Mayor / President District Council)
Local Emergency Operations Command (LEOC)
(Municipal Mayor/ President District Council)
District Operations and Coordination Rooms (DOCRs)
(Operations Commander)

The ministry of Environment and shipping share different roles and responsibilities when dealing with ship casualties. In some instances there may be overlapping of responsibilities in the application of International treaties, ratified by Mauritius, that are of interest with respect of oil pollution but the two ministries are governed by different legislations.

The shipping Division, on the one hand, will be the entity responsible to ensure that oil contained in cargo tanks or in double bottom tanks remain intact on board and if the situation warrants oil transfer from the vessel, it should ensure that such oil is removed promptly to limit pollution, once it has a clear mandate to act accordingly. On the other hand the Ministry of Environment will start to get involved once oil starts to escape from the stricken vessel. In such a situation both ministries act along similar lines with respect to salvage operations to prevent, reduce and eliminate the adverse effect[96] on the environment. Duplication of actions during an emergency adversely affects response times and may have been the cause of undue delays with respect to certain decisions.

The roles of Shipping Division, DoE and NDRRMC in oil spills at sea have not been clearly defined in the legislation governing these three bodies. The responsibility of the DoE is to ensure oil spill preparedness through exercises and drills as per NOSCP, quick and efficient response to combat spills and recovery of the environment whilst NDRRMC is responsible to ensure

- the prevention and reduction of the risk of disasters,
- mitigation of the adverse impacts of disasters,
- disaster preparedness,
- rapid and effective response to disasters and
- management of post-disaster recovery and rehabilitation.

[96] Environmental Protection Act 2002. Sec 30(1) - The Director may initiate any action and take any measures necessary in the public interest to prevent, eliminate or reduce the adverse effect of an oil spill on the environment

EPA 2002. Sec 30(2) - In the event of a spill, the Director may direct the owner of the pollutant which is spilled, or any other person, to take such action within such period of time as he may specify in order to-

(a) prevent, eliminate, or reduce the adverse environmental effects of the spill;

(b) restore as far as is practicable the environment to its previous state;

8.2 International Conventions & Local Legislation

International treaties dealing with oil pollution, which have been ratified by Mauritius and which are relevant to overall preparedness and response are the International Convention on Oil Preparedness, Response and Cooperation (OPRC) 1990, the Convention on Limitation of Liability of Maritime claims 1976 and its protocol of 1996 and the International Convention on Civil Liability for bunker oil pollution damage 2001[97].

Mauritius acceded to the OPRC 1990 Convention on 2 March 2000 but has not incorporated the provisions of the convention into our legislative framework to make the provisions for preparedness and response mandatory for all actors closely linked with the application and rolling out of the National Oil spill Contingency Plan. Ratification or accession alone does not automatically imply that an international treaty has force of law in Mauritius. It merely shows a State Party's commitment to its willingness to be bound by the treaty Convention. Being a State Party, Mauritius needs to transpose the treaty requirements into its national legislation to give full and complete effect to the provisions of the Convention. As things stand important aspects closely linked to preparedness contained in the Convention have no legal standing and no legal framework to give full and complete effect to the provisions of the Convention especially contingency planning, training and regional co-operation but also no one can be made accountable for decisions taken. The moreso, the EPA 2002 does not make provisions for regional cooperation, which is only contained in the OPRC 1990. Had the OPRC 1990 been enacted into national legislation we believe that the country would not have had to wait for a declaration of emergency made on 07 August to get regional assistance from France on the 8th of August.

Under Article 6(b) of the OPRC 1990 Convention a State party has the obligation to establish a national contingency plan for preparedness and response, which includes the organizational relationship of the various bodies involved, whether public or private[98].

[97] Civil Liability for Bunker Oil Pollution Damage, 2001, Certification Requirements. Notice to Mariners Ref 4 of 2013

[98] Art 6(i) of the International Convention on Oil Preparedness, Response and Cooperation 1990

1. The International Convention on Civil Liability for Bunker Oil Pollution Damage was adopted in 2001 to ensure that adequate, prompt and effective compensation is available to persons who suffer damage caused by spills of oil, when carried as fuel in ship's bunkers. The application of the Bunker Convention 2001 may well be a hurdle soon when it comes to loss or damage by oil contamination and preventive measures put in place as well as other subsequent damages caused by the preventative measures. Mauritius acceded to the Bunker Convention 2001 on 17 august 2013[99]. As from January 2020 there is an obligation that owners supply ships with low sulphur fuels that easily congeal when spread in cold waters. Such bunker oil spills do not behave in the same way as the older generation fuels in terms of dispersion and definitely Mauritius is not prepared for oil spills of similar types in terms of predictions even with the accumulated experiences over the years which respect to oil spills as behaviours of such low sulphur fuels are still being evaluated in laboratories.

8.3 Court Hearing of Mr Mulloo, Director of Environment & NOSCP Director

Mr Mulloo was responsible under EPA 2002 to manage any oil spill and execute the NOSCP. He activated the Plan at 22:15 on Saturday 25 July 2020.

The first responders NCG and SMF were equipped to combat only Tier 1 oil spills (10 tons). Booms were deployed inside the lagoon as from Sunday 26 July. In view of the limited availability of booms, it was decided to give priority to the protection of Blue Bay Marine Park and the Ramsar site of Pointe D'Esny and the nature reserve Isle aux Aigrettes. As per Ramsar Convention there is an obligation for Government to protect the biodiversity of the sites, especially the green corals which is the second largest in the world and the unique ecosystem. However, this Convention has not been translated in municipal laws.

There were not enough booms to protect the sensitive areas of muddy flats with mangrove trees. They tried to protect these areas by blocking the passage between Pointe D'Esny and the islets. But the booms were being displaced by strong currents and there were no means of anchoring same on the seabed. MPA and Engen were reluctant to provide their good quality booms which are costlier as they would need same in case of an emergency in the port.

The NOSCP did not carry out an oil spill risk assessment because they did not have any expertise on ships and relied on the Director of Shipping to do needful in this respect. The Committee was informed that, according to the Salvors and the

[99] IMO Status of IMO Treaties of 04 August 2021

NCG Commandant who was the On Scene Coordinator monitoring the situation, the risk was low.

When the oil spill occurred on Thursday 06 August, the National Crisis Committee, chaired by the Prime Minister, declared a National Environmental Emergency. International organisations and friendly countries were requested to provide anti-pollution equipment and experts in oil spill combat (Annex I – Brief on request for technical assistance on oil spill).

When Mr Mulloo was questioned about the necessity of declaring an environmental urgency before requesting foreign assistance, he replied that this was not required as even in Tier 1 or 2 cases such assistance would be needed. But a state of emergency cannot be declared as long as there is a low risk of oil spill. The sheen that was detected did not constitute an oil spill per se and a state of emergency could not be declared then.

With regard to regional mutual assistance, there is a Regional Cooperation with an oil spill plan in place since 2000 which is ineffective due to limited oil spill combat capacity.

With regard to recovery, he has stated that the ecological system will take one or two years to recover by 80%, especially where there is a strong current. But it may take longer for areas where the water is stagnant because the sediment is contaminated. Fishermen should be able to fish in the impacted areas in two to three years.

With regard to claims in respect of environmental damage, he advised that Sections 32 and 33 of the EPA 2002 were applicable. The owner of the pollutant is liable for any damages caused by a spill and the burden of proving that the damage was not caused by the pollutant which was spilled shall always rest on the owner of the pollutant. The DoE shall recover from the owner of a pollutant which is spilled all costs incurred as a result of

(a) any clean-up or removal operation;

(b) any measure taken to prevent, eliminate or reduce the adverse effects of a spill on the environment;

(c) any measure taken to dispose of or to deal with the pollutant.

There are no limits to liability under the Act. However, he reckoned that government should base its claims on conventions like the 1992 Civil Liability Convention and the International Convention on Oil Pollution Preparedness, Response and Co-operation instead of EPA 2002.

8.4 Court Hearing of SP Sookareea, Officer in Charge of NDRRMC

SP Sookareea stated that the NEOC was activated at Level 2 at 22:15 on Saturday 25 July 2020. He attended the Coordination Meeting chaired by the Director of Shipping and the NOSCP meeting chaired by the Director of Environment on the following day.

He stated that NEOC did not have the capacity to carry out oil spill risk assessment and was relying upon the Shipping Department and the Department of Environment to assess the risks.

When his attention was drawn to the fact that

(1) the National Crisis Committee should take decisions and timely actions through NEOC to ensure that general preparedness plans are activated at all levels as per NDRRMC Act of 2016 and
(2) the NCC was not proactive at all as their first meeting was held after the oil spill,

he declared that they were informed by the Department of Shipping that the risk of an oil spill was minimal.

He has recommended that

(1) there should be a harmonized and unified approach in dealing with ship accidents,

(2) crisis monitoring should consist of a watch stage to monitor the situation, a warning stage in case the situation keeps developing and a determination stage. With this approach, they would be able to create proactiveness and to better deal with emergencies,

(3) there should be a leading agency which supersedes all other Authorities so that there is a unified approach and

(4) all institutions should build up capacity in terms of preparedness.

We take the view that the above recommendations are reasonable and should not present difficulties of implementation. We accordingly endorse the same and recommend that they be taken on board.

8.5 Court Hearing of Mr V Kauppaymuthoo

Mr Kauppaymuthoo stated that the inhabitants of Blue Bay and Pointe d'Esny had pointed out that they saw some sheens on the surface of the water on 28 July 2020 while in some areas, they found traces of oil and complained of oil odour before the spill. These signs should have been sufficient earlier alarms to prompt the authority to declare a National Emergency as, according to Mr. Kauppaymuthoo, the oil spill had already started. But the authority strictly adhered to the guideline sticking to a discharge of 10 tons of oil before doing so.

He has made the following recommendations which we fully endorse:

8.6 RECOMMENDATIONS

1. Updating of the NOSCP, reviewing of the available combat equipment and regular exercises to be carried consistently.

2. The implementation of a Regional Oil Spill Contingency Plan.

3. The adoption of the Precautionary Principle advocated by the Rio Declaration which states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

4. We should learn from our past mistakes and be ready to face the eventuality of a casualty affecting a vessel transporting 400,000 to 500,000 tons of oil. We should permanently and perpetually be in a state of preparedness for an oil spill with

a) **the necessary personnel trained and**
b) **the necessary equipment available.**

5. Coordination between the NDRRMC and the NEOC to be made more fluid.

6. A good legal framework should be put in place to regulate and coordinate the efforts of the population, external independent scientists and NGOs.

8.6 Court Hearing of Mrs N Burns

Mrs Teelock,also known as Mrs. Nalini Burns, Economist and International Expert, deposed regarding the grounding, the breaching of the hull, the state of preparedness of the relevant Authorities and their response. She stated that she is trained in Human, Civil, Economic and Cultural Rights and has worked on sustainable development Laws.,

She called attention to the need for compliance with UNCLOS in relation to the re-routing of ships away from Mauritian sensitive waters, and to declare a particular zone of our coastline as no-go areas, Special Protected Areas, or Particularly Sensitive Sea Area (PSSA).

7. There is urgent need for Government to prioritise environmental issues. And also to address issues not only between Ministries but also between departments within Ministries.

She suggested:

8. That local communities be roped-in to collaborate with local and national Authorities in relation to coastal zone ecological sustainable management, as they have the knowledge, motivation and interest.

She has deplored the Authorities' reluctance to accept the assistance of knowledgeable persons like herself, and Mr. Kauppaymuthoo, and many others.

She has furthermore suggested:

9. That the administrative cadres be encouraged to do more than as per their scheme of duties by giving them the opportunity, like the technical cadres, to attend conferences in desirable locations.

According to her:

10. From a Human Rights and Sustainable Development perspective, the threshold for compensation can go beyond the 18 million USD or 63 million USD ceilings, and even up to 10 billion USD. This will be for our lawyers to work on.

11. Effective live drills to be conducted at frequent intervals, preferably annually but not more than 18 months apart for better preparedness and response in case of an oil spill;

12. Annual review of the National Oil Spill Contingency Plan to amend or update the plan from lessons learnt during drills, to ensure that its objective and strategies be in line with new legislative requirements, if any, and update emergency contact list as needed;

13. To enact the provisions of the OPRC 1990 convention to provide a legal framework to the National Oil Spill plan, training of personnel, request for regional assistance, reimbursement of costs incurred, to mitigate risks linked to the preservation of the marine environment;

14. To make provisions for combat equipment sufficient in number and type to tackle at least a tier ll oil spill pending arrival of additional equipment;

15. Training or refresher training of all stakeholders including local assistance in case of pollution at sea. The response team will benefit from knowledge of the area from local assistance in terms of manpower and availability of boats that can and will be readily available to assist the deployment of booms;

16. Readiness and availability of equipment especially those having a shelf life i.e dispersants should be assessed bi-annually and replaced as required;

17. Plans to contain various scenario that can be tested regularly and amended as required;

18. Joint coordination meetings chaired by the Director of Shipping and the Director of Environment. The latter of whom will be in charge of operations but lacks technical know-how to deal with ships.

8.7 Court Hearing of Mr. S Sauvage, Representative of NGO Eco-Sud

Eco Sud is an Association for the Protection of the environment, particularly the Marine Park of Blue Bay, incorporated since more than 21 years and of which Mr Sauvage is the Manager. The Association has participated in various campaigns for the protection of the environment, namely:

(e) The campaign in favour of Ile aux Deux Cocos in the midst of the Blue Bay Marine Park in 1999
(f) The campaign against the construction of a highway passing through the valley of Ferney
(g) The Waste Way Energy project to burn waste for energy production, and
(h) The campaign against the City power project.

In 2010 Eco Sud initiated the Blue Lagoon Project for the monitoring of the lagoon and hence since then Eco Sud's main activity has been centered round the Blue Bay Marine Park, the lagoon of Pointe d'Esny and Grand Port, and the reserve of Grand Port, monitoring coral, fishes and mangroves. The Association has trained more than 60 marine guides during the last four years. In collaboration with the Centre d'Albion, the Fisheries Dept and the Mauritius Oceanography Institute, Eco Sud participated in the planting of corals.

With regard to the M/V Wakashio grounding, Eco Sud is of the view that the Authorities had failed to take on board the citizen and the civil society. In spite of several letters sent to them, Eco Sud had had to mobilize the citizens and the media to finally catch the attention of the Authorities. It was felt that the Authorities were more interested to vindicate themselves than to take responsibility and act. Those in authority were hiding behind such factors as "the weather" and "experts". Many efforts had been made to minimize the truth instead of getting people to work together in finding solutions. A technical coordination Committee was set up in response to strong public pressure and mass mobilization in Mahebourg on the 6 August 2020. The Authorities took much time to coordinate among themselves and the crisis had been managed without transparency. Decisions that were taken were not in line with what had been discussed at the level of the National Crisis Committee. People in authority turned a deaf ear on the several requests of Eco Sud.

On the 29th July i.e 4 days after the grounding, Eco Sud wrote to the Ministry of Environment, the Representative of the Japan P & I Club and the Director of Shipping and proposed its service and assistance because of its long presence in the region. Attention was drawn to the imminence of an environmental disaster and it requested that the crisis be managed in all transparency. Assistance of experts was sought from Japan P & I Club. On the same day i.e 29/7/20, on being tipped by the Coast Guard about a meeting at Blue Bay Coast Guard on the issue, Eco Sud made a request to the Ministry of Environment to participate but when its representative turned up at the meeting, they were refused entry.

Mr Sauvage produced copies of the letters addressed to the Ministry of Environment, the Ministry of Blue Economy, and the Director of Shipping (Marked Documents AB, AC & AD). In the absence of any response from the Authorities, Eco Sud invited them to a Citizen Meeting on 1 August 2020. Copies of letters were produced (Documents AE1, AE2, &AE3). The meeting did take place. The general impression that Eco Sud got at the end of the meeting was that the Authorities were waiting for reports of the experts as at that time the hull of the vessel had not yet breached. "Everything is under control" was the response of the Authorities.

From Pointe d'Esny many photos were taken of M/V M/V Wakashio which were published in the press and Eco Sud has even compiled a document in chronological order of its different publications on the social media. On the 5 August, the Ministry of Blue Economy published a communique with regards to three photos showing MV M/V Wakashio in a bad state. As per this Communiqué, the photos were allegedly manipulated and misleading and Mr. Donat, the Director of Shipping, gave an explanation on Top FM Radio as to the reason why the vessel was tilting towards the back. A member of Eco Sud took these photos and they showed the vessel was tilting towards the back.

On 6 August 2020 Eco Sud received more photos and some showing that the hull was breached and a beginning of the oil spill. On the same day members of Eco Sud were invited on radio to comment on the situation.

On 7 August 2020, Eco Sud by a stratagem managed to get invited at a meeting with the Ministry of Environment, Polyeco and The Mauritius Wild Life. The country manager of Polyeco at that meeting was computing the costs of every action that was contemplated and discussed and needed the prior approval of P & I Club. Eco Sud proposed at that meeting to set up a platform for the volunteers as there were many who wanted to help and requested that a window of communication be opened with them.

Eco Sud published a communique on 6 August 2020 informing the public that hydrocarbon, fuel and oil were bad for health and to refrain from bathing at sea.

In the space of three days, 3000 volunteers were registered. But Government did not want volunteers for clean-up of the shores and opted for professionals understandably because of the toxicity of the products. There was much misunderstanding on the issue and this misunderstanding could have been dispelled by Government by communicating with the volunteers and explaining to them that contact of hydrocarbon with the skin should be avoided because of its toxicity. Eco Sud posted posters along the coastal regions up to Grand River South East urging the public to protect themselves. Volunteers helped in distributing the flyers.

On 9 August 2020 the Technical Coordination Committee was set up by the Ministry of Finance in the presence of the Ministry of Environment, some experts and members of the Civil Society, Reef Conservationists, Mauritius Wild Life, Eco Sud, Business Mauritius and its main objective was to coordinate all the actions on the ground.

Volunteers had organized themselves at different levels: some were manufacturing artisanal booms, some were procuring cane leaves, others were

sewing the booms, some booms were of no use and others were perfected. It was truly a people's factory, regrouping citizens of different walks like fishermen, skippers, craft owners. The latter participated in the placing of booms. Eco Sud worked with Coast Guards and helped in placing their booms.

On 14 August 2020, Eco Sud in a radio program on "Explique ou Cas" thanked the volunteers and pleaded for more coordination on the part of the Authorities. On the same day Eco Sud attended a meeting organized by UNDP, GEF and SEP and a report entitled "Civil Society Organization" was issued and is produced in Court (Marked Doc. AF).

On 16 August 2020 Eco Sud held a press conference which was published on 17 August 2021. Eco Sud made a request for Crowd funding for support within the framework of the M/V Wakashio activities.

A request was made for more transparency in the decision-making process of the National Crisis Committee and Eco Sud pleaded for the setting up of a National Maritime Transport Commission, but when these requests were not addressed, Eco Sud withdrew from the National Crisis Committee on 25 August 2020.

On 26 August 2020, a letter was addressed to Dr. Goordyal, the Regional Health Director for medical and psychological assistance to help citizens who were ill because of the scent of oil in the villages. Copy of the letter is filed and marked Doc. AG. But no reply was forthcoming.

Following a second meeting with the Ministry of Finance, Eco Sud reiterated the necessity of setting up The National Maritime Transport Commission and insisted that the provisional terms of reference be published in the press, inviting comments from members of the public.

On 10 September 2020, the Organisation published an account of the donations it had received from 120 countries consisting of 12,200 donors; 55% of the total donations did not exceed Rs 500/-

Eco Sud defined three areas of interventions:

(a) Protection

(b) cleaning up of mangroves

(c) setting up of a group of work on alternative livelihood.

In this connection, contacts were established with SME, MITD, Ecole Hoteliere and FAREI. Eco Sud then started working on the rehabilitation of corals and mangroves. Food was distributed and Eco Sud supported some 75 families on a monthly basis.

On 19 September 2020, a summary of community meeting was published and which was produced in Court (AH).

Mr Sauvage also produced a Report on short term rehabilitation work carried out by Eco Sud dated 13 October 2020 (Doc. AJ) with regards to experts' advice on coral rehabilitation which was damaged not only by oil and the vessel but also by some of the artisanal booms.

On 12 January 2021 Eco Sud published a summary of findings on health issues encountered between 22 September 2020 to 3 December 2020 by some 277 patients examined, out of whom 45 had direct relation with the oil spill, 141 had nothing to do with it and 91 cases having hepatology symptoms with probable link with the oil spill and termed "difficult to say" in the findings. Document is filed and marked AK. The Ministry of Health responded to the above publication and showed interest to interact with our doctors, but when Eco Sud positively replied on 19 January 2021 for a follow up of the patients, no further communication was forthcoming from the Ministry.

A Newsletter was published in March 2021. In a nutshell it pointed out the inadequacy of the present oil spill plan and the exclusion of the civil society because of the blunders in managing the crisis by the Government, resulting in destruction of our environment.

The M/V Wakashio oil spill had had an impact on several types of Environmentally Sensitive Areas (ESA) namely corals, mangroves, seaweed, small islands, rivers and wetlands. The Integrated Monitoring Environmental Plan (IMEP) was finalized in October 2020, but too much time was taken in its implementation in June 2021. The impact on environment had different causes: the grounding, the oil spill, the cleanup mechanism and the impact of the booms on the corals.

Eco Sud has never understood the rationale behind the placing of booms in front of the marine park because the current flows towards Riviere des Creoles and Vieux Grand Port and not Blue Bay. The experts advised that the booms near the marine park be removed because in case the oil reached the parc, it would flow underneath the water and thus get entangled in the coral and this would be more difficult to remove than when the oil is floating. The booms at Blue Bay were more for a show as the oil from M/V Wakashio was going in the direction of Ile aux Aigrettes and the coast. When the booms placed in the form of basin (cuvette) drifted under the pressure of the strong current, the metal cable holding the booms cut everything in its passage causing enormous damages to the coral. It would have been easier and more efficient to place the booms in the direction along with the current.

People living in the coastal areas have had the feeling of being abandoned. Some boat owners had not received the allowance of Rs 10,200/ since December. A Social Assessment of Compounded Impact of Covid 19 and M/V Wakashio oil Spill by Dynamia Mauritius and some other collaborators is under preparation and it would be interesting for the Court to procure a copy thereof when it is ready and published.

When on 28 May 2021 MV Berjaya had a mechanical problem at some 20 nautical miles in our waters, the necessity for setting up the National Maritime Transport Commission was once again strongly felt.

Mr Sauvage produced the following documents:

(5) A press release of the police dated 29th May 2021 with regards to Berjaya which showed a definite positive change in the manner the matter was being handled (Doc. AM)
(6) A series of photos (Photos are marked AN1 to AN 29).

Upon a question by the Court, Mr Sauvage replied that members of Eco Sud took some photos, while some others were received from people travelling to Rodrigues. There was no indication from whom some of these photos emanated and each photo has an explanatory text.

(7) The “Compilation Chronologique de communications publiees d’Eco Sud” (Doc AO)
(8) Notes prepared by Mr Sauvage (Doc AP)

Eco Sud does not claim to have any expertise in oil spill or in any contingency plan in case of an oil spill. But the attention of the Authorities was drawn since 10 years to the necessity of setting up a restricted zone in the south where there are strong winds and vessels pass near the coast. This is not the first shipwreck: Benita, a rice cargo near Poudre d’Or, another vessel in Saint Brandon not long ago, the accident involving a vessel at Pointe aux Sable and Berjaya most recently. In less than 4 years we have had no less than four accidents. The National Maritime Transport Commission is vital to address the issue and cargo travelling in the area should keep a safe distance from the coast.

To a question by the Court, Mr Sauvage replied that Eco Sud was not much involved when Benita got grounded, but it wrote a letter to the Ministry of Environment and proposed to participate in the clean up, there was no mobilization like in the case of MV M/V Wakashio. He added that Benita must have damaged our coral and the reef and some oil spill must have ensued. Benita sunk on its way to India.

Replying to a question by the Court, Mr Sauvage stated that he did not recall having spoken to the SCR (Special Casualty's Representative), but he met with the Salvage Master after the oil spill at the National Crisis Committee.

When asked how the booms could have been placed to avert pollution of the mangroves and the ESA (environmentally sensitive areas) in view of the bad weather which prevailed for a few days, Mr Sauvage explained that it is evident from photos AN1, AN2 and AN3 that there was a strong current which flowed in the direction of Riviere des Creoles and therefore in the event of any oil spill, the oil would have been carried in that direction by the current. As at 29 July 2020, Eco Sud voiced out that the booms at the entry of the marine parc were unnecessary and that some 1.5 km of booms had to be placed in the direction and along with the current (as per photo AN6) that pushed towards the big "passe" of Ile de la Passe. After the red line in photo AN 6, a weak current pushed towards île aux Deux Cocos. Eco Sud had proposed that the booms be placed nearer to M/V Wakashio and readiness to skim the oil. This proposition was made on social media, but at that time nobody wanted to listen to Eco Sud.

Mr Sauvage conceded that though booms were placed where they should not have been, but they were also placed where they should have been, though not in the required quantity, but the Government capacity increased when it received aids from friendly countries and gradually the number of booms were increased. By that time, the strategy was more towards following (accompagner) the flow of oil than to contain it because of the strong current.

Eco Sud has not understood why M/V Wakashio did not cast anchor when it wrecked and a small tug from Port Louis tried to hold it from behind instead of trying to pull it backward as is clearly visible from Photo AN7. In the end the vessel did get disentangled by itself and it then turned parallel to the reef. The vessel drifted on a distance twice its length and smashed the reef. It cannot be said how long it will take for the damaged coral reef to regenerate at 100%. The damage to the reef was then still ongoing with part of the wreck banging it under the pressure of the waves. The crane of Hong Bang 6 could not operate to remove the rest of the wreck due to the bad weather and the swells and it went elsewhere, with the result that the wreck was then still there.

Mr Sauvage holds the view that the Environmentally Sensitive Areas (ESA) had not been 100% cleaned in spite of the assertion of the Authorities. They must have removed a major part of the oil and they have stated that the cleanup operation was now over. It is to the knowledge of Mr Sauvage that region by region had been cleaned up to a considerable depth. Experts have advised that mother nature will do the rest as the oil and petrol will decompose but the mangroves breathe from

their roots and when the roots are affected with oil, they are stressed and the question arises as to how they will adapt to the stress.

Mr. Sauvage did not venture to give a percentage of the Ecosystem that had been affected and he stated that Eco Sud is still waiting for the monitoring plan.

Upon a suggestion that there exists no landmark in the region to help passing vessels to navigate safety like a structure on land with light that flashes like a lighthouse to guide the vessel, Mr. Sauvage considers that the Airport itself is a good source of light.

Eco Sud is not equipped with any VHF and did not hear any communication with the vessel. Mr. Sauvage stated that more than one person had called the Coast Guard that evening and had reported that the M/V Wakashio looked like gigantic building with big lights at sea and this was something that was seen every day.

In view of all the above, we recommend having regard to Eco Sud's specialized knowledge and involvement in the various relevant fields, its long experience and consistent presence in the affected areas, that:

1. **The Authorities pay more attention to the voice of Eco Sud;**
2. **Its repeated proposal for the setting up of a National Maritime Transport Commission be given serious consideration**
3. **The Authorities seriously consider roping in Eco Sud in relevant committees and meetings in the event of any future similar potential or actual marine casualty.**

8.8 Court Hearing of Mr. A Donat , Diretor of Shipping

On 26 July Mr Donat, Director of Shipping had a co-ordination meeting held and got the Lloyds Open Form (LOF) from Mr Okaichi signed. Without the Lloyds Open Form he indicated that nothing gets started and It should be clear who will be responsible for the operations. He pointed out that Mauritian officials cannot board first as there may be liability in case of breakage and pollution and when nobody has been identified yet claims and liability could well be against the Government of Mauritius had officers from the Shipping Division boarded the vessel.

The salvors accumulated some delays at the beginning of the operations and the delay was further accentuated down the line during the salvage operation. To participate in the salvage operations, the 3 bunker barges on lease namely Elise, Tresta Star and Gulf Star 1 needed to have a signed charter party in hand before

getting insurance cover which is different from what they have for their normal day-to day operations. Bunker barges are exposed to M/V M/V Wakashio overturning them when they are along side.

Mr Donat, Director of Shipping, explained that he attended the first National Oil Spill Coordination Committee and thereafter deputed the marine scientist, Mrs Komal, instructing her to act according to his instructions when acting on behalf of the Shipping Division.

Mr James Piegrieche, a nautical officer who was designated as liaison officer at the National Emergency Operations Centre (NEOC) replied to queries received from NEOC and NDRRMC (the National Disaster Risk Reduction Management Committee) according to information submitted by the Shipping Division of Ministry of Blue Economy, Shipping, Fisheries and Outer Islands.

With respect to Salvage operations it was Mr Donat who chaired the daily coordination committee meetings organized by his Ministry. These meetings were attended by representatives from the P.M.O, the Ministry of Blue Economy, NDRRMC, Ministry of Environment, NCG, MPA, Mauritius Telecoms, Department of Civil Aviation, Ministry of Health, Rogers Shipping, MRA for Customs, the agent and Dornier Services, Polyeco , Celero group and those engaged in salvage operations. All the different entities reported to the Committee what they were doing. The salvors could not attend because of Covid 19, but they were available by phone and exchange of information was by the phone through their agents, Rogers Shipping. All that was reported verbally over the phone during the meetings was put down in writing.

Salvors also informed of the status of the vessel and on the amount of fuel that was on board as at the 31 July 2020 and it was on that particular day that Shipping received the first daily progress report from Mr van Gelder, Salvage Master of Smit Salvage who was on board together with Mr Lars Tesmar, Special Casualty Representative (SCR). As from 5 August 2020, Nippon Salvage came in as co-salver and the report emanated from both Smit Salvage and Nippon Salvage. It was not signed since it was an electronic document, but it clearly mentioned the names of the Salvage Masters.

The Shipping Division started getting verbal phone reports on or around the 2nd meeting. The Captain of the vessel was feeding information between the 25 July to

the 31 July through e-mails. Shipping was relying on the Master of the vessel for information on the status of the ship on a daily basis.

The Shipping Division could not have first-hand information by themselves due to the Covid 19 Pandemic Protocol in place but it was also a decision of their own not to interfere. In the meantime, the salvors have taken over. Officials from the Shipping Division thought that it was the best solution not to intervene as the blame for the fracture and breaking down of the vessel would be put squarely on them if something wrong happens.

When he was asked whether he was precluded from making an independent assessment as he was relying exclusively on information provided by the salvers, he replied that from the figures, he could see that there were some 4,000 tons of fuel on board. The Shipping Division did not carry out any oil spill risk assessment, not because they did not have the means, but because the best thing was not to intervene into the work of the salvors.

Upon a question by the Court whether it had been advisable that the Shipping Division placed total reliance on information from salvors concerning the risk of oil spill, he replied that they are professional salvors. He added that although the Shipping Division could have done an inspection or an assessment, but it was not possible to carry out a risk assessment.

On 2nd August the salvors still thought that the risk of an oil spill was low. The Shipping Division was informed by the Salvors that there was no risk of oil spill and at the same time all the fuel down in the engine room was shifted further up. He conceded that according to the salvors' report, on Sunday 2 August at 4 a.m the bulkhead holding 3,000 to 4,000 tons of fuel oil started to buckle. According to the Salvors, it was not a critical situation for them because if the engine got flooded, they could pump the fuel out but what they did not expect was the fracture.

The assessment of the salvors proved not to be correct as they thought that the vessel would not break but finally the vessel broke forward of frame 42.

When he was asked, whether when the bulkhead buckled, Salvage thought that the situation was still safe on board, he replied in the affirmative. It was only on 6 August when the vessel fractured that salvors felt that their safety was threatened and they requested to be airlifted. From the 1st until the 6 August, the salvers still

thought they could refloat the ship, but they also mentioned that their priority was to stabilize the vessel and to remove the oil.

But to remove the oil, the vessel had to be stabilized. The idea of stabilizing was to have the tug VB Cartier connected through a towline to the ship's stern. That was not possible. They had to clear around the ship for a vessel to come along side for removal of fuel. That too was not possible. Then they had to charter a different vessel. All this had to be done in order that the transfer could be done alongside M/V M/V Wakashio. At the same time they had shifted the fuel up to a higher level.

The Salvage Plan was prepared on 7 August after an assessment by salvors on site and information sent to SMIT head office. From 26 to 31 August, shipping was talking to the DPA (Designated Person Ashore) of the shipowner Company because it is through him that the Lloyd's Open Form was signed. He was the person who was responsible to ensure the safety of the ship; he was the link between the ship and the owners. He provided Shipping with the capacity plan, the arrangement plan and all certificates of the vessel. Information with regard to bending moments and shearing forces was not provided.

It was Mr Lars Tesmar who informed Mr Donat of the spill. Mr Donat was talking to Mr Tesmar at the committee, but he was also talking to Mr Gelder during the meetings. As far as he could remember, there was no dissenting opinion between Mr Gelder and Mr Tesmar on the oil spill risk analysis. Both held the view that the risk of an oil spill was on the low side. There was no separate report by Mr Gelder and Mr Tesmar. The SCR vetted the report of the Salvage Master and then the DPA issued it.

When it was put to Mr Donat that it was the job of the SCR to give dissenting opinion, if any, he replied that they did it among themselves. It is only when there is a major disagreement between them that they would go public about it and inform the country, but it would seem that there was no major disagreement between them.

When it was put to Mr Donat that the experience of Mr Tesmar was confined to offshore tugs and he had very little experience on salvage of bulk carriers of the size of M/V Wakashio, he replied that the SCR is chosen by the P & I club. In the present matter, the P & I Club contracted with Brand Marine for the salvage

operation and the latter delegated Captain Tesmar to do the job of SCR. So, this is dealt with directly by the P & I Club.

Under the Merchant Shipping Act, the Shipping Department oversees the operations, gives directions and ensures that the SCR and the salvers are collaborating. According to Mr Donat, there was no dissenting opinion between them even at the meeting and no difference of opinion on what the Shipping Division was directing them.

Upon being asked whether on the 4th of August, following the ingress of water in the engine room, and the filling of cargo hold No. 8, the ship was at one point in time in a hogging position, Mr Donat replied that the calculations were submitted only when the Court requested for additional report, but the report clearly points out that the calculations were done by the Salvage naval architect who advised the salvers which cargo hold was to be filled and which hold to be left empty. They mentioned in the report that the salvors had to stabilize the vessel to prevent it to move, to prevent further damage and the way to do it was to fill holds Nos 8 and 9 as advised by the naval architect. Tug VB Cartier was called to connect at the stern precisely because Salvage could not stabilize the vessel.

He conceded that the vessel moved from 240 degrees when it hit the reef to 27 degrees, but maintained that at no point in time the vessel got disconnected from the reef and floated. When it was put to Mr Donat that even Mr Tesmar admitted that the vessel floated at some time, he replied that the forward part could have floated but the aft part of the vessel until to-day is stuck into the seabed.

He agreed that Covid 19 was an impediment for the salvors to operate, they had to go to Port Louis for the testing and come back but the Shipping Division had to ensure that they were Covid-free otherwise they would not have been able to work. From his past experience, when the SCR and the Salvage Master meet, much accurate first-hand information is obtained, but these were when there was no pandemic restrictions and they could attend all the meetings. The SCR and the Salvage Master came at a meeting organized in Blue Bay for the high-level committee and other committees but they had to keep a distance and they kept their personal protective equipment. He was involved in all those committees, including the high-level committee chaired by the Prime Minister and the Commissioner of Police. The subject of the meetings was the response to the oil

spill, to organize the clean-up and to ensure that the pumping was done as quickly as possible to prevent further spill.

When he was questioned as to whether it was a good decision to fill cargo hold No. 8 with water when buckling at the forward bulkhead at the engine room had already started and there were cracks fractures on both sides of the hull, he replied that the cracks came afterwards on the 4th and the 5th. The salvors had naval architects who did the calculation for them and filling cargo hold No. 8 was the best option for them. The Shipping Division did not have a naval architect to countercheck even though it did ask for one.

Upon the complaint of the Court that up to now, it had not been favoured with the Condition Reports done by the Salvage naval architect from the 26 to the 31 July, he replied that according to the salvors, they did not have more than what they had already submitted. Either they did not do it or it had been deleted.

It was put to Mr Donat that the salvors should have submitted a risk assessment report so that the Shipping Division could have been in the picture. He replied that the risk assessment was included in the Salvage Plan submitted on 7 August, that is after the event and as per the plan, they were planning to remove the fuel.

On the 15 August, the vessel had already started to break. In the towing plan, two options were given: either to repair the front part and send the vessel to a ship breaking yard or to scuttle it. For repairing the forward part, Smit Salvage provided five options in the plan. They wanted to bring the vessel on the east coast, or to Tamarin, or Port Louis or Grand Bay. All the five options were not acceptable. When the Committee examined the plan, they did not agree to repair the vessel and agreed to send it to a breaking yard.

On the 17 August before the vessel had sheared in two sections, the salvors had a problem with the towing line and it took them 13 hours to reconnect the tow line with the forward part of the vessel which was stuck on the reefs. When the vessel broke into two, it was decided unanimously to do a planned sinking within the territorial waters. The French Government feared that if the ship was scuttled elsewhere, oil spill and debris might go to Reunion Island and they made a request to do it under 20 degrees latitude mark within the territorial waters of Mauritius. Accordingly, a meeting was held and *everybody* agreed to have the vessel sunk at a position 3,180 metres deep. The Shipping Division gave instructions that the

forward part be connected to the two tugs and be towed towards the position of planned sinking, but it was feared that should the towing line break in the process, they would not have time to reconnect it to the forward part which would drift and if it drifted one knot towards the coast, it would end up anywhere between Mahebourg and Pointe du Diable.

Had the proposition to repair the forward part of the vessel been accepted, that would have meant that all the assets would have been dedicated to the forward part. The two tugs would have gone because they had to be at the place where the repairs would have been carried out. Lots of people would have been engaged with the repairs and thus the salvage operation would have nearly come to a standstill. The planned sinking of the vessel carried out on the 24 August was the most appropriate and safe decision. The vessel was cleared of all oil and debris that would float.

The order to scuttle the vessel was given by the owner itself by way of a mail to the salvors before previously objecting to this course of action. The mail from the owner for the scuttling of the vessel is dated 21 August..

When questioned as to why they did not continue to tow it up to the north to Alang, in India, he replied that it would have stopped all the salvage operations of the two tugs and most of the crew would have gone.

With regards to the aft part, they had to remove the fuel therefrom and do the sanitization and they kept one tug for this purpose, for the equipment and for their needs in terms of logistics.

He agreed that according to Smit salvage towing plan, it was intended to tow the forward part to Alang in India. MV Benita did not arrive in India. It sunk at some place on the north eastern coast outside our territorial waters and there was no public outcry.

The M/V Wakashio was declared a wreck on the 15 August because on that day it broke and it was unsalvable. It was suggested to Mr Donat that he could have declared the ship a wreck as from 5 August, in which case he would have had the upper hand to give instructions, take appropriate measures and even prevent the pollution, the more so as Mauritius is not a party to the Wreck Convention and he would have been at liberty to apply municipal law and impose on the salvers as to

what should be done. Mr Donat replied that it is the same thing because instructions were given to the salvers under the provision Merchants Shipping Act as long as the ship was not declared a wreck and once it was so declared on the 15 August, instructions were given to the salvers under whatever provisions there are under the law governing wrecks.

When it was put to Mr Donat that once an accident is declared and once the LOF Form is signed, the Director of Shipping becomes the receiver and he is supposed to go on board, take command, assign duties and give direction, he replied that it was not declared a wreck at that time and it was still a salve property. When it was pointed out to Mr Donat that the regulations under the Merchant Shipping Act GN 124 of 2019 came into operation on 1 March 2019 regarding MARPOL on pollution and noxious substance and in virtue of that regulation, once he had the report of accident and defect, he had the liberty to act and take measures to prevent pollution. He replied that this was what was in fact done at the meeting and they organized for the oil spill response before it happened. The survey, however, was not done and this is because they did not want to interfere in the work of the salvers as it was risky and if anything would have happened, the Shipping Division would have been held responsible for it.

As the Director of Shipping, Mr Donat is responsible for the safety of vessel, but when it was put to him that he was also responsible for pollution and he could have taken measures to prevent it, he replied that oil spill falls under the ambit of the Ministry of Environment. In Australia, oil spill is under AMSA while in South Africa it is under SAMSA and the Department of Environment. It also depends on how the country is organized. The law may direct someone to do something, but when that person does not have the means to do it, it becomes difficult. The Shipping Division has no vessel and booms and it has neither the means nor the logistics nor the persons to intervene in an oil spill.

He conceded that as per the Act, the Director of Shipping carries inspection and investigation to determine whether the Merchant Shipping Act or any International Convention relating to shipping to which Mauritius is a party is being complied with. He also agreed that MARPOL and the Bunker Convention fall right into his lap. Though the regulations are there, he does not have the means to execute the task fully. He stated that we do not have qualified people to employ. There are no first-class mariner and master mariner on the market.

Shipping has declared a zone to be avoided area under the Merchant Shipping Act, but it is the NCG which ensures compliance. He suggested that a VTMS (Vessel Traffic Information Management System) be put into place to trace vessels that come into and go out of our territorial waters as it is done in La Manche and in the Malacca strait, where there is high traffic. But VTMS cannot work by itself. If a vessel has a breakdown, it has to be accompanied by an ETV (Emergency Towing Vehicle) which is a tug that should intervene to be able to tow the vessel and bring it to safety. All these things cost a lot of money. It is a system that needs to be put into place. One cannot work without the other. Upon a question by the Court under which umbrella such a system should operate, he replied that the tug would be under a civil umbrella, the VTIMS could be under the Shipping Division but managed by NCG, the GMDSS (Global Maritime Distress Safety System) belonging to Shipping Division is managed by the Mauritius Telecoms under a contract.

Mr Donat was informed that the NCG was monitoring vessels for other reasons like security, piracy and intelligence, but not for safety reason as safety was not their priority and he was asked whether anybody was responsible for monitoring the safety of vessels. He replied that VTMS (Vessel Traffic Management System) would be the most appropriate instrument and if NCG was not monitoring for safety reasons, this was out of his hand.

The sinking position of the vessel was reviewed following the request of the French Authorities. The vessel was towed to the new sinking position. It took them three to four days for the towing because of the bad weather. Favourable weather condition was required and then they used the powerful firefighting water jets of the tugs which was 1,250 metres cube per hour to fill the different holds with water in a set order and from then the vessel started to sink, stern first. No detonations or explosions were used. There was some acetylene-oxygen cutting done when they prepared the vessel before it was removed from the reef. They were using powerful lights, welding gears, but there was no explosion.

Invited to give possible reasons for the noises that were heard and interpreted as detonation, he replied that there was a lot of noise because of the fracture, but there was no detonation.

He produced two e-mails dated 21 August 2020 from the Ship owners to show that the order to scuttle the vessel came from them (Filed and marked **CS1** and **CS2**).

It was put to Mr Donat that since the salvage plan dated 7 August bears reference Revision 1, there must have been an original salvage plan. He replied that possibly there was an internal document which had been revised and not circulated. He concurred that when salvers are appointed, they owe a duty of care to the country. They gave the first risk assessment Report on the 7 August 2021.

8.9 Findings and Analysis

The National Oil Spill Contingency plan available and in use dated back to 2003. It appears that drills that are required to be carried out according to section 5.2 of the National Contingency Plan 2003[100] are not carried out. Frequent drills at regular intervals are effective means to test equipment, alertness of personnel and response time and carrying only desktop exercises is clearly not an effective way to ascertain weaknesses and improvement. Besides a desk top exercise precludes private entities and local inhabitants to participate.

DATE	DESCRIPTION
22/08/2000	Desktop Oil Spill Exercise at Port Louis Harbour as per Port Louis Harbour Contingency Plan
23/08/2000	Desktop Exercise at DoE – Incident at Grand Baie
24/08/2000	Desktop Exercise at DoE involving both Port Louis Harbour & National Level - Tier 2 at PL Harbour developing into Tier 3 Oil Spill
22-23/11/2003	Regional Oil Spill Drill Exercise
20/12/2004	Regional Oil Spill Drill Exercise
19-20/05/2006	Oil Spill Exercise – Collision of two ships 50 nm off NW coast followed by oil spill
31/10/2006	Regional Oil Spill Drill Exercise
08-10/05/2007	22,000 T tanker steering gear breakdown 25 nm off Port Louis & 50 T HFO oil spill
25-27/04/2012	Oil Spill Full Scale Exercise Training of personnel of national Incident Command Post Updating Provisions of NOSCP Full Scale Exercise MV Angel 1 & tanker Minorque Lessons learned

[100] A desk top exercise will be carried out yearly and a tier2/3 drill every 2 years to test the plan.

The National Oil Spill Contingency Plan (NOSCP) has never been completely reviewed during these past 18 years to take into consideration the immense traffic and higher tonnage or even new types of cargoes or bunker fuels being carried on board of ships plying along the south-eastern part of Mauritius although it would have been wise to have it reviewed following the grounding of MV Angel 1 off Poudre D'Or and MV Benita off Le Bouchon in June 2016 to take into account the lessons learned during these incidents. This has resulted in **a complete lack of preparedness of the NOSCP cells and the first responders.**

The scope of the National Oil Spill Contingency Plan 2003 supposedly covers all spills on the adjoining shorelines or within the Maritime Zones as defined in Section 49 of the Environment Protection Act 2002[101]. With time the topography of shore lines change and to be in line with the above scope to cover all spills, the plan needs to be reviewed at specified regular intervals to take into consideration the actual condition of the different areas likely to be affected by an oil spill, to identify new key personnel to be contacted in the event of an emergency and to better address preparedness and response actions.

Looking closely at the NOSCP 2003 one can wonder how the plan could form a basis for preparedness and response in the event of an oil spill considering that the plan has remained static for so many years without review. One can ponder if actions enumerated in the plan have ever been tested when emergency mobile phone numbers of many key personnel are no longer relevant being of 7 instead of 8 digits. To make things worse one has to pay attention to the list of key personnel at Annex 1 of the NOSCP 2003 to realize that some of the key personnel have either retired since quite some time or are no longer an active members of the contingency plan. At least two of the key persons are known to be no longer of this world.

It also came to light that there was a lack of positive actions to combat oil pollution in the early hours of fuel bunker oil leakage from the stricken vessel due to lack of proper oil spill equipment. Had it not been the voluntary efforts of private organisations and volunteers to fabricate artisanal booms the consequences of damages to some parts of affected shorelines could have been worse.

The scope of the NOSCP 2003 applies to all oil spills, whether inland, on the adjoining shorelines or within the Maritime Zone as defined in section 49 of the

[101] Sec. 1.4 of the National Oil Spill Contingency Plan 2003

EPA 2002[102]. In reality we are limited by equipment and are able to deal with only a Tier 1 spill of up to 10 tons. Even the efficacy of the available booms can be questioned when it comes to preparedness and response as the booms are of harbor types when high sea booms would have been more appropriate to deal with the M/V M/V Wakashio oil spill in a region well known to experience wave heights of 3-4 m in winter.
Based on the above and on the availability of a limited amount of high sea booms that were readily available in stock, it cannot be said that we are at a level of preparedness thought of by the legal drafters of the Environmental Protection Act in 2002 to foster harmony between quality of life, environmental protection and sustainable development for the present and future generations[103].

In the Preface of the National Oil Spill Contingency Planning 2003 it is mentioned that the aim of the plan is to maintain a national integrated government/industry framework capable of prompt response to oil pollution. Not only there was no valuable Government/industry collaborative response in real terms in the wake of the M/V Wakashio grounding but the presence of several anonymous participants at the forefront spearheading actions with ordinary citizens forming no part of the NOSCP and coming from different quarters of life is ample evidence that such collaborative action could never exist for the type of spill caused by M/V Wakashio. Nor has it ever been tested.

In terms of preparedness and response there was not sufficient containment sea booms and there was limited means to deploy available booms in the early hours of the oil spill. It soon became apparent that inputs from industry on site has been scanty compared to response from private individuals and fishermen who have voluntarily provided useful assistance to respond to the oil spill of that magnitude through the fabrication, deployment and installation of artisanal booms to compensate for the lack of sufficient sea booms and means for deployment. For better preparedness in future the contribution of private entities should not be underestimated and should be integrated in any action plan to assist Authorities and industry to fight oil spills.

[102] NOSCP 2003 Sec. 1.4 Scope of the plan

[103] EPA 2002. The Act is meant: To provide for the protection and management of the environmental assets of Mauritius so that their capacity to sustain the society and its development remains unimpaired and to foster harmony between quality of life, environmental protection and sustainable development for the present and future generations

The plan lacks a formal risk assessment matrix and an almost real case scenario. Risks assessment is part of any action undertaken and preparedness and response are not different. Not only the National Oil Spill Contingency plan 2003 does not address that aspect[104] but does not contain oil spill scenario with actions and role definitions to be better prepared and improve on reaction time in the event of an imminent oil spill at sea. It is only when real drills are tested live that one may identify the weak links in the chain of command or among those on the field for improved response.

An oil spill risk assessment should have been done right from Day One by the ship's Master and then verified by the local Authorities (NCG & Shipping Department) upon confirmation that the ship was Covid free. This was not done and everybody relied on the salvors to do so. Finally, the oil risk assessment was done by Salvage after the oil spill.

It is therefore quite legitimate to question the level and state of preparedness that were available when the casualty occurred. We conclude that this lack of training, review and updating of the NOSCP has resulted in a complete lack of preparedness of the NOSCP cells and the first responders.

The M/V Wakashio incident has been a wake-up call for the Environment Division of the Ministry of Environment and means and measures have since been put in place to review the whole plan.

The NOSCP has been revised and a draft copy has been submitted to the Court. However we did not receive any confirmation that it had been reviewed by all stakeholders and implemented. The Plan should be regularly reviewed in the light of the findings observed during exercises, drills, near miss situations and actual oil spill incidents, if any.

The Plan has also made provision for taking on board representatives of NGOs who would then train and manage volunteers (Annex II). The implementation of this measure is strongly recommended.

It has been proposed in the draft NOSCP to establish a sub-committee under the chairmanship of the Commissioner of Police to avoid any duplication of response by the NOSCP and NDRRMC (Annex III). This committee would include representatives from NCC, NEOC, NOSCP, Coordination Committee of the Shipping Dept and any other representative as appropriate. In our opinion, the role of this sub-committee in the Incident Management Structure of the NOSCP should

[104] Last Risk assessment carried out in September 1998. Page 6 Sec 2 (b) of NOSCP 2003

be clearly defined as it should not interfere in the decisions taken by the Incident Management Team (Annex IV).

Furthermore, considering that

(i) oil transfer in IBC tanks airlifted by helicopter is a very slow process at a maximum of 0,5 m3 per trip;

(ii) the oil spill may occur upon grounding and it will take time for the Salvors to dispatch their equipment and

(iii) the grounded ship may be uninsured,

We recommend to put in place a first intervention team with appropriate equipment to transfer oil to barges.

Despite the increasing risks of an oil spill following the development of Port Louis as a bunkering hub, the list of oil spill combat equipment will need to be reviewed. Essential equipment such as pumps and buoyant piping for oil transfer as well as appropriate booms and ecological pins are not available. Transferring 500 litres or less of oil in IBC by helicopter per trip is in order for small fishing vessels but is inappropriate for commercial vessels with HFO bunkers ranging from some 200 to 4,000 tonnes.

8.10 CONSOLIDATED RECOMMENDATIONS REGARDING THE PROTECTION OF THE ENVIRONMENT

We endorse the recommendations of Mr Kauppaymuthoo, Mr Sauvage and Mrs Teelock as highlighted in bold characters above and submit below our own recommendations as follows:

1. **There should be a harmonized and unified approach in dealing with ship accidents;**
2. **Crisis monitoring should consist of a watch stage to monitor the situation, a warning stage in case the situation keeps developing and a determination stage. With this approach, the relevant actors would be able to create pro-activeness and to better deal with emergencies;**

3. **There should be a leading agency which supersedes all other Authorities so that there is a unified approach and**

4. **all institutions should build up capacity in terms of preparedness.**

5. **Updating of the NOSCP, reviewing of the available combat equipment and regular exercises to be carried consistently;**

6. **The implementation of a Regional Oil Spill Contingency Plan;**

7. **The adoption of the Precautionary Principle advocated by the Rio Declaration which states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;**

8. **We should learn from our past mistakes and be ready to face the eventuality of a casualty affecting a vessel transporting 400,000 to 500,000 tons of oil. We should permanently and perpetually be in a state of preparedness for an oil spill with**

    a) the necessary personnel trained and

    b) the necessary equipment available;

9. **Coordination between the NDRRMC and the NEOC to be made more fluid;**

10. **A good legal framework should be put in place to regulate and coordinate the efforts of the population, external independent scientists and NGOs;**

11. **There is urgent need for Government to prioritise environmental issues. And also to address issues not only between Ministries but also between departments within Ministries;**

12. **That local communities be roped-in to collaborate with local and national Authorities in relation to coastal zone ecological sustainable management, as they have the knowledge, motivation and interest;**

13. **That the administrative cadres be encouraged to do more than as per their scheme of duties by giving them the opportunity, like the technical cadres, to attend conferences in desirable locations;**

14. **From a Human Rights and Sustainable Development perspective, the threshold for compensation can go beyond the 18 million USD or 63 million USD ceilings, and even up to 10 billion USD. This will be for our lawyers to work on;**

15. **Effective live drills to be conducted at frequent intervals, preferably annually but not more than 18 months apart for better preparedness and response in case of an oil spill;**

16. **Annual review of the National Oil Spill Contingency Plan to amend or update the plan from lessons learnt during drills, to ensure that its objective and strategies be in line with new legislative requirements, if any, and update emergency contact list as needed;**

17. **To enact the provisions of the OPRC 1990 convention to provide a legal framework to the National Oil Spill plan, training of personnel, request for regional assistance, reimbursement of costs incurred, to mitigate risks linked to the preservation of the marine environment;**

18. **To make provisions for combat equipment sufficient in number and type to tackle at least a tier II oil spill pending arrival of additional equipment;**

19. **Training or refresher training of all stakeholders including local assistance in case of pollution at sea. The response team will benefit from knowledge of the area from local assistance in terms of manpower and availability of boats that can and will be readily available to assist the deployment of booms;**

20. **Readiness and availability of equipment especially those having a shelf life, e.g dispersants should be assessed bi-annually and replaced as required;**

21. **Plans to contain various scenarii that can be tested regularly and amended as required;**

22. **Joint coordination meetings chaired by the Director of Shipping and the Director of Environment. The latter to be in charge of operations but lacks technical know-how to deal with ships;**

23. **The Authorities pay more attention to the voice of Eco Sud;**

24. **Its repeated proposal for the setting up of a National Maritime Transport Commission be given serious consideration.**

25. **The Authorities seriously consider roping in Eco Sud in relevant committees and meetings in the event of any future similar potential or actual marine casualty;**

26. **We further recommend to put in place a first intervention team with appropriate equipment as set out below;**

27. **The procurement of appropriate booms, ecological pins, pumps, diesel generators, buoyant piping, hose and fittings;**

28. **An agreement with local bunkering companies to provide barges in case of an imminent or actual oil spill; and**

29. **The setting up of a joint emergency team of SMF/NCG trained in the use of the afore-mentioned equipment to transfer fuel oil from the grounded ship to the bunker barge;**

30. **The Plan has also made provision for taking on board representatives of NGOs who would then train and manage volunteers (Annex II). The implementation of this measure is strongly recommended.**

ANNEX I

Ministry of Environment, Solid Waste Management and Climate Change

Brief on request for technical assistance on oil spill

1. At around 19 30 hours on Saturday 25 July 2020, MV Wakashio, owned by Okiyo Maritime Corp./ Nagashiki Shipping Co Ltd ran aground on the reef at Pointe d'Esny.

2. The bulk carrier, of dimension of around 300 m length and 50 m width, had 20 crew members and contained no cargo. From information obtained, the vessel had fuel for its use on board, as follows: -

(i) Low-sulphur fuel oil: 3894 metric tons;
(ii) Diesel: 207 metric tons; and
(iii) Lubricant oil: 90 metric tons.

3. The wreck is next to the following ecologically sensitive areas:

(a)Blue Bay Marine Park (RAMSAR site);

(b)the Pointe D'Esny RAMSAR site;

(c)Ile aux Aigrettes Nature Reserve;

(d)Mahebourg Fishing Reserve;

(e)Barachois and mangroves areas; and

(f)Other ilets (Ile de la Passe, Ile Marianne and Ile au Phare).

In view of potential risk of oil spill, some 360 metres of booms were deployed at the lagoon entrance of the Blue Bay Marine Park and the Pointe D'Esny RAMSAR site.

4. A salvage agreement was signed between the owner of the vessel and SMIT salvage of Netherland on 27 July 2020 and a crew of the salvage team reached Mauritius on 31 July 2020. A local environment arm of the salvage company,

namely Polyeco Société Anonyme, was also appointed. Polyeco also deployed some 300 metres of booms.

5. On 6th August 2020, the Salvage team observed a breach on the vessel at 08 50 hrs and all the crew members were immediately evacuated. Consequently, in view of a high risk of an oil spill, the Tier 3 level of the NOSCP was activated. At around 10 30 hours on 06 August 2020, leakage of heavy fuel oil (HFO) from one of the breached tanks containing 1180 metric tons of oil, was observed. The oil slick has moved some 8 km in the lagoon from the wreck position towards the North-West and around 8 km of the coastline have been impacted by the HFO. The local teams have deployed a total of some 1700 metres of booms. The pumping of the oil is being seriously hampered due to bad weather conditions and absence of floating hoses.

6. The Government of Mauritius has declared the oil spill as an Environmental Emergency on 07 August 2020.

7. Urgent assistance has been requested from international organisations such as European Union and the foreign friendly countries namely; Reunion Island (France), Australia, France, India, Japan and South Africa through the Ministry of Foreign Affairs, Regional Integration and International Trade, in terms of anti-pollution equipment, personnel and experts in oil spill combat, pollution monitoring, protection of the environment and evaluation of damages.

8. The equipment required are as follows:

- **Skimmer / pump – 20 Ton /hr max: 20 complete sets;**
- **Inflated Lagoon Boom: 10,000 m (including anchors and accessories) and 20 Compressors;**
- **Sorbent booms : 20,000 m (including anchors and accessories);**

- **Reinforced plastic tanks (1 Ton capacity): 100 units or other fast tanks;**
- **High sea booms: 4,000 m with accessories and anchors; and**
- **Floatable hose (diameter: 4-5 inches): 500 m.**

9. The following expertise will be required (non-exhaustive):

- **Expert to advise on response strategies;**
- **Expert to advise on types and efficiency of booms to be deployed;**
- **Expert to advise on logistic needs assessment and supervision;**
- **Expert to conduct marine environment damage assessment;**
- **Expert on reef ecosystem;**
- **Financial and claim preparation Expert;**
- **Health and safety Expert;**
- **Social and economic impact assessment Expert;**
- **Expert from International Maritime Organisation - International Convention on Oil Pollution Preparedness Response and Cooperation; and**
- **Expert from International Organisation for Migration) on Migration / Relocation.**

The experts should have proven experience in their respective fields, worked on similar cases of oil spill and have experience in working in tropical climatic conditions.

imported, such as the quantity, value, and precise nature of the goods. In addition to the BOE, trade documents such as invoices, bills of lading, permits or other documents accompanying the imported equipment, goods should also be submitted. Once submitted the customs declaration is validated and payment of customs charges, if any, is effected. The BOE is then processed at the Compliance Section whereby after checking the documents, the compliance officer may:

- Release the goods;
- Require clarifications about documents submitted; or
- Send the declaration for verification.

In the case of an incident where specialist equipment, vessels may need to clear customs the assistance and support of MPA in completing the required documentation is crucial. As demonstrated in the 2020 MV Wakashio incident the MPA are able to work proactively with companies not necessarily familiar with the import regulations or where clearance needs to be expedited to complete all the formalities in the shortest time in the interest of the state. In order to achieve these communications of the need for support and potential import of equipment needs to be notified at the earliest opportunity.

8.19 Oil Industry / Potential Pollutant Importers

- To activate their facility contingency plans
- To aid and mutual aid to with equipment, personnel, and logistics to neighbouring facilities, MPA and government authorities. The costs and liability being covered by the requesting organisation and needs to maintain resources being waved.
- To provide expertise and advice

8.20 Non-Governmental Organisations

The NGO sector is highly engaged in environmental protection especially within marine resources. They work with communities in creating awareness on the importance of protecting the environment. They are also key partners in the propagation coral and mangrove seedlings to rehabilitate degraded areas as well. There is also a strong culture for advocacy and lobbying with the government especially in relation to property development in environmentally sensitive areas.

Unlike other stakeholder the NGO's may not have a permeant structure, staff or hierarchy and as a result will need to establish a representative and link within the IMT who can act as a representative for their capability and as a connection point from the IMT to the NGO's regarding its needs and potential roles in which they could provide support. It would be anticipated that NGO's representative would be part of the planning, operations and logistics sections. Due to space limitations having all NGOs represented would not be realistic or operationally efficient (they are most effective in the field in directing there members in operational activities) but having agreed representative would be vital. If acceptable NGO's may work through the government departments with which they have established links or relationships and who already will have a presence in the IMT.

- To provide a spokesman. Liaison or focal point in the IMT to represent and assist in accessing and utilising the strength of the individual NGO's.
- To provide on a best effort basis personnel and resources (unlike other stakeholders NGO's have no legal mandate or responsibility and it would be unfair to expect them to guarantee any response) to assist in the distribution of aid, information, and support to affected communities and individuals.
- To participate as impartial observers in the response activities and contribute with ideas and knowledge.
- To help advisory teams to assess injury caused to people the environment or assets.
- To assist in the IMT in the identification, organisation, training and equipping of volunteers to support, supplement and replace as required the government and industry response assets.

Th following are just some of the NGO organisation that took an active role in mobilising, supporting and co-ordinating both existing NGO's members and volunteers from the wider civil society in the Wakashio response in 2020 and subsequent incidents.

Rotary club of Mahebourg
Eco Sud
Red Cross Society
Mauritius Marine Conservations Society
Business Mauritius
Lions Club Grand-Port
Fondation Resources et Nature
Anangel
Reef Conservation
Mauritius Scuba Diving Association Mauritius
Leo Club Grand-Port
EcoMode Society
Rotary Club of Mahenbourg
Ecosis Ltd
Mauritius Wildlife Foundation
Marine Megafauna Conservation Organization

8.21 Volunteers

Volunteers can be an invaluable asset during an incident but if not managed and coordinated can be a risk to themselves, others and to the environment and wildlife they actual want to assist in protecting. Unlike NGO's who may have established structure and links with government bodies volunteers' groups can generate and disappear quickly and may have no existing links or establish communications channels into government.

Some key activities need to be undertaken to successfully manage volunteers. The first is planning during exercise and training for the arrival of volunteers and their integration. This needs to be supported by communications on the NOSCP, and with any established NGO's and civil society groups before incidents occur. As well as when incidents do occur a system of registration which can also be used to direct the volunteers to where then can be used most effective and safely initially employed. Modern mass communications (Facebook, WhatsApp, Twitter etc) all have potential to inform and direct volunteers and to receive feedback on numbers who plan to assist in a particular activity.

Volunteers may have other skills, equipment or knowledge which can be utilised such as local knowledge, first aiders, drivers, boats, bird watchers, carpenter etc. Communication is key to keep volunteers motivated and help them understand their key role in a wider response and how what might seem like a small task remote from the incident can contribute by releasing other resources or facilitating action to be taken elsewhere.

Given the role in which volunteers are likely to be active the SMF will be a route through which they can be tied into the wider response, and which can provide a cadre of trained personnel to lead volunteer teams. Below are some potential volunteer roles which both employ them usefully and free up other resources for more hazardous activities or for which training is required.

The level of volunteer interest, availability will vary and there will be peaks at the start of at incident, weekends, or holidays (in the Wakashio incident of 2020 the numbers of volunteers was likely boosted by the suspension of Tourist business due to the Covid-19 pandemic) or once the visible tasks became less apparent. In addition, while enthusiasm to contribute to protecting the environment may be high initially the reality of long days of often manual labour can reduce the numbers available over the longer term added to which the volunteers will have their own ongoing responsibilities which they cannot neglect for extended periods.

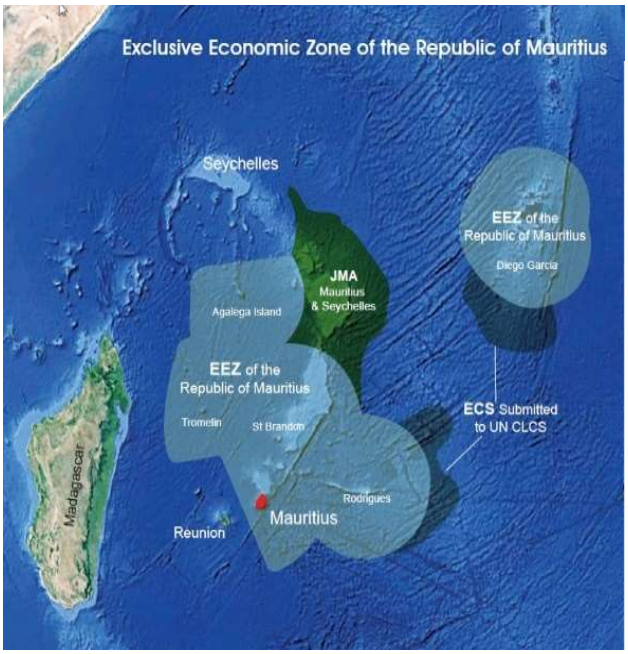
ANNEX III

Subsequently to EPA 2002 the **National Disaster Risk Reduction and Management Act 2016** established the **National Disaster Risk Reduction and Management Council** (NDRRMC) with a remit covering the full range of disasters both natural and manmade which might impact the Republic of Mauritius. The NDRRMC is headed by the Deputy Commissioner of Police who is also the commanding officer of the Special Mobile Force (SMF).

The relationship between NDRRMC and NOSCP is important to understand particular given the need to coordinate

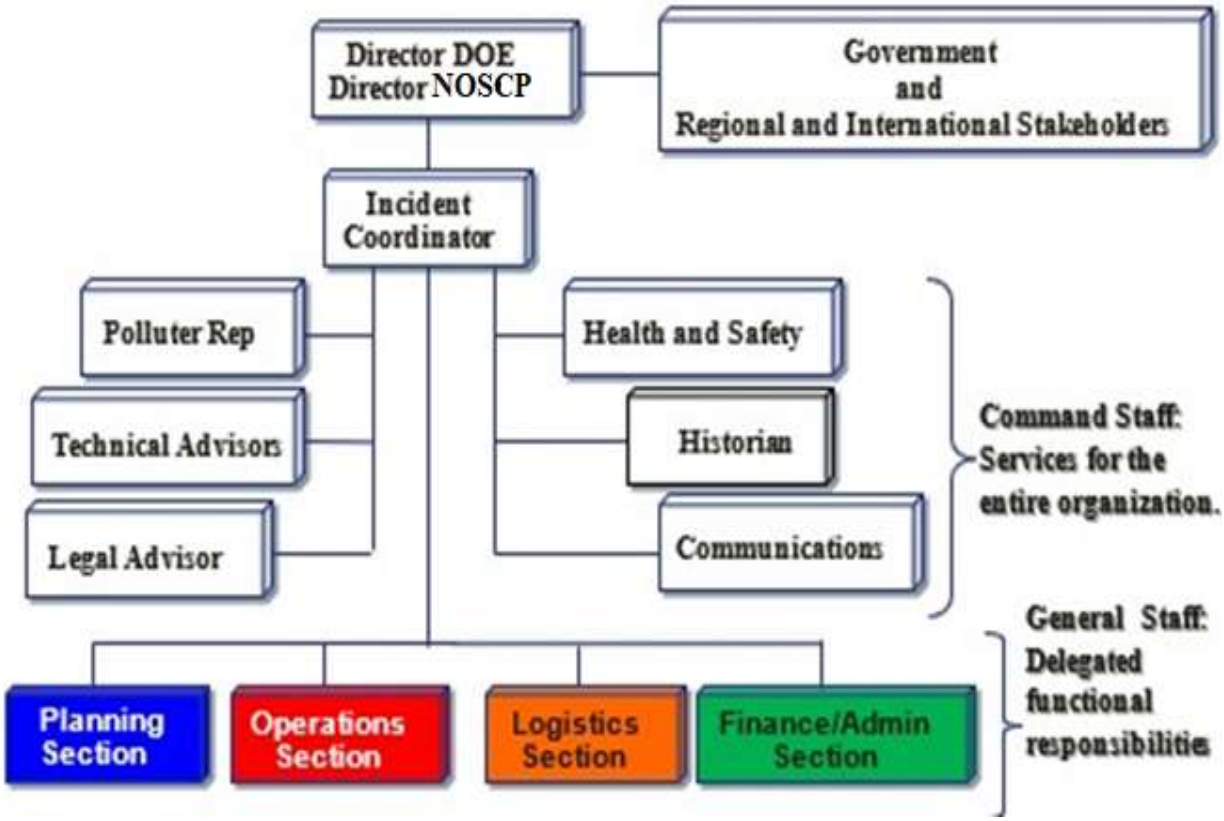
The act also established a National Crisis Committee (NCC) which should not be confused with NCC discussed above although it has a similar membership and role being active pre and post disaster but for the wider remit of disasters and potentially multiple related incidents which the NOSCP would be only one example. Alongside this there are a number of operational disaster coordination commands including, National Emergency Operations Command (NEOC), Local Emergency Operations Command (LEOC) and a Disaster Response Unit (DRU). These operational elements are activated following the declaration of a national disaster in which case a maritime pollution event or environmental emergency covered by the NOSCP is likely to be only one element or part of a wider national disaster.

The NDRRMC outputs are in the form of policy, strategic frameworks, and action plans to be followed by all government and industry bodies in developing their respective contingency plans. The disaster management cycle having 6 main elements. Only three of these elements are considered in the NOSCP (preparedness, response, and recovery). The NOSCP as one of the national contingency plans which contribute to the achievement of the objectives and function of the NDRRMC and would work with its operational elements if activated. In the event of a national disaster there would be considerable overlap in the resources and departments involved and hence the need and value of the NDRRMC and its coordination role and ability to set common objectives and priorities.



In order to avoid any duplication of effort, harmonise plans, procedures and other areas a Sub-Committee on the National Oil Spill Contingency Plan has been proposed in 2021 and will be established under the chairmanship of the Commissioner of Police. This sub-committee would include representative from the National Crisis Committee, National Oil Spill Contingency Plan Committee, and the Coordination Committee under the Director of Shipping to (other representative may be included or invited as appropriate)

ANNEX IV



The IC who is separated from government or political crisis issues by the Director NOSCP sets the objectives for the IMT and is and ultimate decision maker where the IMT cannot reach an agreed decision and to approve the Incident Action Plan (IAP).

An incident is what is managed by the IMT. This excludes any effects of the incident on the economy, industry, reputation of the country which are issues dealt with elsewhere as part of the crisis management or disaster management. Such separation is normal and allow the IMT to focus on the incident and its resolution.

The IMS is based on the five fundamental principles:

• **Flexible** – the system can be applied across the full spectrum of incidents and agencies and the size and structure of the incident management team should reflect the complexity of the incident and change to reflect the various stages of response and recovery

• **Functional Management** – the response organisation can be structured, and personnel moved in accordance with the actual work to be performed during the incident or to meet changing needs of the incident.

• **Management by Objectives** – All stakeholders are expected to work to one set of common objectives set by the IC, and everyone should report to only one supervisor.

• **Unity of Command** – The IC and IMT act on behalf of the nation not on behalf of their parent organisations limited jurisdiction or interests and share a common operating picture – ensuring a shared and consistent understanding of the incident and situational awareness.

• **Span of Control** - Ensures no individual is overloaded or swamped by the number of individuals or functions that are reporting directly to them (3 to 7 people) and clear reporting relationships and information flows between individuals and sections within the IMT

9.0 Planned sinking of the wreck, or part thereof in the aftermath of the grounding of MV M/V Wakashio.

- According to the Towing Plan issued by Salvage on 13 August 2020 , the condition of the forward section was to be assessed after detachment which was imminent to ascertain if it was safe to carry out a long distance tow to Alang, India for scrapping.

- The bow section was completely separated from the stern section as at 14:00 on 15 August (DPR No 021 dated 15/08/2020). A “Wreck Removal Notice” was served by the Director of Shipping to the shipowner on 15 August 2020 (Annex I). The latter requested the DOS to reconsider his decision to scuttle the vessel in view of all environmental issues involved in a letter dated 16 August 2020 (Annex IV).

- The Senior Salvage Master was instructed on 16 August 2020 by the Director of Shipping to “connect the foresection of MV M/V Wakashio to tugs Expedition and Summit and ensure that the aforesaid foresection does not pose any danger to the coastline and shores of the Republic of Mauritius. He was further informed that new instructions with respect to towing and scuttling of the foresection would be issued on the following day (Annex II).

- A Wreckhire Contract 2010 was signed on 16 August 2020 and backdated to 08 August 2020 in replacement of the LOF 2020 Salvage Contract with re-adjustment of the DPR numbering as from that date (DPR No 009 dated 16/08/2020)
- The Salvage Master was instructed by the local Authorities on 17 August 2020 to tow the forward section upon re-floating to one of the identified deep water positions (8 nm offshore with minimum 2000 m water depth) and await further instructions (DPR No 10 dated 17/08/2020). Salvage succeeded in re-floating the forward section on 19 August (DPR No 12dated 19/08/2020).

- The French Government feared that oil spill from the scuttled foresection , if any, might drift to Reunion Island and they made a request to do it under 20 degrees latitude within the territorial water. A meeting was held and it was agreed by everybody to have the vessel sunk at a position at depth 3,180 m.

- The shipowner was instructed by the Director of Shipping in a letter dated 19 August 2020 to scuttle the forward section at a designated position on the attached chart at a depth of 3,180 m (Annex III). A team of observers from the Ministry of Blue Economy, Marine resources, Fisheries and Shipping and Marine Mammal Observers and Marine Mega Fauna Conservation will attend the scuttling operation (Press Release Update on M/V Wakashio of 20/08/2020).

- The forward section was towed to the scuttling location (DPR No 013 dated 20/08/2020). All remaining oils/paints and floatable items were removed prior scuttling. The ship owner who had initially objected against the scuttling gave the order to Salvage on 21 August 2020 to scuttle the vessel.

- Salvage started scuttling operations by filling cargo holds with seawater from the firefighting monitors of the tugs and by cutting holes in the bulkheads of the cargo holds to expedite scuttling sequence of flooding the holds (DPR No 15 dated 22/08/2020). The vessel sank in position Lat 20 23.035S Long 58 00.046E at 1500 on August 24th (DPR No 017 dated 24/08/2020).

- With regard to the decision of scuttling the ship, Mr Donat has advised during the hearing that the front section would have had to be repaired before proceeding to the scrapping yard in India. Salvage wanted to bring the vessel on the east coast or Tamarin or Port Louis or Grand Bay to carry out the repairs. The “Committee” (NCC ?) set up by the local Authorities did not agree to repair the vessel and send it to a shipbreaking yard. It was then decided unanimously to do a planned sinking within the territorial waters.

- According to Mr Donat, the planned sinking was the most appropriate and safe decision as otherwise the two tugs would have sailed and the salvage operation would have come to a standstill.

- Having regard to the above in particular and also generally, the relevant available evidence placed before us under this term of reference, we are of considered view that, in view of all the material prevailing circumstances, the management of the planned sinking of the wreck referred to above cannot be impugned.

ANNEX I

REPUBLIC OF MAURITIUS

MINISTRY OF BLUE ECONOMY, MARINE RESOURCES, FISHERIES AND SHIPPING

My Ref: MS/C/S/360

15 August 2020

To:
Okiyo Maritime Corporation
Registered owners of MV Wakashio
15th Floor
Banko General Tower Aquilli De La Guardia Street Marbella
Panama City
Republic of Panama

Sir,

WRECK REMOVAL NOTICE

TAKE NOTICE THAT IN LINE WITH SECTION 140 OF THE MERCHANT SHIPPING ACT, OKIYO MARITIME CORPORATION, AS REGISTERED OWNERS OF MV WAKASHIO, ARE HEREBY ORDERED TO RAISE AND REMOVE THE SAID VESSEL, INCLUDING ALL ITS APPARELS AND ANY REMAINING POLLUTANT OF WHATSOEVER NATURE FROM ITS PRESENT LOCATION AT POINTE D'ESNY WITHIN 15 DAYS FROM THE DATE OF SERVICE OF THIS NOTICE.

FAILURE TO ABIDE BY THE HEREABOVE MENTIONED PERIOD MAY LEAD TO THE TRIGGERING OF SECTION 140(1)(b) OF THE MERCHANT SHIPPING ACT.

Yours faithfully,

Alain Donat
Director of Shipping

4th Floor, L.I.C.I. Centre, Port Louis
Tel: +230 213 69 68 Fax:+ 230 213 70 13 Email: ldonat@govmu.org

ANNEX II

Whitehead, Christopher

From: Bos, Chris <c.bos@smit.com>
Sent: 16 August 2020 19:36
To: Alain Donat
Cc: Robertson, Richard; okaichi-nsc@mx21.tiki.ne.jp; kochi.nsc@gmail.com; kobeclaims@piclub.or.jp; '長鋪龍洋'; 'Vick Tahalooa'; kconhye@govmu.org; cp.mpf@govmu.org; jseewoobaduth@govmu.org; 'Asiva Coopen'; 'jean hubert noel'
Subject: RE: Towing and Scuttling of foresection of MV Wakashio

Dear Mr Donat,

Confirm safe receipt of your email of which contents are noted, awaiting instructions on Monday the 17th of August.

Kind Regards,

Chris Bos
Senior Salvage Master

SMIT Salvage B.V.
Rosmolenweg 20, 3356 LK Papendrecht
PO Box 43, 3350 AA Papendrecht
The Netherlands
www.smit.com

M: +31 611380034
T: +31 78 6969000
F: +31 10 4149184
c.bos@smit.com

From: Alain Donat <ldonat@govmu.org>
Sent: Sunday, August 16, 2020 8:18 PM
To: Bos, Chris <c.bos@smit.com>
Cc: Robertson, Richard <r.robertson@smit.com>; okaichi-nsc@mx21.tiki.ne.jp; kochi.nsc@gmail.com; kobeclaims@piclub.or.jp; '長鋪龍洋' <ntatsuhiro.nsc@gmail.com>; 'Vick Tahalooa' <vick@tahalooa.com>; kconhye@govmu.org; cp.mpf@govmu.org; jseewoobaduth@govmu.org; 'Asiva Coopen' <acoopen@govmu.org>; 'jean hubert noel' <hnoel@govmu.org>
Subject: Towing and Scuttling of foresection of MV Wakashio

Attn: Mr Chris Bos
Senior Salvage Master
SMIT Salvage

Dear Mr. Chris Bos,

This is to inform you that following the oil spill caused by the grounding of MV Wakashio, the Honourable Prime Minister has in line with Section 34 (1) of the

Environment Protection Act has signed an Environmental Emergency Declaration on this day 07 August 2020.

2. Your attention is drawn to Section 150 of the Merchant Shipping Act:

Section 150. Powers of Director

***(1)* The Director may—**

***(a)* give directions in relation to any salvage operation;** *and*

(b) *take measures in accordance with generally recognised principles of international law to protect the environment from pollution following a maritime casualty, or acts relating to such casualty which may reasonably be expected to result in harmful consequences.*

(2) *The Director shall, in exercising his powers under subsection (1), take into account the need for co-operation between salvors, other interested parties and the public authorities in order to ensure the efficient and successful performance of salvage operations and to prevent damage to the environment.*

(3) *Any public officer or other person acting under directions pursuant to subsection (1) shall be under a duty to exercise due care in preventing or minimising damage to the environment*

3. Consequently, within the powers conferred upon me under Section 150 of the Merchant Shipping Act 2007, I hereby instruct SMIT Salvage to connect the foresection of MV Wakashio to tugs Expedition and Summit and ensure that aforesaid foresection of MV Wakashio does not pose any danger to the coastline and shores of the Republic of Mauritius.

4. New instructions with respect to the towing and scuttling of the foresection of MV Waksahio would be issued to SMIT Salvage tomorrow Monday 17 August 2020.

Best Regards,

A.Donat
Director of Shipping
Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
Republic of Mauritius

ANNEX III

REPUBLIC OF MAURITIUS

MINISTRY OF BLUE ECONOMY, MARINE RESOURCES, FISHERIES & SHIPPING
(SHIPPING DIVISION)
3rd Floor, Ken Lee Building, Edith Cavell Street,
Port Louis

Our Ref.: MS/C/S/360 **Date: 19 August 2020**

Your Ref.: **Fax No: (230) 213 7013**

Okiyo Maritime Corporation of 15th FL
Banco General Tower Aquilino De La Guarida Street Marbella
Panama City
Republic of Panama as registered owners of MV Wakashio

Dear Mr Osamu Okaichi,

Scuttling of forward section of MV Wakashio

This is to inform you that following the oil spill caused by the grounding of MV Wakashio, the Honourable Prime Minister has in line with Section 34 (1) of the Environment Protection Act signed an Environmental Emergency Declaration on 07 August 2020.

2. Your attention is drawn to Section 150 of the Merchant Shipping Act:

Section 150. Powers of Director

1. The Director may—

(a) **give directions in relation to any salvage operation;** *and*

(b) take measures in accordance with generally recognised principles of international law to protect the environment from pollution following a maritime casualty, or acts relating to such casualty which may reasonably be expected to result in harmful consequences.

2. *The Director shall, in exercising his powers under subsection (1), take into account the need for co-operation between salvors, other interested parties and the public authorities in order to ensure the efficient and successful performance of salvage operations and to prevent damage to the environment.*

../2

3. *Any public officer or other person acting under directions pursuant to subsection (1) shall be under a duty to exercise due care in preventing or minimising damage to the environment*

3. Consequently, within the powers conferred upon me under Section 150 of the Merchant Shipping Act 2007, I hereby instruct you *Okiyo Maritime Corporation* to give instructions for the scuttling of the forward section of MV Wakashio at the new designated scuttling position as per drawing attached **(Shaded in red at 3,180 m depth)** and conditional to the following:

a. Before the scuttling operation, SMIT Salvage shall ensure that all hydraulic oil is removed from the equipment on the forward section of MV Wakashio;

b. SMIT Salvage shall provide evidence in terms of pictures and video(s) that the forward section of MV Wakashio does not contain any polluting element i.e. fuel oil, gasoline, and other oily products, etc;

c. SMIT Salvage shall ensure that all precautions have been taken to ensure no parts, debris, gear loaded on forward section of the MV Wakashio float after the scuttling operation, i.e. hatch covers, winch etc.

d. The Salvage Master shall take pictures and make video(s) of the scuttling operation and stay on site to ensure that there are no floating part(s) which would affect the safety of navigation, and any floating debris is to be collected and placed onboard tugs Expedition and Summit for appropriate disposal.

4. Furthermore, the scuttling operation shall be witnessed by Marine Mammal Observers, 2 from Marine Mega Fauna Conservation a registered NGO in Mauritius and 1 from an Officer of the Fisheries Section of Ministry of Blue Economy, Marine Resources, Fisheries and Shipping.

5. By way of this email, SMIT Salvage is also instructed to execute above instructions for the scuttling of the forward part of MV Wakashio at the new designated position.

Yours faithfully,

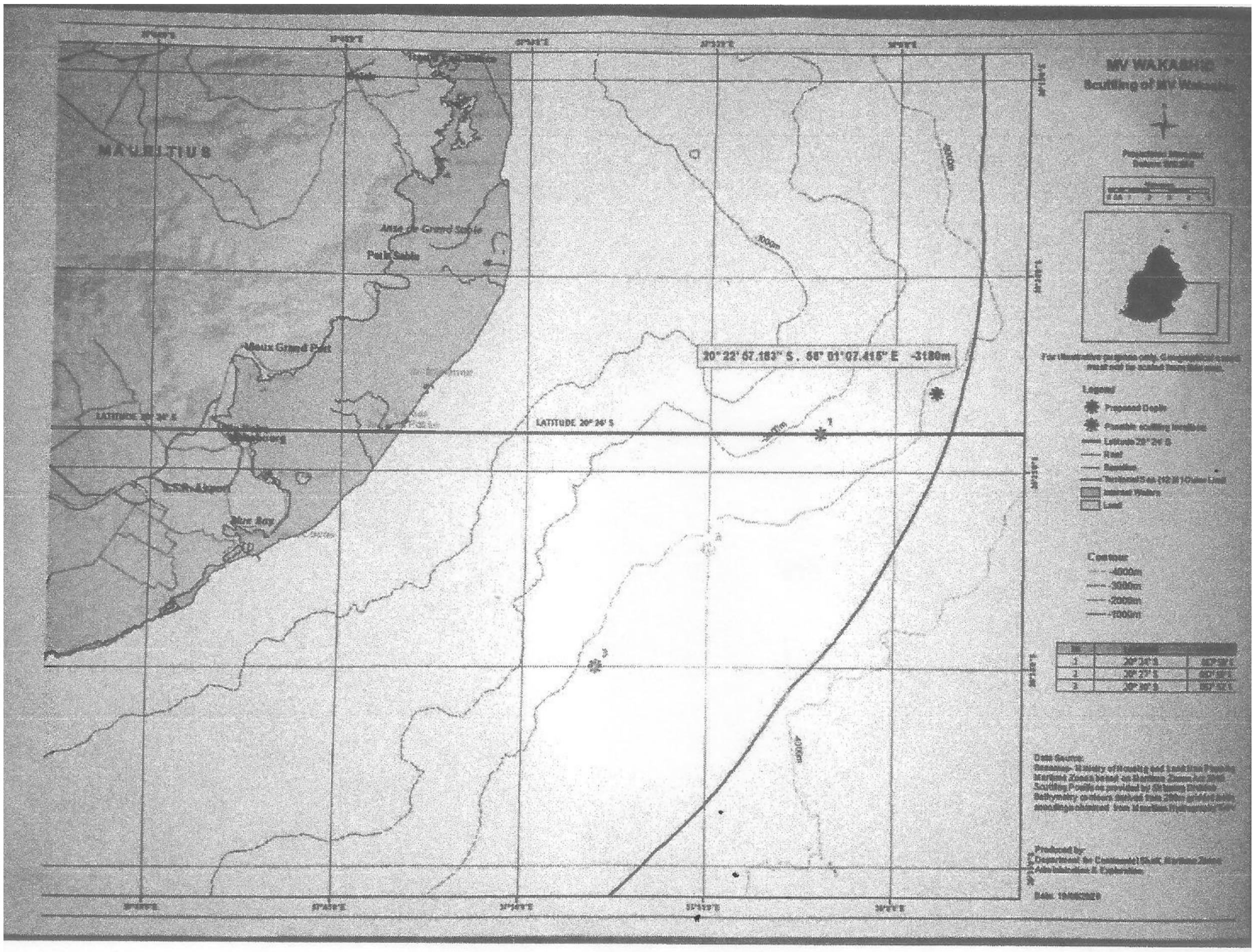
MINISTRY OF BLUE ECONOMY, MARINE RESOURCES FISHERIES & SHIPPING

DIRECTOR

A. Doffit

Director of Shipping

For Permanent Secretary


MAURITIUS
Mahebourg
LATITUDE 20° 24' S
20° 22' 57.183" S , 58° 01' 07.415" E -3180m
MV WAKASHIO
Legend
Contour
-4000m
-3000m
-2000m
-1000m
Data Source:
Produced by:

(118)

Transcribed by Court on 3/5/21 by Mr. A Thomas Ragavendra

ANNEX IV

KHUSHAL LOBINE

Barrister at Law

16th of August 2020

To

The Director of Shipping

Mr Alain Donat

4th Floor

L.I.C.I Centre, Port Louis

In Re: MV Wakashio – Wreck Removal Notice and the scuttling of the front part of the vessel

Dear Sir,

My services have been retained by the Japan P&I Club acting also on behalf of the owners of MV Wakashio. I acknowledge service of the Wreck Removal Notice provided on the 15th of August 2020 in the evening, and I have also taken cognizance of the mail you sent dated the 14th of August 2020 to the salvors.

With regard to the Wreck Removal Notice dated the 15th of August 2020 issued as per section 140 of the Merchant Shipping Act and served on the registered owners of MV Wakashio on the 15th of August 2020, my clients take note of the 15 days' notice as from the date of service to act accordingly.

However, I am hereby instructed to request you to reconsider your decision taken as per section 150 of the Merchant Shipping Act, communicated by way of a mail dated 14th of August 2020 to the salvors, whereby they are being ordered to tow

the forefront section of MV Wakashio forthwith to deeper waters of at least 1000m in depth and to scuttle the front part of the vessel.

I am further instructed to inform you that in view of all environmental issues involved and the concern and commitment of the owners' with regard to the protection of the environment and the marine ecosystem, and the actions being taken to prevent and minimize damage to the environment, your urgent attention and actions are required to reconsider your decision.

I am also instructed to request you to take into account the concern of the international community and the effect on the marine ecosystem with regard to the decision being taken to go ahead with the scuttling of the front part of MV Wakashio. I remain at your disposal for an urgent meeting on this issue to express the concern of my clients.

In case you are maintaining your decision as per the mail dated the 14th of August 2020 and as per the powers conferred upon you by section 150 of the Merchant Shipping Act, I am instructed to request you to provide same in an official letter sent to all stakeholders involved.

Respectfully Yours,

Honourable Khushal LOBINE, MP

Barrister at Law

Chambers – 4th Floor, Chancery House, Suites 508-509, Lislet Geoffroy Street, Port Louis

Telephone: (Office) – 2085499 | (Mobile/WhatsApp) – 59859915

E-mail: klobine@barrister.mu

Website : www.peeroochambers.com

10.0 ANY OTHER MATTER CONNECTED WITH, OR RELEVANT OR INCIDENTAL, TO THE TERMS OF REFERENCE

10.1 STRANDING OF MELON-HEADED WHALES

10.1.1 COURT HEARINGS

Mr R. Mohit, Ag Divisional Scientific Officer at Albion Fisheries Research Centre

He has explained that melon-headed whales were found stranded in the lagoons along Pointe du Diable, Deux Freres and Quatre Soeurs as from 26 August 2020. About 150 live mammals were observed in the deep channel opposite Pointe du Diable and they appeared to be stressed. A herding operation was carried out as from 28 August to direct the mammals to the high seas with the assistance of NCG, fishermen, pleasure craft operators and NGOs by tapping the edge of their boats to create a wall of sound. The operation was successful but some 50 individuals kept returning back to the lagoon as they were disoriented and they eventually died. The dead carcasses were transported to AFRC for necropsy.

He also stated that herding is a common practice carried around within the lagoons of tropical waters and cannot be related to barotrauma which is caused by diving up fast from deep water to the surface and results in some internal injuries due to the change in pressure.

He further stated that two NGOs namely Mauritius Marine Conservation Society and Mauritius Megafauna Conservation Organisation had requested the removal of their otoliths (structure of inner ear) for analysis by experts from the Stranding Committee of the International Whaling Commission to confirm whether barotrauma was the cause of death. Some specimens were removed during the necropsies and kept at the cold storage facility of Agricultural Marketing Board. However, the experts were unable to come due to the Covid 19 pandemic and the closure of our borders. He also pointed out that the otolith has to be removed within 18 hours after death to get any useful result.

He held the view that the hydrographic survey performed by MOI using sonar equipment in the area of the wreck around 31 July 2020 could not be the cause of the barotrauma leading to the death of the melon-headed whales. He averred that any event that is attributed as being the cause of the barotrauma should intervene three or four days maximum between the occurrence of the event and the death of the whales.

Dr P S Beeharry, Livestock & Veterinary Services, Ministry of Agro Industry and Food Security

He stated that the first batch of dead mammals was brought around 26 August and they could have been dead some two to three days before. Necropsies were performed on 25 carcasses only as the others were in an advanced state of decomposition. The common feature which was observed was petechial hemorrhage (bleeding at the head). The necropsies also revealed the presence of gas emboli in the blood vessels. The veterinary officers who worked under his supervision came to the conclusion that such type of lesions could only be due to barotrauma (Annex I – General Necropsy Findings of Melon-Headed Whales). He explained that barotrauma is like a decompression sickness caused when the whales move up suddenly from deep waters and there is a sudden change of pressure.

Specimen of internal organs were sent to FSL for analysis. Toxicological screening yielded negative results in all samples. Aliphatic Hydrocarbons which are found in fuel oils was detected in some samples (Annex II – Forensic Examination Report of Exhibit OB 08/2020).

He also stated that the otoliths are essential for orientation and were removed for analysis by foreign experts. This did not happen but in any case the findings would have been doubtful as they have to be removed within a maximum of 18 hours after death of the mammals. In the present case the mammals were brought some 24 hours after they died.

He concluded that the mammals could not have voluntarily hit some hard surfaces which caused the wounds over their bodies. This happened when their orientation was disturbed.

Mr D R Madho, Principal Surveyor, Mauritius Hydrographic Office, Ministry Of Housing and Land

He stated that, at the request of Rogers Shipping Co Ltd as shipowner's agents, a bathymetric survey was carried out at Pointe d'Esny around 100 metres from the wreck of MV M/V Wakashio on 22 August 2020. He produced a context map showing the indicative region where the survey was performed and the indicative locations where 51 dead melon-headed whale bodies were found (Annex III – Context Map).

The survey was carried out using a multi-beam echo sounder (MBES) fitted on a survey vessel between 11:00 am and 16:30 pm on that day. The instrument operates within a range of frequencies from 190 kHz up to 420 kHz.

He stated that, based on the documents submitted by the Original Equipment Manufacturer, the survey could not be the cause of the beaching of the melo-headed whales. The hearing capacity of whales ranges between 5 to 75 kHz whereas the equipment was operating at maximum frequency of 420 kHz because of the depth ranging from 3 to 30 metres.

When he was confronted with one paragraph of Doc CQ, relating to sonar impact on human and marine life which he had produced, about “knowledge or effect of energy on human behaviour and body functions in water is not scientifically precise…… Evidence regarding behaviour and responses of marine life is often conflicting ….”, he referred the Court to the last paragraph, that is the conclusion where it is clearly spelt out that using the instrument above 100 kHz would definitely not affect marine life.

10.1.2 FINDINGS & ANALYSIS

Melon-headed whales occur in deep tropical/subtropical oceanic waters. Although considered an offshore pelagic species, in some regions there are island-associated populations and they can be found close to shore associated with oceanic islands. They are a highly social species, and usually travel in large groups and are not known to be migratory. Observations of daily activity patterns of melon-headed whales near oceanic islands suggest they spend the mornings resting or logging in near-surface waters after foraging at night in deep sea. Surface activity associated with socializing such as tail slapping and communication whistles increase during the afternoons. Mass stranding events in the past have been linked to anthropogenic sonar associated with naval activities in Hawaii and high frequency MBES used for oil and gas exploration in Madagascar (source : Wikipedia).

Based on the depositions of Mr R. Mohit who participated in the herding operation and Dr P S Beeharry who supervised the necropsies , there is no doubt that the melon-headed whales were suffering from a loss of orientation caused by barotrauma resulting from damage sustained by their otoliths when the affected melon-headed whales moved quickly from deep waters to the surface.

Two hydrographic surveys using MBES were carried out after the grounding of MV M/V Wakashio, namely the MOI survey done on 29 July and the MHO survey done on 22 August. . Based on the afore-mentioned fact that the interval between the

event causing the whales to move up swiftly from deep waters and the death of the whales cannot exceed four days,

it is therefore obvious that the former survey could not be held responsible for the deaths of the mammals.

There was another activity which was being carried out around the same time and which could be related to the deaths of the melon-headed whales. The salvors were cutting holes in the bulkheads separating the cargo holds in order to expedite flooding of holds and sinking of the foresection of the ship. However, they have affirmed that they did not use any explosives to flood the ship.

We may therefore conclude that the probable cause of the barotrauma was the hydrographic survey carried out on 22 August, The argument of Mr D R Madho that the operating frequency of their instrument was beyond the hearing capability of the melon-headed whales does not hold water as the effects of MBES on marine life have not yet been ascertained (Annex IV – The Effect of Ocean Mapping Multibeam Echosounder Signals on Beaked Whales and the Acoustic Environment).

10.1.3. Mr Mono Bunwaree, a Retired Senior Lecturer of Mathematics at the University of Mauritius.

He deponed before the Court and explained that he went to Pointe d'Esny after the crash at a time when the vessel had not yet rotated parallel to the reef by the force of the swells and the wind. It struck him that MV M/V Wakashio had been perfectly steered and aimed at 90 degrees to the reef like a bullseye. He boldly expressed the view, whilst acknowledging that his view would not make unanimity, that the crash was deliberate and that the explanations about the vessel approaching our coast to get internet access does not hold water. When he was pressed by the Court for any possible motivation by the Captain to make such a deliberate crash to put so many things at stake, including his licence, he speculated that it could be that the crew had been too long at sea because of the pandemic or that they could have been paid by a foreign state to do it. It was put to Mr Bunwaree that the tenor of the VDR Recording of the conversation between the Captain and his Chief Officer, who were both on the bridge at that time, gave the lie to the theory of wilful crashing, he responded that the conversation could have been a sham precisely to mislead everybody into believing that it was an accident.

Although bold, and stated to aim at directing our minds to all possibilities, We are not prepared to believe the theory of Mr Bunwaree as it is highly speculative and for the reasons that we have already explained and analysed when dealing with the causes leading to the crash.

10.1.4. Life Jackets found lying on the beach at Pointe d'Esny.

An article appeared in the local press some days after the M/V Wakashio ran aground about life jackets being found lying on the beach at Pointe d'Esny and thus feeding the public opinion that people from the M/V Wakashio could have come ashore from the M/V Wakashio. As a matter of fact, one Mrs Kovila Parsooramen picked up part of a lifeline and a lifejacket on 26th July 2020 at around 17.00 hrs on the beach at Pointe d'Esny. She was labouring under the impression that same came from M/V Wakashio and accordingly gave a statement to the police and handed over the exhibits to them. The Central C.I.D enquired into the matter. DPC 8403 Banu Partab Somar deponed in Court and explained that the enquiry has brought to light that the life jacket and the life line jacket came from the pleasure craft of Mr Patrick Millard, who lives at Pointe d'Esny. He even produced an album which showed the life jacket, and part of the lifeline. Mr Somar also produced a sealed plastic bag containing part of the life line jacket colour yellow. Mr Patrick Millard confirmed in Court that he was the owner of a pleasure craft which was registered with the Tourism Authority with the logo "Seabell" and it was moored in the lagoon at Pointe d'Esny at the time when the M/V Wakashio ran around. Due to the rough seas and the heavy swells, the pleasure craft broke the mooring line, hit the jetty and was destroyed. Its contents were washed ashore and were collected on the beach. Mr Millard indentified the life vest and the life line in the album produced by Mr Somar as being his and they came from his pleasure craft.

10.1.5. Mr Jean Bruno Laurette, a Mauritime Team Leader

Mr Jean Bruno Laurette has worked in various countries, including the Gulf of Aden, where he was escorting vessels to ward off piracy attacks, raised a number of questions, namely:

(a) What was the role of the Stanford Hawk and why did she stay more than 1 month in Namibia and why did she change course on two occasions on its way to Madagascar from Walvis Bay?
(b) Why V.B Cartier was present during 4 days in the vicinity of the crash and why did she leave for Flic en Flac near Balise Marina and then went to Reunion Island.
(c) What are the explanations with regards to the noise of alleged explosions from M/V Wakashio that was allegedly heard at night by fishermen?
(d) Why part of the vessel was sunk when He gave a declaration to the police against such a move as, according to him, this would tantamount to tampering with evidence and perverting the course of justice

With regard to the last matters raised,under sections **10.1.0 to 10.1.5**, above, no independent reliable evidence has been adduced in support of the mere speculation and rumors that M V M/V Wakashio was involved in drug business or that there had been anything sinister which had happened or any criminal offence which had been committed.

It has further been explained that it is common practice for small crafts to shuttle from the port to vessels and back to bring food provisions on board and in any event, with regard to the M/V M/V Wakashio, no such small craft has been proved to have approached the vessel.

10.1.6 Honourable Arvin Boolell, Member of the Legislative Assembly,

Honourable Arvin Boolell volunteered to depone in court and his evidence may be summed up as follows:

There have been half-truths, omissions and inaccuracies given in Parliament and to the People with regard to the narrative of the M/V M/V Wakashio and he purported to set the record right.

The oil spill has not been properly managed and the Authorities were more concerned with containing the oil spill that was likely to unfold instead of focusing on the pre-spill measures at a time when the spill had not yet taken place.

According to the Authorities as at the 28 July 2020, all precautions had been taken not only to prevent any spillage, but the pumping of the oil from M/V M/V Wakashio was also on the agenda and with the signing of the Lloyd Standard Form of the Salvage Agreement, the salvage of the ship and anti-pollution measures were also contemplated. While the oil spill response (deployment of booms over 14.5 kms, skimming of oil in the lagoon, etc.) had been elaborated and highlighted in

Parliament, we are completely in the dark with regard to the specific measures taken during the pre-spill period spanning from the 25th July to 6 August 2020 to avert the spill. The Minister of Environment, Solid Waste and Climate Change at no time in his reply in Parliament on 28th July 2020 mentioned such things as bad weather and rough seas as being the cause that were hindering the pumping of oil from M/V M/V Wakashio on board another vessel. In fact the weather started to deteriorate as from 31 July. The question is why was the pumping of oil not initiated right from the day of the wreck. The fact that the Mauritius Oceanography Institute carried out an off-reef bathymetric survey and the Albion Fisheries Research Center took samples of sea water for analysis add credence to the proposition that the weather was fair at that time, otherwise they would not have ventured at sea.

The Authorities failed to act promptly and valuable time had been lost and wasted despite warning and loud messages conveyed by people well versed in the field of Ecology, Marine Safety and Security. The Government erred not only on the principle of caution, but chose to look elsewhere with the consequences that there has been an Eco-crime in the country.

The Special Casualty Representative informed the Shipping Department on 6 August 2020 that the structure of the vessel had weakened due to continuous stress and that the risk of an oil spill was imminent. The legitimate question that comes to the mind is whether the weakening of the structure should not have been anticipated right from the time of the grounding.

Nothing was done despite the fact that a vessel was grounded in the past and there was a promise made by the Minister of Fisheries to review the Maritime Zone Act to see to it that there is a proper demarcation in relation to charting an innocent passage. The major shortcomings have never been addressed and there is a pressing need to redefine the right of innocent passage.

When monitoring vessels today, our concern should go beyond illegal, unreported and unregulated fishing activities and we should equally focus on such areas of concern as human trafficking, piracy and drug.

The Daily Situation Reports submitted by the Salvage Master for Period 26 July to 6 August 2020 should have been conveyed loud and clear. At the time the vessel was pounding on the reef, the Authorities should have acted promptly and diligently to prevent deterioration of the hull which ultimately resulted in its cracking and the ensuing spill. While the Honourable Minister of Environment, Solid Waste and Climate Change was giving a feel-good factor image of the situation to the public, disaster was looming on the horizon.

The Authorities blindly relied on the information imparted by the Salvage Master and did not independently cross-check them, otherwise the imminence of a catastrophe would have been detected and averted earlier. As at the 4th August 2020, the Honourable Minister of Environment, Solid Waste and Climate Change stated that the situation was stable and there was no risk of oil pollution, but because of the bad weather conditions and rough seas, the consideration to transfer the oil from MV M/V Wakashio to another ship was dropped. This was outrageous inasmuch as the oil should have been transferred on board another ship since the very outset and not when the weather deteriorated.

As the Leader of the Opposition (as he then was), Mr Boolell explained that he met the Commissioner of Police who readily agreed to heliport 100 cube container of one ton of oil on a daily basis.

Sheen of oil was detected forty-eight hours before the oil spill on 4 August 2020. This relevant information should have been conveyed and prompt action initiated immediately. Fishermen knew about it and so was Mr Kauppaymoothoo who talked to the press about it. But the Government did not heed the sound advice dispensed by experts thus missing the boat while the tide was rising.

The general impression that can be gauged is that the stake holders and Government agencies responsible to manage the crisis were working in silos, that is in compartmentalized manner and there was no proper management right from the day the ship was grounded.

According to the Pointe du Diable NCG, the vessel was spotted on 25 July 2020 at 18.15 hrs at 11.5 nautical miles off the coast and they attempted to establish contact with it at 18.15, 19.10, 19.25 and 20.10 hrs, but there was no response. This information is in stark contradiction with the anonymous tip-off received around mid-august according to which one of the radar operators was not on site between 18.15 and 20.10 hrs while the one on site was not well versed with the handling of radar equipment and radio. Hon Boolell added that according to his information the log book and diary books entries had been manipulated to hide the blunder of the NCG on the night of the 25 July 2020. As from 19.10 hrs, that is 15 minutes before the vessel went aground, it became a suspect and was in clear violation of the right of innocent passage and unfortunately during this last most critical time of 15 minutes, no attempts were made to contact it. The so-called alarm bell that should have been triggered was never triggered.

The fact the voyage data recorder of MV M/V Wakashio has not recorded any communication between Pointe du Diable NCG and the vessel strengthens the doubt and culpable acts and omission at the level of the NCG, which is very serious.

To sum up, he suggested that the following measures should be taken so that such a catastrophe does not recur in the future.

1. **We need to have the skill in respect of human resources to deal with such cases.**
2. **Lessons are to be drawn in relation to inter and intra institutional approach.**
3. **Lessons to be learned and drawn in relation to those who are at the command. We need to work in unison as one team.**
4. **We have to look at our legislations from the National Coast Guard Act to the Maritime Zone Act.**
5. **We have to make sure that equipment is available.**
6. **The National Oil Spill Contingency Plan has to be a proper plan which delivers on promise made.**
7. **We should have the means to make our own assessment of the situation instead of relying on third parties.**
8. **Notwithstanding what we can do at domestic level, we are also member of the Indian Ocean Commission and member of Indian Ocean Rim. We should not only subscribe to mock exercise, but we should also address the relevant issues forcefully like capacity building, availability of physical resources and adequate equipment to deal with a mega size ship, and more than 700 metres of booms.**
9. **The reluctance of the Mauritius Ports Authority to relinquish some of its equipment to assist is a clear failure of proper intra-institutional approach.**
10. **Ministers were fed with wrong information and they have created a feel-good factor when disaster was looming.**
11. **Being an independent sovereign state does preclude the Government of the day to demarcate sea lanes.**

Analysis and Findings

Dr. Boolell has made numerous observations and raised pertinent questions. He has in the light thereof, made valuable suggestions which have also been made by experts, like Dr. Kuppaymoothoo. We have taken many of them on board, and they are expressed and included in the recommendations and consolidated recommendations at Paragraph 8.9 above.

11.0 Acknowledgements

We are thankful to all the witnesses who have come forward and shared their knowledge, experience and acted as responsible and patriotic citizens, and given evidence to assist this court in shedding light on the numerous subjects forming part of the remit of its terms of reference.

We would like to extend our thanks to the Counsel appearing for the Attorney General Office, for the Office of the DPP, and those assisting some of the witnesses, the Secretary, all members of the staff, Executive Secretary, Registrar, IT support team, transcribers, Office Care attendant and the Police Officers.

BY

ANNEX I

Ministry of Agro-Industry and Food Security

Livestock and Veterinary Division

Agricultural Services - Réduit

Date : 23/07/21

From : Veterinary Officer

To : Principal Veterinary Officer

SUBJECT: GENERAL NECROSPY FINDINGS OF MELON-HEADED WHALES

From 26th of August to 4th September 2020, 26 whale necropsies were performed by the LVD, including one bottlenose dolphin. A list of samples taken is annexed.

General necropsies findings:

- Most carcasses were in a decomposed state.
- Severe bilateral congested and oedematous lungs
- Brain congested
- Petechial haemorrhage in melon (acrostic fat)
- Gas embolism
- Subcutaneous haemorrhage
- Traumatic wound such as broken jaw
- Empty food

Diagnosis: Barotrauma

Necropsies revealed that the whales died from severe lesions related to barotrauma. Barotrauma can be caused by multiple of factors such as sonar exposure, shock wave and decompression sickness.

Dr. C.Genevieve

Veterinary Officer

Phone:	Fax:	Email:
(230) 466 6662	(230) 464 2210	moa-dvs@govmu.org

(13)

ANNEX II

Tel 466 12 39 466 3112 466 3113

Fax 466 9412

Your Ref: OB 08 / 2020 Ministry of Agro-Industry

Our Ref: FSL 4776 / 2020

1From : Mrs. N. Pemsing- Chief Forensic Scientist

To : Veterinary Office – Ministry of Ago-Industry

Forensic Examination Report of Exhibit – re case Poisoning Animal

OB 08/2020 Ministry of Agro-Industry

This statement consists of 2 pages, each signed by me. I hereby certify that the contents of the report are true to my knowledge and belief.

Signature: NPemsing Date: 16.09.2020

Purpose of Examination

- Forensic Toxicological Examination
- Analysis of Hydrocarbon

Items Received

On **27th August 2020** at **14 45** hours **Dr Abhinashsing Kailaysur** brought to the Forensic Science Laboratory three post-mortem specimen of whale, marked **Whale 1, Whale 6** and **Whale 7.**

On **28th August 2020** at **14 55** hours **Dr C Genevieve** brought to the Forensic Science Laboratory five post-mortem specimen of whale, marked **Whale 20, Whale 22, Whale 23, Whale 24 and Whale 25.**

On **31st August 2020** at **15 25** hours **Dr Priya Rugoonuth** brought to the Forensic Science Laboratory nine post-mortem specimen of whale, marked **Whale 28, Whale 29, Whale 30, Whale 34, Whale 36, Whale 37, Whale 38, Whale 40 and Whale 41.**

On **01st September 2020** at **14 53** hours **Dr Abhinashsing Kailaysur** brought to the Forensic Science Laboratory three post-mortem specimen of whale, marked **Whale 42, Whale 43 and Whale 47.**

Signature: NPemsing *Date: 16.09.2020* SEP 2020

Tel 466 12 39 466 3112 466 3113

Fax 466 9412

Your Ref: OB 08 / 2020 Ministry of Agro-Industry

Our Ref: FSL 4776 / 2020

Period of Testing

28.08.2020 – 14.09.2020

Description

Specimen of Internal organs and swabs

Test Carried out

1. Gas Chromatography- Mass Spectrometry

Results

Toxicological screening yielded negative results in all samples.

Aliphatic hydrocarbon was detected in samples from whales 1, 6, 7, 20, 22, 23, 24, 29, 30, 36 and 47. Analysis revealed the presence of chemical components which were similar to those found in petroleum products such as kerosene and diesel.

Aliphatic Hydrocarbon was not detected in samples from Whales 25, 28, 34, 37, 38, 40, 41, 42 and 43.

Interpretation of results:

- Aliphatic hydrocarbon are compounds consisting of carbon and hydrogen, joined together in straight chains, branched chains or non-aromatic rings.
- Tests were carried out as per forensic resources of the Forensic Science Laboratory (FSL) and FSL does not carry out tests for Polycyclic Aromatic Hydrocarbon (PAHs).

-End of test Report-

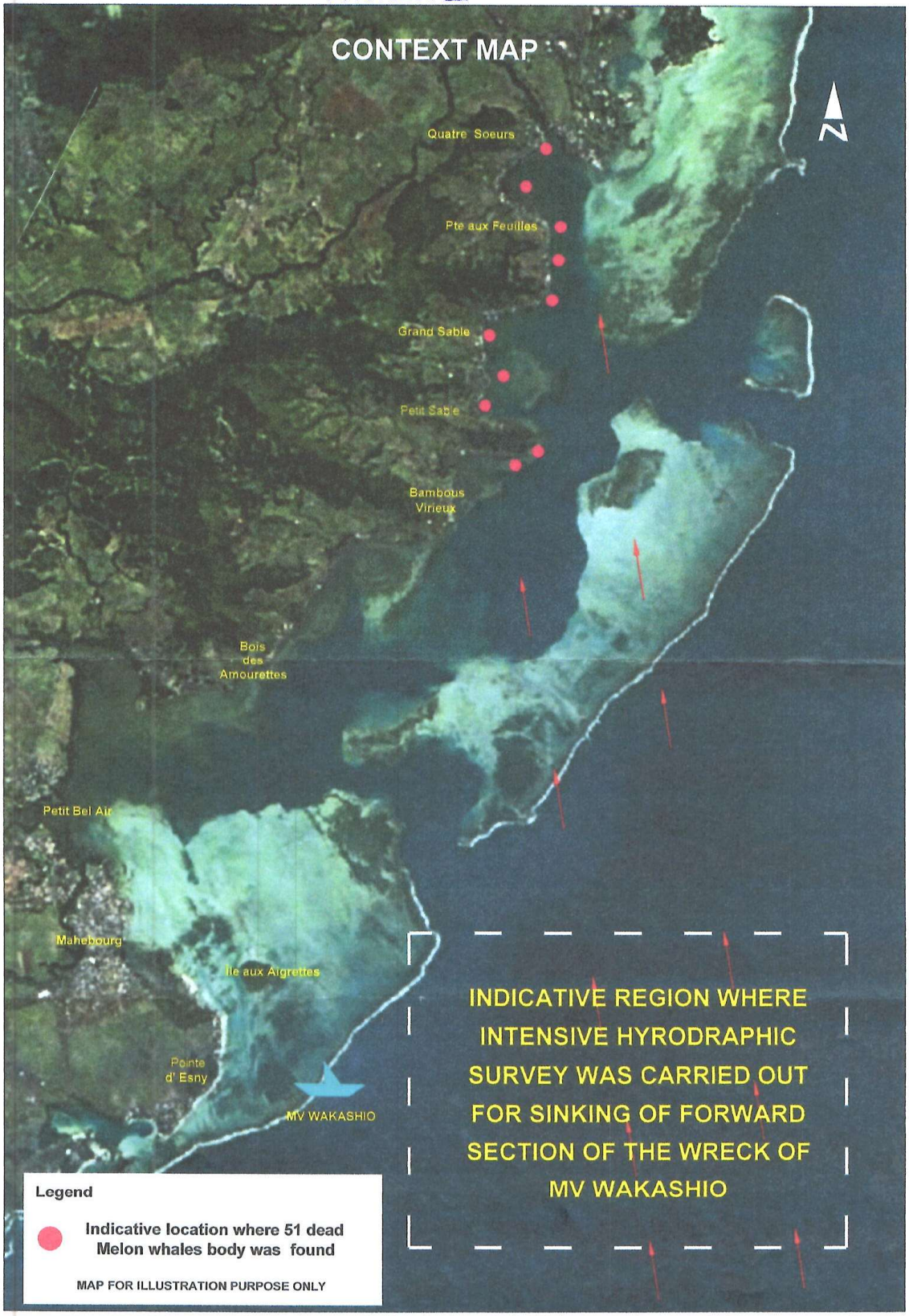
16 SEP 2020

FORENSIC SCIENCE LABORATORY

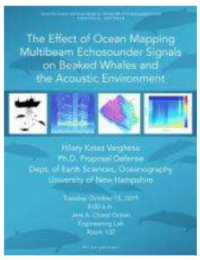
Signature:

Date: 16.09.2020

ANNEX III


CONTEXT MAP
N
Quatre Soeurs
Pte aux Feuilles
Grand Sable
Petit Sable
Bambous Virieux
Bois des Amourettes
Petit Bel Air
Mahebourg
Ile aux Aigrettes
Pointe d' Esny
MV WAKASHIO
INDICATIVE REGION WHERE INTENSIVE HYRODRAPHIC SURVEY WAS CARRIED OUT FOR SINKING OF FORWARD SECTION OF THE WRECK OF MV WAKASHIO
Legend
Indicative location where 51 dead Melon whales body was found
MAP FOR ILLUSTRATION PURPOSE ONLY

ANNEX IV



Watch the Video

The Effect of Ocean Mapping Multibeam Echosounder Signals on Beaked Whales and the Acoustic Environment

Hilary Kates Varghese
Ph.D. Proposal Defense

Earth Sciences–Oceanography
UNH

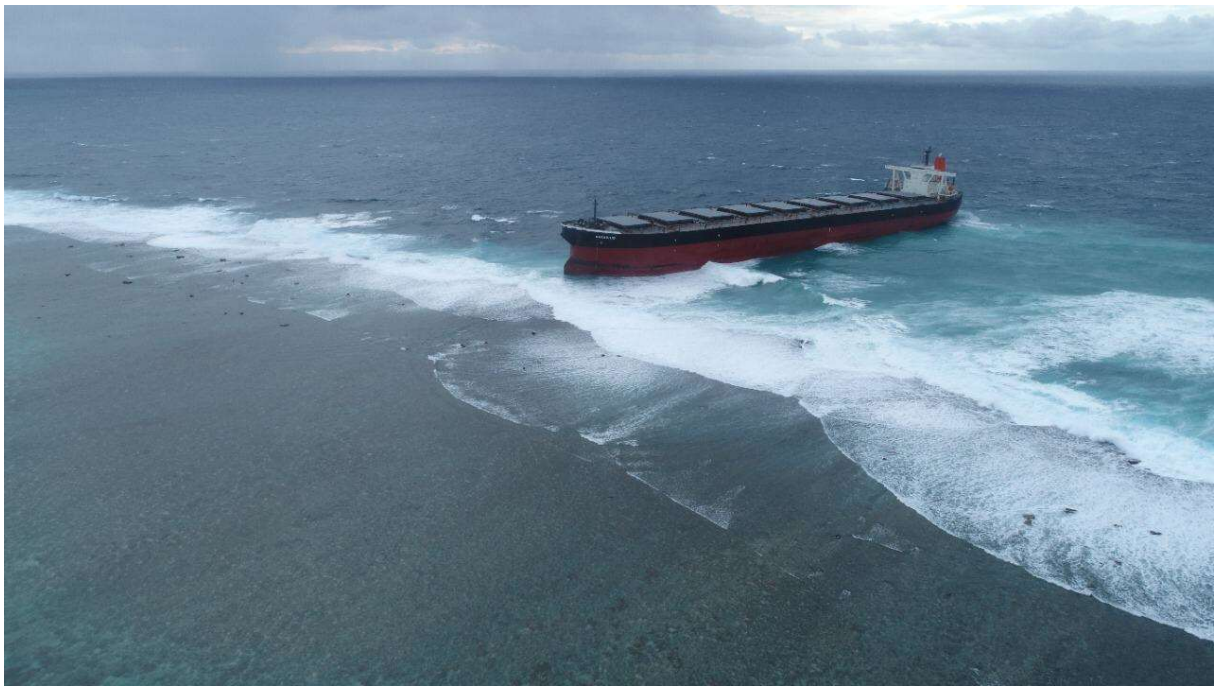
Tuesday, Oct. 15, 2019, 8:00am
Chase 130

Abstract

Sound can propagate great distances underwater and is an important mode of information for marine life. Many human activities in the ocean intentionally and unintentionally emit sound. Therefore, it is essential that the effects of anthropogenic noise on marine life and the ambient marine environment are understood. Most of the work to date has focused on the impact of low-frequency (<1 kHz) sources such as shipping noise, and mid-frequency (1-10 kHz) sources such as Naval sonar, to which many marine mammals have shown to be sensitive. Less work has focused on higher frequency sources (>10 kHz), such as ocean mapping multibeam echosounder (MBES) signals. However, some marine mammals, including beaked whales, are capable of hearing these higher frequency sources. Without a better understanding of the interaction of high frequency sound with marine mammals, the current guidelines imposed for marine mammal protection may not be protective enough, or alternatively, may be too conservative. With targeted research to assess the effect of ocean mapping sonar on vulnerable marine life and the ambient marine environment, we can begin to understand how this sound source fits in to existing regulation, and/or provide insight for how existing policy should be modified to protect marine mammals from this sound source. Hence, the aim of this research is to contribute to the understanding of potential effects ocean mapping multibeam echosounder (MBES) signals may have on marine life by specifically assessing potential effects of MBES signals on beaked whale foraging and a local acoustic environment.

Bio

Hilary received her B.Sc. in the Biological Sciences with distinction in research from Cornell University in 2011, where she studied the evolution of luminescent courtship signals in Caribbean ostracods. After college she moved to Florida to work as a research associate for a biofuel company. Simultaneously, she completed her master's degree in Applied Mathematics at Florida Gulf University. Hilary is now pursuing her Ph.D. in Oceanography at the University of New Hampshire, where her work focuses on the effect of anthropogenic noise on marine life.



A Hamuth, GCSK, Former Puisne Judge

M Genevieve, Marine Surveyor

J Lam Kai Leung, Marine Surveyor

15 September 2022