Report on the investigation of the grounding of the

MV FEDRA

10th October 2008

This report is subject to
the Gibraltar Shipping (Accident Reporting & Investigation) Regulations 2006.

Government of Gibraltar
Maritime Administration
Watergate House
2/8 Casemates Square
Gibraltar

NOTE

This report is not intended to be used for the purpose of litigation. It endeavours to identify and analyse the relevant safety issues pertaining to the accident, and to make recommendations aimed at preventing similar accidents in the future.

CONTENTS

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ASI	-	Liberia Annual safety inspection
bhp	-	brake horsepower
cable	-	one tenth of a nautical mile
CCA	-	SAR tug ‘Clara Campo Amor’
COP	-	Captain of the Port
CSR	-	Continuous Synopsis Record
CTL	-	Constructive Total Loss
DPA	-	Designated Person Ashore
DPO	-	Duty Port Officer
ETA	-	Estimated Time of Arrival
ETV	-	Emergency Towing Vessel
GMA	-	Gibraltar Maritime Administration
GoG	-	Government of Gibraltar
GPA	-	Gibraltar Port Authority
GPS	-	Global Positioning System
GT	-	Gross tonnage
IMO	-	International Maritime Organisation
ISM	-	International Safety Management (Code)
Kts	-	knots (nautical miles per hour)
kW	-	Kilowatts
LISCR	-	Liberian International Ship & Corporate Registry
LOF	-	Lloyds Open Form (salvage agreement)
m	-	metre
MoD	-	Ministry of Defence

MOU	-	Memorandum of Understanding
MRCC	-	Maritime Rescue Coordination Centre
Mt	-	metric tonnes
NM	-	nautical mile
OOW	-	Officer of the Watch
PPO	-	Port Operative
PSC	-	Port State Control
RGP	-	Royal Gibraltar Police
Shackle	-	90 feet or 27.7m of anchor cable
SMS	-	Safety Management System
SoG	-	Speed over ground
SOLAS	-	International Convention for the Safety of Life at Sea
SPO	-	Senior Port Officer
UTC	-	Universal Co-ordinated Time
VDR	-	Voyage Data Recorder
VHF	-	Very High Frequency

All times used in this report are UTC unless otherwise stated

MV Fedra circa 2008

SYNOPSIS

On completion of discharge of her cargo at the Spanish port of El Ferrol, the 35886 GT Liberian registered bulk carrier, '*FEDRA',* proceeded, in ballast condition, towards Gibraltar. On the 9th October 2008 *Fedra* anchored on the East side of Gibraltar and grounded in severe weather conditions on the following day, 10th October, at 1736 UTC, due to the main engine not being operational.

The crew were all safely rescued by helicopter and shore crane.

Loss of fuel oil from the wreck resulted in pollution to the shoreline of Gibraltar and Spain.

The Gibraltar Maritime Administration was informed and an investigation started in accordance with IMO guidelines for accident investigations.

The ship was declared a CTL and salvage operations commenced. The prevailing weather conditions prevented the vessel from being refloated in its entirety. The accommodation block and aft section of the vessel were cut up in-situ for removal, whilst the remainder of the vessel was refloated on the 31st December 2008 and subsequently broken up for scrap in the port of Gibraltar.

Factors contributing to the accident

1. Condition of the main engine, standard of maintenance and lack of spares.

2. Master withheld important information regarding the true status of the main engine.

3. Interference by the ship's owners / operators with regard to the Master's overriding authority.

4. Lack of any emergency towing plan or procedure on board the Fedra.

5. Lack of suitable salvage tug / emergency towing vessel (ETV) in the Port of Gibraltar under the direct control of the Captain of the Port.

6. Limited vessel monitoring procedures and equipment on the Eastern side of Gibraltar.

Factors affecting the investigation

1. Due to the engine room being partially submerged, documentation and operational records were lost. During the rescue operation, many of the documents collected by the crew of *Fedra* prior to their evacuation were lost.

2. The VDR was recovered from the wreck and information was extracted with the assistance of the UK Marine Accident Investigation Branch.

3. Due to an investigation into the incident by the RGP, the crew of *Fedra* were not always readily available for interview by the GMA accident investigator. Several of the ships documents brought ashore by the crew were retained by the RGP, with only copies of the documents made available to the GMA.

4. The Master and crew of the Spanish salvage tug *Clara Campoamor* could not be interviewed as authorisation from the Spanish Government was not granted.

5. Notwithstanding the information obtained from the vessel's VDR, witness interviews and documents retrieved, a large amount of documentary/physical evidence was lost.

SECTION 1 – FACTUAL INFORMATION

1.1 Particulars of the 'Fedra'

1.1.1 Vessel Details

Name:	:	'Fedra'
IMO Number	:	8208713 .
Registered owner.	:	Fedra Navigation SA, Liberia IMO No.: 5228103
Operator	:	Dilek Transport Inc., 10 SP. Trikoupi & 3 Irodotou 185 38 Aktixaveriou, Greece IMO No.: 5057547
Port of registry	:	Monrovia
Flag	:	Liberia
Type	:	Bulk Carrier
Built	:	1984
Classification society	:	Germanischer Lloyd
Construction	:	Steel
Gross Tonnage	:	35886
Engine power	:	13168 bhp, 9685 kW
Other relevant info	:	Single fixed pitch propeller Main engine M.A.N – B&W, type 4L 80GB, Serial number 7552.

1.1.2 Accident details

Injuries to personnel	:	No fatalities, no serious injuries
Damage	:	*Fedra* was declared a Constructive Total Loss and was broken up for scrap
Pollution	:	Gibraltar and Spanish coastlines were affected by loss of heavy fuel oil from the vessel, resulting in the requirement for a Tier III pollution response from Gibraltar and Spanish authorities. A Tier III counter pollution response is categorised as a large spill requiring national assistance and resources during which a national contingency plan is activated.
Location of Accident	:	Europa Point, Gibraltar Lat. 36º 06.55 N Long. 005º 20.58 W
Date and Time	:	Approx 1736 UTC on 10th October 2008

1.2 Narrative

1.2.1 Background

Fedra departed the port of Zhousan (China) on the 16th August 2008 at 0545 UTC bound for to the port of Cartagena (Spain) via the Suez Canal with a cargo of 62883 mt of clinker cement in bulk, with a sailing draft of 13.08 m even keel. The vessel paused at Singapore for bunkers, Kalamata (Greece), where some spares were taken onboard and at Gibraltar for bunkers.

The ship did not arrive at Cartagena, but discharged her cargo at El Ferrol.

Following the discharge at El Ferrol, she proceeded to Gibraltar with the intention of stopping for 2 to 3 days to complete maintenance work in the engine room, to receive some spares, take on bunkers and lubricants and also possibly carry out a crew change.

1.2.2 Anchoring

On the 9th October 2008 at approximately 1243 UTC the vessel arrived within the Straits of Gibraltar and proceeded to the East of Gibraltar.

At approximately 1445 hrs, the Master ordered the anchor to be let go in position Lat. 36 06' 69 N Long. 005 18.67 W, approximately 2 miles to the East of Gibraltar. The ship was brought up to 8 shackles of cable on the port anchor.

The vessels *S/S Explorer, Californian Highway* and *Beluga Fusion* were all anchored in close proximity to *Fedra*.

Once the anchor was brought up, the Chief Mate took over the watch from the 2nd Officer. The position of *Fedra* was recorded in the GPS log (Refer to Annex A).

During the Chief Officer's watch, at 1620 UTC, the weather recorded at Europa Point light house, was a south easterly wind, speed of 0 to 4 kts, with visibility 20 miles, sea state 2 and swell of 1m from the East.

The Chief Mate reported that he checked the weather forecast for the next 24 hrs, which he claimed did not forecast any heavy weather.

The Navtex weather forecast retrieved from the *Fedra*, received at 1011 UTC on the 9th October 2008, predicted the following for the Alboran area:

Part 3 Forecasts to Friday 10 October 2008 at 1200 UTC

Alboran: Variable 4 to 6, but northeast occasionally 8 in east, veering East 8 or 9 from East overnight. Severe gusts. Locally rough, becoming very rough. Thunderstorms.

Part 4: Outlook for next 24 hours:

Alboran Sea: Easterly gale or severe gale continuing. Elsewhere, east or northeast light or moderate, but fresh over the south of the basin.

The Chief Mate kept watch on VHF, with channels 16, 12 and 70 being monitored.

1.2.3 Events at anchor

1.2.3.1 Removal of main engine cylinder liner no.3

Upon completion of the anchoring, at approximately 1500 on 9th October, the Master contacted the engine room to inform them that he had finished with the main engines.

Shortly after, the Chief Engineer requested permission from the Master to inspect the liner of cylinder unit no.3, which had been reported leaking at the port of El Ferrol and had progressively deteriorated en route to Gibraltar. This required the main engine to be disabled.

At approximately 1630, with the consent of the Master, the Chief Engineer instructed the 2nd Engineer to proceed with the inspection of the cylinder liner. Upon inspection, a crack was found on the upper part of the liner.

The Chief Engineer and Company Engineering Superintendent who was sailing with the vessel, informed the Master that the liner had to be replaced and the task would take 10-12 hours to complete, during which time the vessel would remain without main engine power.

The Master granted permission for cylinder liner No.3 to be replaced and *Fedra's* main engines to be disabled. The Master stated he had consulted the weather forecast prior to making the decision.

1.2.3.2 Anchor watch commenced

During the evening of the 9th October and prior to retiring to his cabin, the Master wrote his Night Orders in the Night Order Book.

The Chief Officer handed over the watch to the 3rd Officer at approximately 2000. Both the Chief Officer and 3rd Officer stated they had checked the weather forecast prior to commencing their watches and that they were not aware that inclement weather was predicted for the next 24 hrs. Both also stated that they were not aware that *Fedra's* main engine was under repair and was disabled.

1.2.3.3 Work on the main engine postponed

At approximately 0000 on the 10th October, the No.3 cylinder liner was removed from the main engine entablature. At 0145 the Chief Engineer instructed the engineers to cease work on the main engine to get some rest with the aim of resuming work at 0700.

Prior to retiring to his cabin, the Chief Engineer instructed an engine room rating to prepare the replacement liner, ready for fitting in the morning.

At around the same time on the bridge, the 2nd Officer took over the bridge watch from the 3rd Officer.

During his watch, from 0000 - 0400, the 2nd Officer stated that the weather was "normal". However, at 0318 GMT he made an entry in the compass error record book, which stated the following:

"Visibility good, rough sea, vessel rolling…"

The 2nd Officer was also not aware that the main engines had been disabled.

At 0400 the Chief Mate relieved the 2nd Officer with nothing of significance to report to the Chief Officer.

During the Chief Officer's watch, at approximately 0600, the Master arrived on the bridge. By this time the Master and Chief Officer had noticed the sea state had deteriorated, with the wind and swell increasing and the vessel's rolling having increased significantly.

The weather at 0640 recorded at Europa Point light house, was as follows:

Wind N/E 20 to 30 kts plus (gusting 35 to 40 kts), visibility 2 miles, sea state: 5 and swell 3 Easterly.

1.2.3.4 Main Engine repairs resumed but then suspended

At approximately 0700 on the 10th October, the Chief Engineer, the Engineering Superintendent and engineer officers resumed work on the main engine.

The Chief Engineer stated that he stopped the repair work because of the danger to the crew posed by the vessel's rolling in the heavy swell and the possibility of damaging the cylinder. The crew were instructed to stand by until conditions improved and thus no further work was attempted on *Fedra's* main engine.

The Master was informed by the Chief Engineer that the vessel had to remain without main engine until such time that as the swell and conditions improved.

Later that morning, at 0732 and at 0747, the following gale warnings were received onboard the vessel, issued by Meteofrance covering the area of Gibraltar:

Part 3 forecasts until Saturday 11 at 00 UTC

Cadiz, Gibraltar Strait: Easterly 4 to 6, locally 7 in the strait and vicinity, increasing 8 soon, but 9 in leeward strait, then increasing 9 later, locally 10 at times. Severe gusts. Rough, becoming very rough, then locally high later. Thundery rain or squalls.

Part 3 forecasts until Saturday 11 at 00 UTC

Alboran: East increasing 7 or 8, at times 9 in day time. Severe gusts. High in west and day time. Rain and thunderstorms.

The Master consulted the weather forecast and informed the engine department to cease the repairs on the main engine and to attempt everything possible to make the main engine fully operational.

At 0800 the Chief Officer handed over the watch to the 3rd Officer. The Chief Officer stated that prior to leaving the bridge he noticed the wind speed had increased to Beaufort force 5.

The Master remained on the bridge with the 3rd Officer who was monitoring the vessel's position.

1.2.4 Events post anchoring

1.2.4.1 Dragging of anchor

By approximately 0640 on the 10th, the wind at Europa Point had increased to 20-30 kts gusting to 35-40 kts from an Easterly direction, with a sea state of 5 and a swell of 3m from the East.

The Master fixed the vessel's position and confirmed that *Fedra* was dragging anchor.

The Master then called the Chief Officer to the bridge and ordered him forward. At this time the *Fedra* had the port anchor down with 8 shackles of cable in the water.

The Chief Officer was instructed to pay out one shackle of chain, from 8 to 9 shackles, in an attempt to stop the ship from dragging.

At 0742 *Fedra's* speed over ground was 0.5 to 0.7 knots in a westerly direction towards Gibraltar. Concerned, the Master called the ship's Managers and informed them that the vessel was without main engine capability and was

dragging anchor towards Gibraltar. He advised the Managers that he intended to drop a second anchor, i.e. the starboard anchor.

At 0754, in position Lat. 36 06' 69 N, Long. 005 18'.67 W, the starboard anchor was let go. Initially 4 shackles were veered. This was increased to 5 shackles by 0802.

Shortly after, *Fedra* had dragged anchor into the one mile exclusion zone off Europa Point. The duty GPA Port Operative monitoring the exclusion zone contacted *Fedra* at 0803 and asked the Master if the *Fedra* was at anchor or drifting.

The Master replied that he had observed the vessel was a *"little bit drifting".* The GPA PO then instructed the Master to move and shift position further East. The Master replied *"OK. Thank you very much".*

By 0809 *Fedra's* SOG was approximately 0.1 to 0.8 kts.

At 0810, the 2nd Officer suggested to the Master that they call the Port of Gibraltar to request tug assistance. The Master replied *"I think this is the single solution, to Gibraltar to send the tug".* The Master then commented to the 2nd Officer that he had informed the Company that he required a tug while repairs to the main engine were being undertaken and further commented on his disagreement that the repairs were being carried out at anchor with no tug on standby.

At about 0812 the Master commented to personnel on the bridge that as the engine could not be started he would call the operators to send a tug immediately. However the Master did not appear to call the ship's Managers at that time.

At 0815 the Master was heard informing the crewmembers on the bridge that the vessel was drifting even with two anchors deployed and then made a telephone call to the Company's Operations Manager. During the telephone conversation the Master was heard confirming that he required a tug for *"holding in position".* Within the same conversation the Master repeated the name of the vessel's agents in Gibraltar on several occasions.

At 0817 the Master made an attempt to contact the vessel's agents in Gibraltar, Maritima del Estrecho, to request a tug to attend his vessel. Unable to contact the agents, the Master telephoned the Managers and informed them that he had tried to contact the agents without result and that he required a tug be sent immediately for assistance. He described *Fedra* being in a *"very, very wrong position",* 8 cables from the *New Flame* wreck site and continuing to drag her anchors towards the Gibraltar.

The Master informed the Managers that unless a tug was sent urgently, he would have to contact the GPA for the purpose of requesting a tug for immediate assistance. At this time the vessel's SOG was between 0.4 to 1.4 kts in a westerly direction.

At 0821 the Master made the decision to contact the GPA on VHF Channel 12 and informed them that he had tried to start the main engine but had *"some difficulties"* and that he could not *"start the engine at the moment".* He told the PO that the Chief Engineer was investigating the problem.

The Master informed the GPA PO he had two anchors deployed but was *"drifting"*. He told the GPA PO that he had requested his agents to organise tug assistance *"for holding"*, but that he had not received a response. The duty PO acknowledged the report and directed the Master to standby on VHF Channel 12.

At 0824 the Master telephoned the engine room and instructed the Chief Engineer to stop all repair work in relation to the main engine and to attempt to start the main engine. Shortly afterwards, the Master telephoned the engine room and this time spoke to the Engineering Superintendent requesting him to re-assemble the main engine and to *'make something'* as the ship's anchors were not holding.

At 0827 the Master called the Managers to inform them that the vessel was still dragging anchor and that he intended contacting the GPA to request for tug assistance.

1.2.4.2 Request to GPA to send tug assistance

At 0829 the Master informed the GPA that he was unable to start the main engine and that he was dragging anchors in the direction of the *New Flame* wreck site.

The Master then requested the GPA to organise tug assistance for *"holding"*. The GPA PO acknowledged the call and informed the Master that they were sending a tug to assist him.

The GPA contacted the local tug company, TP Towage Ltd., to arrange for their UK registered tug *Wellington* to attend.

At 0829 *Fedra* was reported to be 7 cables from the *New Flame* wreck site and 8.9 cables from the Gibraltar coastline, with the SOG 0.5-1.5kts.

At 0839 the Master made another call to the GPA on VHF channel 12 as follows:

Gibraltar Port, this is Fedra on the eastside, emergency, emergency, all vessels please stop communication. Gibraltar Port, Fedra.

The Master informed the PO that Fedra was *'drifting very hard"* and requested tug assistance *"urgently for safety"*. The PO replied that the tug had been arranged and was on its way to the vessel.

The weather / sea conditions recorded at Europa Point lighthouse at 1035 were:

Wind Easterly 20-35 kts (gusting 35-40 kts), sea 6, swell 4 Easterly.

At 0840, VDR recordings taken from the bridge, confirm that the Master had not wanted to carry out the repairs at Gibraltar. The Master is heard telling the superintendent on the bridge, *"I tell them don't come here! Don't come here! Not come here! I tell them! Don't come here! Why here? This is open!'…Why port state control. Put the vessel safely somewhere".*

At 0842 the PO made contact with tug *Warrior* which was in the vicinity of Europa Point and informed them that *Fedra* was dragging her anchors and had trouble in starting their main engines.

The PO requested the *Warrior* to proceed towards *Fedra* to render assistance. The *Warrior* at the time was towing a cardinal buoy which had become detached from her mooring point at the *New Flame* wreck site.

At 0850 the GPA Senior Port Officer requested the Spanish Government's Sociedad de Salvamento Maritimo for assistance.

At 0856 the PO made contact with tug *Wellington* and requested that they proceed to assist *Fedra* as soon as they finished assisting a yacht in Gibraltar harbour. At this time the GPA sent a member of the Port Staff to monitor the situation visually from Europa Point.

At approximately 0858, having handed over the Cardinal Buoy to a smaller tug, the *Ashanti*, the *Warrior* made contact with *Fedra* on VHF channel 12. The Master informed *Warrior* that he was 7 cables from the Gibraltar coastline and was dragging anchors. The Master also informed Warrior that he had *"some difficulties with the engines"* and that he could not start the engine.

The Master informed *Warrior* that he required *Warrior* to *"hold him"*.

1.2.4.3 Arrival of first rescue tug *Warrior* at the scene

Warrior rendezvoused with *Fedra* at 0909 and made contact on VHF channel 12. VHF Channel 15 was then designated by both *Fedra* and *Warrior* as the working channel.

At 0909 the waves were reported by the Master to be around 10m and by this time the wind had strengthened. *Fedra* had 9 shackles veered on the port anchor and 6 shackles veered on the starboard anchor. *Fedra's* SOG was 0.3 to 1.5 kts in as she continued to drag in a westerly direction.

Warrior contacted *Fedra* to enquire as to whether they had power on the windlass and as to the number of anchors she had deployed. The Master of

Fedra confirmed that both anchors were down and that the winches onboard were in operational condition.

Warrior then informed the *Fedra* that he was going to pass a poly line which would be shackled to *Warrior's* tow-wire which could then be heaved onto *Fedra's* stern.

Warrior intended to attempt to swing the *Fedra's* stern into the wind for the purpose of holding her into the weather.

At around 0913 the Master of the *Fedra* called the Managers and reported to them that he intended to engage the services of *Warrior*. He informed the Managers that a towline would be passed from Warrior onto the *Fedra's* stern for the purpose of holding the vessel into the weather.

The Master reiterated that tug assistance had been requested for the purpose of *"holding only".*

Shortly after, at 0922, following the telephone conversation with the Company, the Master requested *Warrior* for a weather update. The Master was informed by the barge *Bigfoot,* which was working in the vicinity, that the weather was expected to deteriorate.

1.2.4.4 Master's decision to request GPA for 2nd tug

Concerned that the weather was to become worse, the Master contacted the GPA at 0930 on VHF Channel 12 and informed them that Fedra was in *"very big danger, very big danger"* and couldn't start the engines *"due to the lightship"* and that the vessel was *"drifting very hard"*. The Master informed the GPA that the *Warrior* was very near to his position but that he could not assist him. The Master then requested a second tug for assistance. The PO replied *"well noted".*

The Master then informed the GPA that he required a second tug urgently and that *Fedra* was working on VHF channel 15.

At approximately 0934 the GPA PO made contact with *Wellington* and instructed them to cancel their present work engagements and to proceed immediately to *Fedra's* position to render assistance. *Wellington* acknowledged the call and proceeded towards *Fedra*.

At 0937 the Master instructed the Chief Officer to prepare a heaving line to pass to the *Warrior*.

At 0943 VDR audio recordings taken from the bridge of a conversation between the Master and officers in the bridge confirm that the Master had received instructions from the Company not to accept assistance from the *Warrior* and to wait.

At 0944 the crew of the *Fedra* managed to take a heaving line from *Warrior* and the operation to pass a towing line commenced. At this point the Master repeated his opinion that the *Warrior* would not be sufficient and that two tugs were needed.

As the *Warrior* began moving away from *Fedra*, the heaving line / messenger line parted at 0947 due to the strain and effect of the swell on the two vessels.

At approximately 0950 *Warrior*'s Master informed *Fedra* of his intention to manoeuvre the tug near to the *Fedra's* port bow where he intended to pass another heaving line up to *Fedra's* crew.

At 0955 the PO called *Fedra* on VHF channel 12, and designated VHF channel 15 as the working channel. The PO informed *Fedra* that the tug sent by the Port had broken down on route and asked the Master of the *Fedra* to confirm as to whether assistance from a second tug was still required. *Fedra* confirmed that a second tug was required.

The GPA acknowledged the response and informed the Master of the *Fedra* that a tug would be dispatched from Spain to render assistance.

At 1000, having approached the stern of the *Fedra*, *Warrior* successfully passed a towline line to the crew of the *Fedra* which were gathered aft. The towline was made fast on the *Fedra's* stern.

At 1002 in a conversation between the Master of the *Fedra* and the officer on the bridge, the Master reiterated the fact that he had informed the Managers that they should not have undertaken the main engine repairs at anchor and appeared to describe the amount of work being undertaken as *"dry-dock".*

At 1005 the Master again told the officers on the bridge in conversation, that in his view, one tug would not be enough. VDR recordings from the bridge also indicate the Master saying the following to the officers with reference to the decision to undertake the repairs at anchor:

Master: *You see. This is the situation with the people what to make big mistake. It's better to put the vessel in Algeciras in the shelter. Then open the main engine in the quay. Not like this!*

Following the conversation the Master instructed an officer from the bridge to go down to the engine room to instruct the Chief Engineer and Engineering superintendent to *"Try to be very hard to make this piston! To put back all in position with this piston".*

At 1010 the *Warrior* contacted *Fedra* on VHF channel 15 and asked him when he expected the main engine to be operational. *Fedra* did not answer the question but replied *"Yes, but now the vessel is drifting very hard to the rocks"* and asked the *Warrior* what his intention was.

Warrior informed *Fedra* that they intended to turn the *Fedra's* stern into the wind and hold her in place until the weather subsided. *Fedra* confirmed his agreement.

Warrior then asked *Fedra* again when the main engine would be operational to which the Master replied *"Now they are trying their best. They are trying the best all the people are down",* making reference to the *Fedra's* engineers.

At 1010 the GPA Senior Port Officer was organising the attendance of another tug, *VB Artico,* based in the Port of Ceuta.

VDR recordings from the bridge taken at 1013 also make apparent reference to the instructions the Master had received earlier not to engage the *Warrior*:

Master: "*He said to me don't give the line to the tug! Wait, wait! What to wait! What! Now we losing two hours and just now we succeed to take the rope. What to wait to be too late! Yes, no, no, Wait! What to wait! Wait, wait, What wait!*

At 1015 *VB Artico* made the first contact with *Fedra* on VHF channel 12 and requested *Fedra's* Managers' telephone number. *VB Artico* informed *Fedra* that they were in Ceuta waiting for orders from their owners.

The Master informed *VB Artico* that he was 4 cables from Gibraltar and the waves were *"very big".* He then urged *VB Artico* to proceed to their position and not to wait for orders from his owners.

At 1017 the Master made another call to the Chief Engineer requesting him to attempt his utmost to re-assemble the main engine.

At 1020 *VB Artico* confirmed to the *Fedra* that he was proceeding towards them to render assistance.

1.2.4.5 *Warrior* informs the Master of the *Fedra* that additional tug assistance is not required

At 1021 *Fedra* contacted *Warrior* and asked as whether they were capable of holding *Fedra* in situ or whether further tug assistance was required.

Warrior replied, *"Oh no, we've got you there Captain*". At this time the SOG was 0.3 to 1kt toward Gibraltar. The *Fedra's* Master then asked *'So you don't need other assistance?".*

Warrior replied *"Negative on that Captain". Warrior* then repeated their intention to swing the stern of *Fedra* into the wind.

At 1027 the Master asked again as to whether extra assistance was required. *Warrior* replied *"We won't be needing any other assistance Captain".* The Master then asked *"So, you don't need any other extra assistance, yes?" Warrior* replied *'Yes, we will not be needing any other assistance'*.

The Master then made a call to the GPA on channel VHF 12 to inform them that the *Warrior* had confirmed that they had sufficient capabilities to carry out the task in hand and therefore no further tug assistance was required.

The Port Operative replied to the call and informed *Fedra* that the tugs were nonetheless proceeding to the location of *Fedra* as a precaution.

At this time several vessels anchored in the vicinity of the *Fedra* were heaving anchor and leaving the Eastern anchorage due to the poor weather and sea conditions.

At 1033 the Master, in conversation with the officers on the bridge, appeared to justify his decision to request for tug assistance despite the advice of the Managers to delay in engaging the services of *Warrior*.

Master: *"If I delay a little bit, if I delay a little bit to ask for assistance, finish, you see. If I delay 10 minutes to ask assistance from the tug, vessel finished. 10 minutes".*

The Master was then recorded as saying the following to the personnel on the bridge :

Master: *"To make this kind of repair here! Take all the oil from the engine, to overhaul the engine! This is only one crazy man can order this! One crazy!"*

At approximately 1035 tug *Capable*, dispatched by the MoD from Gibraltar Harbour at the request of the GPA, made VHF contact with the *Warrior* requesting an update on the situation.

The Master on the *Warrior* replied they had *"A hold of the Fedra by the stern"*, that the *Fedra* had two anchors down and that the Warrior was *"Just holding him OK".* The Master of the *Capable* then asked for *Fedra* to confirm if assistance from another tug was still required. The Master of the *Warrior* replied *"That's a negative".*

Within seconds, the GPA Port Officer contacted the *Capable* for the purpose of dedicating Channel 20 as the working station for the *Fedra* incident. In response to the call from the GPA DPO, the *Capable* informed the DPO that the *Warrior* had advised that they did not require further tug assistance. The COP instructed the *Capable* to proceed to the *Fedra* irrespective of the response from the *Warrior* or the *Fedra* as he was concerned at the proximity of the *Fedra* to the wreck of the *New Flame* and that the *Fedra* was still dragging. The *Fedra's* SOG at the time was 0.2 to 1.4 kts in a westerly direction.

At 1037 VDR recordings taken from the bridge indicate that the Master at this point made a reference to his opinion that the tug *Warrior* alone was not able to *"do anything"* due to the *"very strong wind, coming again"* and that they needed another tug.

Following various attempts by the Master of *Fedra* to get in contact with the GPA, at 1038 *Warrior* informed the *Fedra* that they were working on channel 20. Although the GPA DPO has informed both the *Warrior* and *Capable* at 1035 of the designated working channel, recordings of VHF radiotelegraphy for the day indicate the GPA DPO had not informed the *Fedra* that Channel 20 had been designated as the working channel for the operation.

At 1038 the COP called the Master of the *Fedra* on channel 20 to obtain information on the situation with regard to the main engine. The Master of the Fedra replied *"Yes the people there are down, all the people down in the engine room, in order to solve this problem. They don't know, because we try start the engine but the vessel is very, very light and due to this very big hammering of the waves, the waves here are very big, we cannot move from here anymore".*

The COP asked the Master of the *Fedra* whether there was a tug attached and that the *Fedra* was not drifting.

The Master of the *Fedra* confirmed that there was one tug attached and that he was *"not drifting at the moment and the distance is ok"* but the *Warrior* had almost turned his stern into the wind but it was *"Impossible due to the wind".*

The COP then informed the Master of the *Fedra* that a large tug had been organised and was en route to assist. The tug being referred to by the COP is understood to be the Spanish ETV, *Clara Campoamor*.

The COP instructed the Master of the *Fedra* to remain on standby on VHF channel 20 and not channel 15, which was being used to communicate with the *Warrior.*

At 1042 the tug *Capable* made contact with the DPO to inform them that they were one mile south west of Europa Point but could not make their way round the Point due to the big swell, but that they would standby and make an attempt later. The GPA told the *Capable* to standby on channel 20.

1.2.4.6 Towline with *Warrior* parts

Aware that the vessel was continuing to drag towards Europa Point, the Master of the *Fedra* made numerous requests to the Master of the *Warrior* for the *Fedra* to be swung to the East to avoid the New Flame wreck site and Gibraltar.

At 1055 hrs the Master of *Fedra* requested an update from the GPA of the ETA of the tugs that had been dispatched to assist the Fedra.

Seconds later, at 1055hrs, the *Warrior* increased the power on her main engines to increase the strain on the tow wire in an attempt to swing the *Fedra's* stern towards the East and into the wind. The towline from the *Warrior* to the *Fedra* parted. At this time *Fedra* was 6 cables from the Gibraltar coastline and continued to drag.

At 1057 hrs the tug master of the *Warrior* requested the *Fedra* to let go the starboard anchor chain to 9 shackles, the same as the port anchor.

1.2.4.7 Search and Rescue Tug *Clara Campo Amor* rendezvous with Fedra

Following a request for assistance by the GPA Senior Port Officer at 1050, the Spanish Search and Rescue tug *Clara Campo Amor (CCA)*, dispatched by MRCC Tarifa, began to approach the vicinity of *Fedra* at 1059. During the approach of the *CCA*, the Master of the *Fedra* made the following comment to the 3rd Officer:

Master: *"Now coming the second tug. Son, even the owner become crazy he told me not to take the second tug, I cannot avoid the tug anymore, impossible."*

The *CCA* arrived at the vicinity of the *Fedra* and made the first contact with the *Fedra* on VHF channel 20 at 1103 and enquired as to what kind of assistance was needed.

The Master of Fedra replied *"I need assistance to hold me, to hold me, don't go on the rocks. Assistance from holding".* The Master of the *CCA* then asked the *Fedra* to confirm as to whether they required a tow. The Master if the *Fedra* replied *"Other wise how to keep me, just a minute because now I am also in the telephone with my owner and I will tell you exactly".* The *CCA* replied that they would standby.

Immediately after making first contact with the tug *CCA* on VHF, the Master of the *Fedra* made a call to her Managers at 1104 hrs. The Master informed them that the towline from the *Warrior* had parted and that another tug sent by Algeciras was approaching the vessel offering their assistance. The Master emphasised that the tug assistance was required *"for holding, for holding, holding*". Within the same phone call he told the Managers that the name of the second tug was *Capable*.

At 1107 the Master of the *Fedra* requested the assistance of the *CCA*. The F*edra* was 4.5 cables from the Gibraltar coastline at this time. The *CCA* began to make preparations to attempt to pass a towline to the *Fedra.*

At 1119 the *CCA* requested the Master of the *Fedra* to instruct his crew to retrieve the remains of *Warrior's* broken towline from the stern of the *Fedra* so as not to obstruct the attempt to pass the towline.

Shortly after, at 1122 the Master of the *"Warrior"* informed the *Fedra* that he was making preparations to get in close to the *Fedra* with the aim of passing them another towline.

At this point the *CCA* was located at a distance 0.24NM off the Fedra's port bow and the *Warrior* was further away, approximately 0.51NM off the *Fedra's* port bow.

1.2.4.8 *Warrior* and *CCA* make fast lines onboard *Fedra*

The *CCA* had prepared her towline by 1125 and instructed the Master of the *Fedra* to ensure that the crew provided them with a heaving line so that they could pass on the towline. The Master of the *Fedra* instructed the Chief Officer and deck crew to proceed forward with the vessel's line throwing appliances.

At 1126 the Master of the *Fedra* called the Managers to inform them that the *Fedra* was 3.5 cables from the Gibraltar coastline. The Master also told the Managers that the *CCA*, *"another big tug*" had arrived and were trying to pass a towline to them, but that it was proving very difficult due to the weather.

The Chief Officer attempted on a number of occasions to use the vessel's line throwing appliances to send a messenger line to the *CCA*. At the first attempt, the rocket and line landed in the water. On the second attempt the container housing the rocket and the line were blown out of the Chief Officer's hands by a strong gust of wind.

At 1128 and following the previous failed attempts, the Master of the *Fedra* asked the *CCA* if they had line throwing appliances. He informed the *CCA* that it would be easier for the *CCA* to launch a messenger line towards the *Fedra*, as the Fedra was a much larger target. The *CCA* confirmed that they would attempt to send a heaving line to the Fedra.

For the next few minutes the Master of the *Fedra* urged the *CCA* to pass them a heaving line and complained to the bridge crew at what he saw was a lack of action on the part of the crew of the *CCA*.

At 1135 the Master of the *Fedra* instructed the Chief Officer to attempt to send a heaving line to the *CCA* and informed the *CCA* that they were ready to send a messenger line using a line throwing appliance.

Shortly after, at approximately 1140, the Chief Officer succeeded and the line throwing rocket landed on the *CCA.*

The Master informed the *CCA* that they had succeeded in sending them a messenger line and instructed the *CCA* to stay close to the *Fedra.* The *CCA* then requested the *Fedra* to send them a heaving line.

In the meantime the tug *Warrior* had moved to the *Fedra's* port bow to a distance of about 30 m and was offering a line to the *Fedra.*

The crew of the *Fedra* were thus engaged in two operations simultaneously with the *CCA* and the *Warrior* in an attempt to secure towlines or heaving lines onboard. The *CCA* approached from the starboard side and the *Warrior* approached from the port side.

At 1144 the rope line from the *CCA* parted.

At 1146 the Chief Officer requested additional crew members forward to assist him with the operation. The Master then instructed the seaman on the bridge to go forward. The Chief Officer informed the Master that he was preparing a heavier heaving line in order to ensure it did not break easily under strain.

At 1147 the Master of the *Fedra* told the 2nd Officer that in his view the operation to assist them was now a salvage situation.

By 1148 the *Warrior* moved in very close to the *Fedra's* port bow. The Master of the *Warrior* then requested a line to be passed to them otherwise they would move away from the *Fedra*.

Shortly after, a line from the *Fedra* was passed to *Warrior*. The Master of the *Fedra* then informed the GPA DPO that a line has been passed to the *Warrior.*

Approximately at 1155 a towline from *Warrior* was made fast on *Fedra's* bow.

At approximately 1208, the Master instructed the *CCA* to approach stern first towards the Fedra's midships. The Master directed the *CCA* to stay close and to remain abeam of his vessel. The Master intended to take a towline from the CCA and make it fast on one of the bollards located amidships.

The *Fedra* was now 4 cables away from the Gibraltar.

At 1212 the Master received a telephone call from the vessel's Managers. The Master informed the Managers that a towline to the *Warrior* had been secured and that they were also attempting to secure a towline from the *CCA.* He made it clear to the Managers that if the towline from the *Warrior* broke again, they would not have *"any chance".*

The Master explained that the Fedra was *"3 cables…very near to the rocks"* and the depth was *"about 30 metres".* He told the Managers that *"one cable and the vessel is finished! No possible! Yes if the God help us to miss the rocks, we save the vessel and the people, otherwise no possible".*

The Master also informed the Company that the wind was very strong and the vessel was approaching shallow waters and therefore the waves were getting bigger.

Following the telephone calls at 1215 and 1220, the Master told the 2nd Officer that during the phone call he had been instructed by the Company not to *"take the big tug"* and to *"Keeping the small one…you can imagine these people…only the small one. Don't take the big one…because they lose money"*

At 1222 whilst attempting to retrieve the *CCA's* towline onto the deck of the *Fedra*, the rope line parted as a result of a combination of the weight of towline and the surge of the swell.

Shortly after, another rope line was successfully passed onto the *Fedra* from the *CCA.*

At 1227 the *CCA* informed the *Fedra* crew that they could commence heaving the towline onboard. The forward windlass on the *Fedra* was used to retrieve the towline. However, on several occasions the windlass engine stopped due to the strain on the towline, the weight of the towline and the ship's motion due to the swell.

During the operation to retrieve the towline, the Master of the *Fedra* continuously directed the *CCA* to remain close to the *Fedra* and to reduce the tension on the towline.

At 1229 the Master received a phone call from the Company's Operations Manager. During the conversation the Master was told that the Company had dispatched a tug called the *Mediterranean Fos (Med Fos)* which was coming to assist. The *Med Fos* was operated by Five Oceans Salvage Company.

VDR recordings taken from the bridge at the time appear to indicate the Master was being instructed to delay interacting with the *CCA*. Prior to ending the telephone conversation, the Master replied, *"No, no, impossible, impossible, because I am nearly 3 cables from the rocks…Yes, because if we delay, if we delay 10 minutes, the vessel will be lost, Finished!".*

Shortly after, at 1230 the Master asked the officers, *"Where is Mediterranean, they said not to take this tug* (making reference to the CCA) *because coming one tug Mediterranean, where is the Mediterranean? Where is this tug Mediterranean. Where is this tug Mediterranean, where is it?"*

Then at 1231 and 1232 the Master of the Fedra stated the following to the officers on the bridge:

"They said to cut off the line and wait this tug (in reference to Med Fos). *You can imagine, they said to avoid this tug because it is very expensive!"*

"You can imagine, they said to avoid this tug because it is very expensive and to wait a tug which coming, I don't know from where, Mediterranean (in reference to *Med Fos*), *their tug, you can imagine like this and we are here near to the rock!"*

Shortly after 1238, VDR recordings indicate the Master make reference to an earlier conversation with the Managers in relation to the issue of not to accepting the assistance from any tug except the *Med Fos*.

Master: "*Where is the tug? He says, don't take the rope coming our tug! Where? Where? I am here! Finished the vessel is finished! Finish! Where the tug!*

At 1243, the Chief Officer and the crew of the *Fedra,* retrieved the towline sent by the *CCA* and ,with the use of a crowbar, the towline was made fast on a bollard on the starboard side in the vicinity of the *Fedra's* cargo hold No.1, just aft of the fo'c'sle.

1.2.4.9 *CCA* towline parts

At 1244hrs the Master called the *Warrior* on VHF and requested that the *Fedra* be moved from the present position and be held in tow until the weather improved. He informed the *Warrior* that he would contact his owners.

At 1245 hrs the Master of the *Fedra* agreed with the *Warrior* that once the *CCA* was ready to take the strain, the Master of the *Fedra* would begin to heave up the anchors so that she could be towed to a safer anchorage.

However, at 1246, whilst paying out the towline and attempting to take the strain, the towline from the *CCA* broke. Immediately after the towline broke, the Master of the *Fedra* requested the *CCA* to approach the *Fedra* again. The Master of the *Fedra* informed the *CCA* that they had used up all the *Fedra's* line throwing appliances.

At 1247 hrs the Master received a phone call from the Managers and requested to speak to the Operations Manager. The Master informed the Operations Manager that the towline with *CCA* had parted. The Master reported that the vessel was approximately 3 cables from the Gibraltar coastline. The Managers asked the Master of the *Fedra* if the tug *Med Fos* had arrived on scene.

The Master was then told to wait for the tug *Med Fos* which was expected to arrive within half an hour from Algeciras. The Master informed the Company that he could not wait for the *Med Fos* to arrive - Master: *"Yes but here we cannot wait! If they will coming in half an hour the vessel will be finish! We cannot wait!"*

Upon completion of the telephone call, the Master began to call the *Med Fos* repeatedly on VHF Channel 20.

At 1251 hrs the Master of the *Fedra* called the GPA on channel 12 to inform them that the towline with the *CCA* had parted and that he was only attached to the *Warrior*. The Master informed the GPA that a tug called *Med Fos* had been dispatched by his owners. He asked if the GPA were aware of a tug called *Med Fos* was approaching from Algeciras.

The Port Operative advised that a tug called *VB Artico* was heading their way and was 10 miles away from the position of the Fedra. The Master of the Fedra then requested the Port Operative to contact the *VB Artico* to request that she proceed at full speed and also inform them that the *Fedra* had no line throwing appliances left. The Port Operative replied that the *"Tug is proceeding now to your vessel, over".*

At 1252, in order to prevent the remaining towline from parting/breaking, the *Warrior* requested the Master of the *Fedra* to inspect the towline/bollard connection and to continuously monitor and grease it to prevent chaffing.

1.2.4.10 Initial VHF contact between *Fedra* and Company rescue tug *Med Fos* and GPA assigned rescue tug *VB Artico*

At 1254 the Master attempted to make the first contact on VHF Channel 20 with the tug *Med Fos*. The GPA DPO erroneously acknowledged the call from the *Fedra*. The GPA DPO then, unaware that the tug being sent by the owners was *Med Fos*, informed *Fedra* that the tug that the GPA had dispatched and were expecting, was the*VB Artico*.

The Master of the *Fedra* asked the GPA DPO on which Channel the *VB Artico* could be contacted. The GPA DPO replied *"I presume they are on channel 16 or 15".*

At 1256 the Master of the *Fedra* made various attempt to make contact with the *VB Artico* but was interrupted by a phone call from the Managers who instructed the Master to contact the *Med Fos*.

In the meantime, the tug *VB Artico* acknowledged the *Fedra's* initial call. The Master of the *Fedra* then informed the *VB Artico* and told them *"Cancel, cancel, sorry",* and began calling the tug *Med Fos* on the VHF.

At 1258 the *Fedra* and *Med Fos* made initial contact on VHF and designated VHF channel 68 as their working channel. The *Med Fos* then asked the Master of the *Fedra* what kind of assistance was needed. The Master of the Fedra replied *"Towing, towing in 10 minutes, the owner tell me that you coming to save me, I am here 4 cables to the rocks".*

The *Med Fos* informed the Master that they would be in the vicinity of the *Fedra* within 15 to 20 minutes. The Master of *Fedra* advised the *Med Fos* they had no line throwing appliances left and requested the *Med Fos* to proceed to their position quickly and that if they took more than 15 minutes, it would be too late.

1.2.4.11 Decision not to engage with the *CCA* and the refusal of assistance from GPA assigned rescue tug *VB Artico*

At 1300 the Master of the Fedra contacted the Chief Officer who was on deck and informed him that the tug *Med Fos*, being dispatched by the Company was on its way. The Master then instructed the Chief Officer not to take the towline from the *CCA.*

At 1304 the Master of the *Fedra* called the Managers and informed him that the *Med Fos* was expected to arrive in the vicinity of the *Fedra* in 25 to 30 minutes. The Master informed the Managers that he would try to see if he could *"resist like this".*

The Master then asked what he was to say to *"This big one, this big one coming near to us, the rescue, which give to us the line and broken the line! We didn't succeed! What I have to tell them? We don't need his assistance any more? Another boat coming."*

In the meantime the *CCA* was approaching the *Fedra* in an attempt to get another line onboard.

The *CCA* contacted the *Fedra* at 1307 to inform them that they were ready to try again. The Master of the *Fedra* replied *"Just now we have to, I put the people to grease there as you said to be more easy".* The 2nd Officer who remained on the bridge with the Master, relayed the information that the *CCA* was ready to attempt to give them another towline. Immediately afterwards, the Master of the *Fedra* attempted to contact the *Med Fos* , urging them to proceed at full ahead towards their location.

At 1309 the GPA DPO tried to call the *VB Artico* on VHF channel 20. The call was interrupted by the Master of the *Fedra* who broadcast that the *"VB Artico is not more required. Not more required. We have enough tugs".*

At 1310 the *CCA* contacted the *Fedra* to ascertain as to whether the crew were ready to receive another heaving line. The Master of the *Fedra* replied *"Not yet, not yet!"*

1.2.4.12 *Warrior* and LOF request

At 1312 hrs the *Warrior* contacted the Master of the *Fedra* to inform him that the Managers of the *Warrior* wanted confirmation from the Master that the operation was a salvage operation and that their services were being rendered under the terms of the Lloyd's Open Form. The Master replied, *"This one I'll have to talk with the Owner".*

Immediately after, the *CCA* informed the *Fedra* that they were ready to send a messenger line using a line throwing apparatus. The Master of the *Fedra* did not respond to the *CCA.*

At 1313 hrs the *Warrior* contacted the *Fedra* repeatedly to request for verbal confirmation that the *Fedra* accepted the assistance of the *Warrior* under the terms of LOF. The Master of the *Fedra* replied that he had to inform his owners.

During a telephone conversation with the Managers, the Master informed them that even with the assistance of the *Warrior* which was very powerful, due to the *"big very big waves"* the *Fedra* was still drifting astern continuously *"With the tug, with everything".*

After deliberating with the Managers on what response he should give to the *CCA* regarding their attempts to give the *Fedra* a towline, and to the *Warrior* regarding their request to enter into a LOF contract, the Master ended the telephone conversation.

1.2.4.13 Decision to refuse *CCA* towline

After three attempts, the crew of the *CCA*, using a line throwing appliance, managed to get a messenger line onto the *Fedra* in the vicinity of the *Fedra's* accommodation block. The deck crew on the *Fedra* successfully retrieved the messenger line and began trying to heave onboard the towline which had been prepared by the *CCA.*

At 1317 shortly after completing the telephone conversation with the Managers, the Master of the *Fedra* instructed the Chief Officer to *"Pretend to drop the rope, pretend that you drop the rope*" i.e. the rope which had been sent by the *CCA.*

The Master of the *Fedra* informed the *Warrior* that he had contacted his owner who had informed him that they were in contact with the agents and as soon as he had any information on the outcome he would inform the *Warrior.*

VDR recordings taken on the bridge confirm that at 1318 the Master of the *Fedra* and the Chief Mate had the following conversation on VHF channel 67:

Master: *"Is it broken? Is it broken?"*
Chief Mate: *"It's broken".*

Immediately after the aforementioned conversation, the Master of the *Fedra* informed the *CCA* that the heaving line sent by *CCA* had broken.

The Chief Officer then asked the Master what were they doing now, and the Master of the *Fedra* informed said that they were waiting for "their" tug.

1.2.4.14 *Med Fos* arrives at the location of the *Fedra*

1321 the Master of the *Fedra* contacted the *Med Fos* and informed them to change to VHF channel 06. *The Med Fos* informed the *Fedra* that they were abeam of Europa Point and heading to their location at emergency full speed ahead.

The Master instructed the Chief Officer to prepare a heaving line and told the Chief Officer that *"he was between the Company and the situation".*

1329 Following a request from the 2nd Mate on the *Warrior*, the Master of the *Fedra* provided the vessel's telephone number.

1330 The Master of the *Fedra* obtained the details of *the Med Fos* which was en route. The 2nd Officer and Master commented that the *Med Fos* was *"a small tug, small 45m, 50 m"* and that in his judgement, *"They will not make anything", "impossible".*

The 3rd Officer then proposed that they request assistance from the *CCA*. The Master replied, *"No they wanted to me, towing to refuse this line. Finish with this big one and take this one…they are very expensive".*

1333 the Master received a phone call from the local agents in Gibraltar who were also acting as agents for the salvage company Titan/Crowley, the operators of the *Warrio*r.

The Master of the *Fedra* informed the Titan representative that the assistance being provided by the *Warrior* was insufficient as the vessel was still drifting towards the Gibraltar and that his owners were sending another tug to assist. The Master also confirmed that he would cooperate.

Upon completion of the telephone conversation, the Master of the *Fedra* made a call on VHF Channel 06 to the *Med Fos* and requested them to come *"quickly to assist".* He told the *Med Fos* that the *Fedra* was in a *"very wrong position"* and that he did not have any line throwing appliances left. The *Med Fos* replied *"Yes sir. Understood you. Quickly, maximum quickly".* For the next few minutes the Master of the *Fedra* continued to urge the *Med Fos* to proceed quickly towards their location.

At 1337 the *Med Fos* arrived in the vicinity of the *Fedra*. After sighting the *Med Fos,* the Master of the *Fedra* contacted the Chief Officer and told him that "their" tug had arrived.

Seconds later the Master of the *Fedra* instructed the Chief Officer that he could not take the heaving line from the *CCA* as "their" tug had arrived.

1.2.4.15 Master of the *Fedra* refuses to take heaving line from *CCA* and informs *CCA* that their assistance is not required

At 1338 the *Fedra* received a VHF call from the *CCA* informing them that the heaving line was on deck. The Master of the *Fedra* replied *"Yes the crew will go now, the crew will go now".*

The Master then contacted the Chief Officer and instructed him to *"drop it"* - the heaving line being provided by the *CCA.* The Master then asked the Chief Officer if he had heard his instructions. The Chief Officer did not reply.

At 1339 the Master received a phone from the Managers. The Master informed the Managers that the tug had arrived but it was a small tug and that it was *"the same as the Warrior".* The Master informed the Managers that he had spoken to the owners of the *Warrior* and that they wanted to *"sign"* and *"agree to have verbal acknowledgement"*. The Master made the Managers aware of his concern that if they did not agree to enter into a LOF contract with the *Warrior*, the *Warrior* would *"cut the line".*

The Master then informed the Managers that the *CCA* had attempted to give them a line and that *"We cut three times".*

At 1340 and during the telephone conversation, the *CCA* contacted the *Fedra* to remind them to take the heaving line, that it was very important that they took the heaving line.

Upon hearing the information received from the *CCA* the 2nd Officer on the bridge informed the Master that the *CCA* was requesting that the crew of the *Fedra* picked up the heaving line.

The Master continued the telephone conversation during which he confirmed to the Managers that the *Med Fos* had already arrived. The Master also asked the Managers what was he had to *"tell to the big one that I don't need his assistance?"* The Master then ended the conversation with the words *"Yes, yes, I will tell them, I will tell them now! Yes, yes, yes!"*

1341 The *Fedra* received a call from the *CCA* in which they informed the Master of the *Fedra* to please *"Take your heave line, the heave line. If you don't take it, we cut!"*

The Master replied *"Clara, we cannot succeed to take the line, how many times like this. I have also one man here that suffer some problems, you cannot approach, now just coming, I will take other tug which will tow me inside of Algeciras".*

The Master of the *CCA* then requested confirmation that Master of the *Fedra* "did not want a tow and that he did not want assistance.

The Master if the *Fedra* replied *"No thank you very much indeed, thank you very much. No possible like this, you are very big and you cannot approach*". In the meantime, the 2nd Officer on the bridge had directed the crew members to take the heaving line which was being sent from the *CCA*.

At 1342 The 2nd Officer asked the Master as to whether they should heave up the line from the *CCA*. The Master told the 2nd Officer that the he had already told the *CCA* that their assistance was not required anymore. The Master of *Fedra* then began instructing the Med Fos to approach quickly and not to delay.

At 1344, during a conversation with the 2nd Officer, the Master expressed his disapproval at the Managers instructions not to engage the services of the *CCA* and to opt for the *Med Fos*.

At 1346, as the *CCA* was steaming away from the vicinity of the *Fedra*, the *Med Fos* began to approach. At one point both the *CCA* and *Med Fos* nearly collided as one moved away and the other approached.

1.2.4.16 *Med Fos* prepares tow line and *VB Artico* arrives from Ceuta

At 1352 the Master of the *Fedra* called the Managers to express his dissatisfaction at what he described as the lack of effort and cooperation on the part of the *Med Fos* in attempting to assist the *Fedra*. The Master informed the Managers that he was *"near to 2.5 cables to be on the rocks".*

The Master told the Company that the *"small one",* making reference to the *Warrior*, had informed him that if he didn't agree with him the "open contract" they would cut the line and the Fedra would end up on the rocks.

At 1352 hrs the Master instructed the Chief Officer to prepare for the *Med Fos* which at this point was beginning to approach slowly on the *Fedra's* portside.

During this time, the *VB Artico,* at the requested of the GPA had made its way across the Straits of Gibraltar from the Port of Ceuta and was at a distance of 1.04 NM from the Fedra's port side.

At 1354 the Master made a telephone call to the Company to inform them again that the *Med Fos* was not approaching and that he could not get in contact with her on the agreed channel – VHF channel 6.

The Master told the Managers that the *Fedra* was in a *"very wrong position".*

Seconds later, the *Med Fos* made contact with the *Fedra* on channel 06 and designated channel 11 as their working frequency.

At 1357 hrs the 2nd Officer, informed the Master that another tug, was standing by on the *Fedra's* portside. The *VB Artico* was about 0.78NM off the *Fedra's* port side at this time.

The Master then asked the 2nd Officer what was the name of the tug standing by. The 2nd Officer told the Master that the tug was the *"Artico".*

At 1359 The Master received a telephone call from the Managers. The Master told the Managers that the *Med Fos "could not come".* The Master also told the Managers that it was *"Crazy, ridiculous"* that the *Med Fos* had come from Algeciras *"for towing"* and that they were preparing their gear *"now"* when he was 2.5 cables from the shore. The Master ended the conversation by saying that it was *"ridiculous"* that the *Med Fos* stayed *"far"* from the *Fedra* and that he had *"refused another assistance".*

At 1406 following numerous unsuccessful attempts to contact the *Med Fos* on VHF, the Master of the *Fedra* called the Company and told them that he was having problems with the *Med Fos*. The Master told the Managers that the Med Fos didn't *"come anymore"* and she was not replying to his calls.

The Master also told the Managers that the *Fedra* was drifting. Again during the conversation, the Master made reference to the fact that the *Med Fos* did not reply and remained *"far away…5 cables far"* from the *Fedra* without attempting to assist.

The Master informed the Managers that the *Warrior* were pressing him and that although he had delayed a response, he was concerned that they would cut the towline and the vessel would be within *"3 minutes on the rocks and finish the vessel and the people and everything".* The Master then began calling the *Med Fos* repeatedly on the VHF.

1.2.4.17 Master misinforms *Warrior* and GPA in relation to main engine readiness

At 1410 The Chief Engineer from the *Warrior* contacted the Master of the *Fedra* to enquire how long before the main engine problem would be rectified and if he expected the main engine to be operational during the course of the day. The Master of the *Fedra* replied, *"Yes, I also spoke with your owner and again with my owner. They are talking with the local agents here and I think in 10 to 15 minutes I will have the answer".*

At 1411 The Chief Engineer from *Warrior* then asked again as to whether the Master of the *Fedra* expected the main engines to be ready during the course of the day. The Master of the *Fedra* replied, *"The engine at the moment I think not take longer than half an hour, one hour and they'll finish, they'll start!"*

Seconds later the Chief Engineer of the Warrior asked the Master of *Fedra* again whether he would have main engine propulsion *"Going soon".* The Master of the Fedra replied, *"Very soon, very soon".*

The *Warrior* welcomed the response as the weather was expected to deteriorate by the following day, with the swell reaching 6m.

1.2.4.18 *Med Fos* attempts to pass towline to *Fedra*

At 1413 the Master of the Fedra called the Med Fos on several occasions on the VHF requesting an answer as to why they were taking so long. The Master of the *Med Fos* replied that they were preparing the towline. The Master of the *Fedra* then asked why they hadn't prepared the towline before as his vessel was in *"very deep danger"* and the *"31 people onboard!"*

At 1414 The Master of the *Fedra* made a phone call to the Company. He told the Managers that he was of the opinion that they had made a *"very wrong choice"* with the *Med Fos*.

He informed the Managers that he was *"very near"* to Gibraltar and the waves were *"very big, 10 m"* as the depth was *"very low".* He commented that the *Med Fos* didn't have anything prepared and that they did not respond to his calls. He told the Managers that the *Med Fos* stayed *"far"* and the weather was starting to deteriorate. He informed the Managers that he was near to the *"rocks in the head of Europa Point".*

At 1416, during the same phone call, the Master of the *Fedra* commented that the *Med Fos* did not have *"more than 10 minutes"* to pass a towline. Master told the Managers that the *Warrior* was being dragged, together with the *Fedra*, towards the *"rock"* and that the *"small one"* would *"cut the rope".* He told the Managers that if the towline from the *Warrior* broke, the vessel was *"finished completely".*

At 1418 the Master made various unsuccessful attempts to contact the *Med Fos* on VHF. He then broadcast a request for the channel to be kept free as his vessel was in *"very big danger".*

At 1419 the Master of the *Fedra* instructed the *Med Fos* to approach and asked why they were taking so long to assist him and that in *"10 minutes all the people would be dead".*

The Master of the *Med Fos* replied that his crewmembers were having difficulties in preparing the gear on the aft deck of his vessel which was an open deck and exposed to the elements. The Master of the *Med Fos* told the Master of the *Fedra* that it was *"very dangerous"* for his crewmembers but that they were trying.

At 1419 the Master of the *Fedra* asked the *Med Fos* that if it was not possible for the *Med Fos* to render their assistance, he would request the assistance of the *"big one"* (i.e *CCA*).

At 1420 the Master of the *Fedra* made a telephone call to the Managers and described the interaction with the *Med Fos* as a very serious problem. The Master made reference to the *Med Fos* having difficulties in preparing the gear due to the vessel having an open deck aft. The Master told the Managers that the *Med Fos* had tried to but couldn't approach the *Fedra* and he informed the Managers that *the Fedra* was *"Very, very near the rocks"* and the depth was *"Very, very low"* with the waves being *"15m"* high.

The Master then asked the Managers what *he "had to do with this tug!"* and that the *Med Fos* was *"Not approaching anymore"* and that, since arriving, the *Med Fos* had remained *"far away".*

He ended the telephone conversation by claiming that he could not *"Make it like this"* and the *Fedra* and the *Warrior* were coming *"together on the rocks"* and that the *Warrior*, wanted to cut the line.

Shortly after, at 1422, the Master of the *Fedra* contacted the *Med Fos* and designated VHF channel 11 as a working channel to avoid radio interference.

At 1424 The Master of the *Fedra* instructed the Chief Officer to get ready as the *Med Fos* was approaching. At this time, the *Med Fos* was approaching stern first towards the bow of the *Fedra.*

At 1428, concerned that the *Med Fos* was unable to approach the *Fedra,* the Master asked the Master of the *Med Fos* to confirm when they expected to be

ready to pass a heaving line. The Master of the *Med Fos* replied that they understood and that they were trying.

At 1429 the Master made a telephone call to the Managers. The Master told the Operations Manager that the *Med Fos* Master did not know how to come alongside the *Fedra.*

The Master commented that he was concerned that the *Med Fos* Master did not confirm when he would be in a position to pass a heaving line onto the *Fedra.* He also told the Managers that he had been directing the Master of the *Med Fos* to approach the vessels leeside but that the *Med Fos* remained *"far".* The Master also commented that at times the *Med Fos* did not reply to his calls.

During the phone call the GPA DPO contacted the Master of the *Fedra* to ascertain whether the Fedra's main engine was operational. The Master of the *Fedra* replied, *"No, not yet, not yet, I am waiting now the tug to give me the line".*

The GPA DPO replied, *"OK, Roger. As soon as you have engines please let us know"*

The Master then told the GPA DPO, *"Yes, yes. As soon as I have, I let you know immediately".*

At 1439 the *Warrior* contacted the *Fedra* to ensure that the towline was being inspected for chaffing and for any signs of weakening. The Master acknowledged and instructed the Chief Officer to check and grease the towline.

1441 The GPA DPO contacted the Master of the *Fedra* again to enquire about the state of the main engine .The GPA DPO asked when the Master expected the engine to be ready. The Master replied, *"Just I spoke with the Chief Engineer and I come back".*

The GPA DPO then replied that they needed to know urgently. The GPA DPO informed the Master of the *Fedra* that they would be standing by on VHF Channel 20.

At 1442 the Master made a telephone call to the Managers and informed them that the GPA had been enquiring as to when the main engines on the *Fedra* would be operational as the vessel was *"Very very near to the rock"* and was in a very dangerous position.

The Master then advised the Managers that the GPA had told him that they were considering sending the *CCA* to assist them as the *Med Fos* was not approaching the *Fedra.*

The Master then informed Managers that the engineering superintendent onboard had left the engine room and had requested a helicopter to leave the vessel.

At 1446 having checked the condition of the towline, the Master reported back to the *Warrior* that it was *"OK"* and with *"No serious wear"*.

At 1449 dissatisfied with the lack of progress being made by the *Med Fos*, the Master of the *Fedra* asked the Managers what he *"Had to do"* with respect to the *Med Fos*. He informed the Company that the vessel was drifting *"Directly to death".* The Master stated that the Master of the *Med Fos* was not communicating with him.

At 1451 The Master received a phone call from the Company. The Master told the Managers that the weather was deteriorating and the waves getting *"Very big".* The Master told the Managers that the crew of the *Fedra* was *"Going to their death".*

The Master described that due to the swell, the *Med Fos* was *"Unbelievable rolling and pitching".*

The Master then commented that he had been instructed to wait for the *Med Fos,* which in his view was, *"Not powerful at all"* and described it as *"Tug since I was young"* and that the *Med Fos* was not suitable and could not assist him.

The Master then asked the Managers to talk with the owners of the *Med Fos* and that if the *Med Fos* would not assist them, they would have *"To do something"* otherwise they would "*Lose the vessel and the people".* He then firmly requested the Managers to *"Do something now"* so that he could contact the owner of the *Warrior*, which had threatened to *"cut the line".* The Master ended the conservation with the Managers by saying, *"What I have to tell them, what!"*

At 1457 the Master of the *Fedra* informed the GPA DPO on VHF Channel 20 that he was waiting for an answer from the Chief Engineer regarding the main engine and that he would let them know immediately the outcome. The GPA DPO acknowledged and informed the Master that he needed the information *"the soonest".*

The Master informed the GPA DPO that he had just returned from the *Fedra's* engine room where the Chief Engineer and engine crew were working on trying to solve the problem with the main engine. The Master stated that there was a problem with the *"starting valves"* and that the engine crew could not identify the problem.

He stated that the Chief Engineer had not told him and thus he didn't not know how long it would take to have main engine operational again, but that *"maybe 3 or 4 or 5 hours".* The Master then said that a tug dispatched by his owners had arrived and was going to tow the *Fedra* away from his present position.

The GPA DPO replied, *"OK, roger. Understood you are having problems to open, start one of the valves and it would take approximately 3 to 4 or 5, we don't know. OK Sir. Thank you very much. We will be standing by on this channel".*

At 1501 the Master of the *Fedra* contacted the *Med Fos* and asked them what was their intention. The Master then asked the *Med Fos* if they were coming alongside and if it was *"Not possible"*, he would tell his owners and take the *"Big tug, otherwise the situation would be a very big disaster".* The Master of the *Med Fos* replied, *"Now I go in to give you towing line by rocket in forecastle area. Be ready, OK*".

At this time, the tug *Warrior* was towing, the *Med Fos* was attempting to get a line onboard and the tugs *CCA* and *VB Artico* were standing by in the vicinity.

1.2.4.19 Master of *Fedra* informs *VB Artico* that their assistance was not required

At 1502 tug *VB Artico* made contact with the *Fedra* and informed them that they had just received instructions from their owners and were standing by ready to assist. The Master of the *Fedra* replied, *"Just now I have my owner's tug here, I have for to make fast this tug".*

The Master of the *VB Artico* then asked the *Fedra* whether their assistance was required. The Master of the *Fedra* replied, *"I don't require anymore because I have other tug here which was designated by my owner!"*

The Master of the *VB Artico* then asked the Master of the *Fedra* whether they should wait there for orders or whether the Fedra required *"One more tug assistance?"*

The Master of the *Fedra* replied, *"No, I have enough. I have 3 tugs in assistance. 3!"* The Master of the *VB Artico* then asked the Master of the *Fedra* for confirmation that the *VB Artico* was not required.

The Master of the *Fedra* replied, *"That's correct. Not required. Yes."* The Master of the *VB Artico* then informed the *Fedra* that he would contact his owners and inform them that his assistance was not required.

At 1504 the Master again contacted the *Med Fos* and informed the *Med Fos* that he had observed that they *"could not approach"* the *Fedra* and that it was *"Impossible".*

The *Med Fos* replied, *"Yes, is problem"* but that they were trying. The Master then told the *Med Fos* that if they *"Tried"* it would be *"Too late"* and that they would *"Die"* there. The Master then asked the *Med Fos* to respond "Yes" or "No" to his earlier question on whether they were able to approach, in order to ascertain whether he should request the assistance of the *"Other tug"* before they *"Died".*

At 1505 the Master made another phone call to the Managers and informed them that the Master of the *Med Fos* had confirmed that they were having difficulty in approaching the *Fedra.* The Master told the Managers that the ship

was within the area of the *New Flame* wreck site. The Master commented that the aft deck of the *Med Fos* was being inundated with waves and they could not make an approach to the *Fedra*. He asked the Managers what he *"Had to do?"* The Master requested the Managers to contact the owner of the *Fedra* to inform him that the *Med Fos* could not assist and that they would, *"Die like a wreck".*

The Master referred to the *Med Fos* as a toy and informed the Managers that the weather was starting to get *"Worse and worse!"*

The Master commented on the fact that the tug which *"Had him under tow" (Warrior)* was of a similar size to the *Med Fos.* He informed the Managers that the waves were very big and that *Fedra* was drifting*, "Astern, with the tug, with everything! Continuously"*

1.2.4.20 *Warrior* advises Master of *Fedra* on the need for additional tug assistance

At 1512, while the *Fedra* Master was on the telephone with the Managers, the Master of the *Warrior*, contacted the *Fedra* on VHF.

The Master of the *Warrior* informed the *Fedra* that he had plenty of horsepower but that he could not use it because his towing gear was not *"Really that tough"* and with the surge of the swell, he would *"Feel a lot better"* if they had another tug with another line attached.

The Master of the *Warrior* was concerned that if the towline from the Warrior failed, he would not be able to re-attach a towline before it was too late.

The Master of *Fedra* informed the *Warrior* that the *Med Fos*, located on the *Fedra's* starboard side, was preparing to pass a towline. The Master of the *Warrior* replied that they would keep on doing what they had been doing and that, *"Two lines were better than one"*.

At 1513 GPA DPO contacted the *Fedra* to ask whether they would be able to heave up the anchors without main engine power. The Master replied, *"Yes, I can heave up the anchor".*

At 1515 the *Fedra* Master informed the Master of the *Med Fos* that the situation was critical and if they didn't approach the Fedra in ten minutes, the Fedra would *"Capsize"* and the crew would be *"Dead".*

At 1517 the Master made a telephone call to the Managers and informed them that the *Med Fos "Could not approach"* due to the waves and swell. The Master told the Managers that the *Med Fos* was shipping heavy seas over her stern.

He told the Managers that the *Warrior* had contacted him to inform him that there was too much friction on the fairleads where the towline was made fast and that the *Fedra* was, *"2.5, 2.6 cables until the rocks and it's all over".*

The Master commented that the Med Fos was rolling violently and that he had decided that the best solution was to *"Take the big one"* which was waiting for his order to proceed (i.e. *VB Artico* or *CCA*). He told the Operations Manager that with the two small tugs it would not be possible to save the vessel. The Master informed the Operations Manager that if they didn't listen to him, the *Fedra* would be lost.

1.2.4.21 Heaving line from the *Med Fos* parts

At approximately 1521 the *Med Fos* approached the *Fedra* and the crew launched a messenger using line throwing appliance. The messenger line landed in the vicinity of the *Fedra's* radar on the on top of the wheelhouse. The F*edra's* bridge crew turned the radar off and attempted to retrieve the messenger line, but were unsuccessful. The messenger line parted.

The Master of the *Fedra* then requested the *Med Fos* to launch another line throwing rocket and this time to aim in front of the accommodation block.

At 1523 *the Med Fos* agreed and confirmed that they would attempt to send another messenger line. The Master directed the *Med Fos* to approach the *Fedra* from astern and when they were close, to attempt to launch a rocket.

At 1525 the crew of the *Med Fos* successfully landed a messenger line in the vicinity of cargo hold No.3 and the crew of the *Fedra* were able to retrieve it.

At 1528 the Master directed the *Med Fos* to stay near to the *Fedra* as he was concerned that if the *Med Fos* moved away, the heaving line would part.

During the following minutes, the Master of the *Fedra* directed the *Med Fos* on various occasions to remain close to his vessel and within 35 to 50 m. The crew of *Fedra* were having trouble in lifting the towline onto the *Fedra.*

At 1532 the Master of the *Fedra* contacted the *Med Fos* and informed them that the heaving line had broken. He directed the *Med Fos* to come near to the *Fedra,* and to launch another line throwing rocket". The Master of the *Med Fos* replied, "*Yes. No, we try once more. Will be ready*"

At 1533 the Master directed the *Med Fos* to approach the *Fedra* on the leeside, amidships. The Master informed the *Med Fos* that the *Warrior* had carried out the same manoeuvre earlier and had been successful. The Master informed the *Med Fos* that if they approached the Fedra on the starboard side they would never succeed.

At 1534 the Master of the *Fedra* again directed the *Med Fos* to approach on the port side and informed them if they approached via the starboard side they might risk fouling the *Warrior's* towline and the Fedra would be *"Lost".*

At 1544 the crew of the *Fedra* prepared a heavier line to make fast to the heaving line. The Master of the *Fedra* then requested the *Med Fos* to get near as its crew intended to pass the line down to the *Med Fos*.

1546 the Master received a phone call from the Company, believed to be from the Managing Director. The Master informed the Managing Director that they had been unsuccessful in their attempts to get a towline from the *Med Fos* but the *Warrior* had the Fedra under tow and was trying to keep the *Fedra* in position but that they were drifting together with the *Warrior*. He told the Managing Director that the wind was very strong with gusts of Force 9 to 10 and that the waves at the *Fedra's* location were *"Very, very big".*

The Master commented that he had advised the *Med Fos* to approach the *Fedra.* At 1546 the Master was interrupted by a VHF call from the Chief Officer who informed him that they had been successful in passing their heaving line to the *Med Fos.*

At 1548 the Master then instructed the *Med Fos* to stay close to prevent the heaving line from parting. The *Med Fos* informed the *Fedra* that they would connect a messenger line to the heaving line.

Shortly after, at 1553, the heaving line parted. The *Med Fos* then informed the *Fedra* that they had run out of line throwing appliances.

At 1555 the Master again directed the *Med Fos* to approach portside so that the crew of the *Fedra* could pass a line directly to the crew of the *Med Fos*.

At 1557, the Med Fos and Fedra designated VHF Channel 20 as their working channel.

1.2.4.22 *Med Fos* attempts to pass a heaving line to the *Fedra* using a drum

At 1600 the *Med Fos* contacted the *Fedra* to inform him that he intended to deploy a drum with a messenger line attached. The Master of the *Med Fos* instructed the Master of the *Fedra* to retrieve the drum so that the *Fedra's* crew could attach a line to the messenger line, making it possible to retrieve the towline from the *Med Fos*.

At 1604 the Master informed the Chief Officer to be on the look out for the messenger line attached to a drum. However, at 1605, the drum deployed by the *Med Fos* ended up in the vicinity of the *Fedra's* anchors and could not be retrieved.

At 1606 the *Fedra* crew attached a heaving line to a drum of their own and deployed it overboard for the *Med Fos* to retrieve.

At 1609 the second drum had drifted abeam of cargo hold number 5 at a distance of 40 to 45m from the *Fedra*. The Master of the *Fedra* then instructed the *Med Fos* to recover the drum on the port side. The *Med Fos* acknowledged.

However, due to the prevailing conditions, this drum also drifted very close to the anchor cables and could not be retrieved by the crew of the *Med Fos*.

1.2.4.23 *Warrior* asks for *Fedra* for an update on main engine readiness and requests extra assistance

At 1619 the Master of the *Warrior* called the Master of the *Fedra* and asked for an update on the engine repairs. The Master of the *Fedra* replied, *"Not yet, not yet. I am also very interested too. All the time I phone to the Chief Engineer. Not yet."*

At 1622, after an initial attempt to contact the *Fedra* on channel 15, the *Warrior* called the *CCA* on channel 20 requesting the *CCA* to approach the *Fedra* on the portside to see if they could get a line on board.

At 1625 the *CCA* replied that they had received "orders" from the Master of the *Fedra* that he did not need the assistance of the *CCA*.

The Master of the *Warrior* then replied that he thought that the Master of the *Fedra* did actually want another towline and that he believed and that, if *CCA* could get a line on the *Fedra*, the *CCA* and *Warrior* could tow the Fedra clear.

At 1625 the *Warrior* attempted to contact the *Fedra* on VHF. At the same time, the Master telephoned the Managers and informed them that *Med Fos* could not approach the *Fedra* and that her Master did not reply to his VHF calls.

The Master told the Managers that the *Fedra* was *"Very, very close to the rocks, very dangerously".*

He commented that he had been directing the *Med Fos* to approach the *Fedra's* portside but that the *Med Fos* refused and was standing off.

The Master told the Managers of the previous unsuccessful attempts by the *Med Fos.* He told the Managers, that in his opinion, even with the assistance of the *Med Fos*, they could not be successful and that the ship and crew would be lost.

During the conversation the Master repeated the words *"The big one"* and that *"The Artico"* had left. Immediately after, the Master made a VHF call to the *Warrior* to ask them if the *VB Artico* was in the vicinity. The Master of the *Warrior* replied*, "Roger, Fedra. Captain can you pull your anchors? They are currently leading straight up and down. If you reel your anchors in, I think we can hold you here. We'll take you out to deeper water. I think the Warrior is all you got. Nobody else is putting a line on you there"*

The Master of the *Fedra* thanked the Warrior and asked them again if the *"Artico"* had left. The 2nd Mate on the Warrior replied that the *VB Artico* was 2 miles to the East of their position.

Having received the information from the *Warrior* on the position of the *VB Artico,* the Master asked the Operations Manager what *"He had to do"* and that to call back the *Artico* was impossible.

Records indicate that, the *VB Artico* was 2.36 NM to the east of the *Fedra's* position at this time.

1.2.4.24 Operation to weigh *Fedra's* anchors

At 1629, after the VHF call from the *Warrior*, the Master of the *Fedra* received a VHF call from the GPA COP asking the Master of the *Fedra* if he could haul up his anchors to allow the *Warrior* to pull him clear.

The COP suggested that the Fedra pick up the anchors, one at a time, starboard anchor first and then the port anchor.

The Master of the Fedra replied, *"OK. Understood"* and confirmed he would follow the advice of the COP. The *Warrior* then confirmed to the COP that they had heard and understood the conversation.

At 1631 the Master of the *Fedra* instructed the Chief Officer on the bow, to begin weighing the anchors. As the anchors were being weighed, the Master of the *Fedra* instructed the *Warrior* not to slack the towline. The Master intended the towline to be kept taut to allow the windlass on the *Fedra* to work to its maximum capability.

At 1641 the Master telephoned the Company to inform them of the intended manoeuvre to heave up the anchors whilst the *Warrior* attempted to pull him away from his present position, in which the Fedra had been held for some considerable time. He informed the Managers that the ship was drifting closer to Europa Point. Information retrieved from the VDR indicates that at that time, the vessel was 4 cables away from the shore.

1642 the Master of the *Fedra* directed the *Warrior* to begin to increase the power and pull the *Fedra* clear as he was concerned that with the anchors brought up, he would "lose distance" and the *Fedra* was approaching Gibraltar. At this time, the *Fedra* and *Warrior* were approximately 0.86 miles from Europa Point.

At 1644 the *Fedra* had recovered seven shackles.

At 1649 the *Fedra* requested the *Warrior* to increase the strain on the towline as the windlass on the *Fedra* had stopped. By this time the Fedra had 5 shackles of the starboard cable in the water.

In the meantime the Master continuously called for the assistance of the *Med Fos* and instructed him to *"Approach poopside first".*

The *Med Fos* replied that approaching on the *Fedra's* portside was very difficult and thought he would be on *"Their deck"* as a result of the waves and swell. The Master of the *Med Fos* then informed the *Fedra* that he would try to approach the *Fedra* with his stern and try to get as close as possible, with the aim of passing another messenger line.

At 1655 the COP called the *Fedra* and asked for an update on the progress being made on heaving up the anchors. At this time the Fedra had 4 shackles of the starboard cable in the water.

The Master of the *Fedra* commented to the COP on his concerns that the anchor cables might cross during the operation. The COP instructed the Master to continue to heave up the anchors, one at a time.

In the meantime the *Med Fos* was trying to manoeuvre into position on the *Fedra's* port side.

At 1658 *the Fedra* had 3 shackles of cable in the water on the starboard anchor and informed the GPA that as soon as he had retrieved the starboard anchor he would commence with the port anchor which had 9 shackles deployed.

The Master of the *Fedra* also requested the *Warrior* to increase the strain on the towline as he was concerned that the vessel was losing distance between their present position and the coast of Gibraltar. The *Warrior* replied, *"The Warrior copy. A little more pull on there Captain".*

At 1659 the COP advised the *Fedra* to complete this operation as soon as possible as the latest weather forecast was for the winds to strengthen again to *"45/50 kts, gusting upwards after 2100hrs".*

The *Fedra* then relayed the latest weather information received from the COP to the *Med Fos* and requested them to approach on the port side.

The *Med Fos* replied that they were approaching the *Fedra's* portside and instructed the Master to have a heaving line ready.

By 1700 *Fedra* was approximately 0.85 NM from the Gibraltar coast.

1.2.4.25 Towline from the tug *Warrior* parts

At 1704 the *Fedra* had one shackle of chain on its starboard anchor deployed and began to heave up the port anchor as had been instructed by the COP.

At 1705 the towline from the *Warrior* parted under strain. The Master immediately ordered the starboard anchor to be veered and informed the GPA.

Shortly after the tow parted, the Master of the *Warrior* attempted to make contact on VHF with the *CCA* and the *Med Fos*. Having been unsuccessful, the Master of the *Warrior* then called the *Fedra* and informed them that the towline had broken and that they were *"re-rigging".* The Master of the *Warrior* then told the Master that *"Those other boats"* could *"Get in there and get you a line".*

The *Fedra's* SOG was now 1 to 4.1 kts in a westerly direction towards Gibraltar.

At 1707 the master called the Managers and informed them that the towline from the Warrior had parted and that he had to re-deploy the starboard anchor.

The Master informed the Managers that the *Med Fos* was "*very far"* and he thought it would better to *"Take the salvage tug",* otherwise the vessel would be lost.

The Master informed the Managers that it was his decision now to engage the *"big tug"* as the *Fedra* was now 3 cables from the rocks and the wind was expected to increase to force 10 to 11. The Master then reiterated that the *Med Fos* was far away and the *Fedra was "Near to be smashed by the rocks. Smashed!"*

The Master then told the Managers that it was a big mistake not to take the *"Big tug".* He told the Managers that it was *"A mistake from the beginning to cancel it".*

The Master ended the telephone call by stating that *Fedra* was in a *"very difficult situation"* and was *"Drifting very, very quickly".* He then told the Managers that he was *"Calling this tug".* Immediately after the telephone call, the Master began calling the *CCA.*

1.2.4.26 *Fedra* requests the assistance of *CCA* and *VB Artico*

At 1711 the Master repeatedly called the *CCA* on VHF Channel 20 but with no reply.

At 1712 the Master then called the GPA DPO and informed him that the *Med Fos* and *Warrior* were not *"efficient now"* and that he was only 2.8 cables from the shore.

The GPA DPO replied "Roger" and made an attempt to call the *Warrior.* The Master of the F*edra* then informed the GPA DPO that the *Warrio*r was *"Very far".* At this moment the *Warrior* was 0.68 NM to the East of the Fedra.

In the mean time the Master had instructed the crewmembers on the bridge to don their lifejackets. Shortly after the 3rd Officer made an announcement on the vessel's PA system for the crew to don their lifejackets.

At 1713 the *CCA* replied to the earlier calls from the *Fedra* and asked the *Fedra* if they needed assistance and whether they needed a towing line.

The Master replied, *"Yes, towing line, yes".* The CCA informed the *Fedra* that they were going to try and were proceeding towards their position.

At 1713 the Master called the Managers and informed them that the vessel was 2 cables from Europa Point and that the crew were *"Running away forward".* The Master then requested the Managers that they listen to him and that he *"Needed this tug",* otherwise the Fedra would be lost.

By this time the *Fedra's* aft section was very close to the cliffs as she drifted with her stern towards the area of Europa Point.

Immediately upon completion of the call, at 1715, the Master began to call for assistance from the *VB Artico* and for them to get closer to the *Fedra.*

At the same time the GPA DPO called the *VB Artico* to switch to channel 11. The GPA DPO instructed the *VB Artico* that under instructions from the GPA COP, the *VB Artico* was authorised to approach the *Fedra* and offer assistance as required. The *VB Artico* replied that the *CCA* was already heading towards the *Fedra* to assist, but that they would proceed as instructed.

The GPA DPO then informed the *VB Artico* to switch back to VHF Channel 20.

At 1715 the Master made repeated attempts to contact the *VB Artico* requesting that she return to the *Fedra.*

The Master then contacted the GPA DPO and requested that they contact the *VB Artico* and inform them that their assistance was needed. The GPA DPO replied that the *VB Artico* was proceeding to assist and that they were working on VHF channel 20.

After a number of failed attempts to contact the *VB Artico,* the GPA DPO called the *VB Artico* on channel 11 and redirected them to VHF channel 20 and informed them that the Master of the *Fedra* was expecting their call.

At 1717 the Master donned his lifejacket. Within seconds, the Master received a call from the *VB Artico.*

The Master replied to the *VB Artico* and requested she give him a tow. The Master told the *VB Artico* that the *Fedra* was 2 cables from Gibraltar and he was in a very critical position because the towline from the Warrior had parted.

The Master of the *VB Artico* replied, *"I know. I am coming to you".*

Within the next few minutes the Master of the *Fedra* urged the *CCA* and the VB Artico to *"Come quickly".*

At 1720 the Master made a telephone call to the Managers and informed them that he had lost time in waiting for the *Med Fos*. He informed the Managers that in his view the *Med Fos* had come unprepared.

The Master then told the Managers that he was 2 cables away from Gibraltar, in a difficult position and the crew had began to *"run forward".* He commented that the waves were 15m high. He then told the Managers that the *CCA* was coming to assist but that he was only had 2 cables from the coast and it was *"Almost finished, finished now".*

1721 the *VB Artico* then called the *Fedra* and advised them to prepare a rope forward in order to pick up the tow wire.

The *VB Artico* then asked the *Fedra* to pick up his wire and heaving line and make it fast on the Fedra's bow. The Master of the *Fedra* then informed the *VB Artico* that he had no line throwing appliances left.

Seconds later the Master made a call to the *CCA* urging them to *"Come in quickly"*.

At 1723 The Master of the *Fedra* reported he was approximately 1.4 cables from the rocks. The *Fedra's* SOG was 1 to 2.8 kts in a westerly direction towards Europa point.

1.2.4.27 *CCA* and *VB Artico* attempt to coordinate their approach

At 1723 the *VB Artico* contacted the *CCA* in an attempt to coordinate their approach to the *Fedra*. The *CCA* confirmed that they would attempt to approach the *Fedra* at the bow whilst the *VB Artico* would attempt to approach the stern of *Fedra*.

The *VB Artico* asked the *CCA* as to what type of towage arrangement they had prepared. The *CCA* advised that they had a rope pennant and tow wire arrangement.

At 1724 the Master of the *Fedra* informed the *CCA* that he was one cable away from Europa Point.

At 1724 The GPA DPO made a call to the *Fedra*. The Master of the *Fedra* replied, *"I read you, I need also the helicopter for people, I think I have only 1 cable, 1 cable, I think everything is lost".*

The GPA DPO then informed the Master of the *Fedra* that the CCA and VB Artico were going to attempt to approach the Fedra and requested the Master of the *Fedra* to have crewmembers ready and asked the *Fedra* if he could manage.

The Master replied that he could manage but that the *CCA* needed to come quickly because the *Fedra's* stern was now on the rocks.

At 1726 the Master of the *Fedra* reported he was 0.8 cables from the rocks.

Within the next few minutes, the Master made various calls to the *CCA* and *VB Artico* to come quickly.

At 1728 personnel onboard the *Fedra* made a distress call. Seconds later the Master of the *Fedra* made a distress call. An undesignated distress call using Inmarsat C was successfully sent by the *Fedra* at 1728 (Refer to Annex B). The distress call was received by the UKMRCC in Falmouth.

At 1733 the Master ordered the crew members that were gathering forward to go aft initially in Rumanian and then in English. By this time the *VB Artico* had manoeuvred to a distance of 0.17 NM from *Fedra's* stern.

The Master, together with the officers on the bridge made their way to the *Fedra's* aft deck to attempt to get the towline from the *VB Artico.* However, due to the close proximity of the *Fedra's* stern to the cliff face at Europa Point, this was not possible and the Master and deck officers returned to the bridge.

At 1734 the Master instructed the crewmembers on the bridge to collect passports, documents and logbooks in preparation for abandoning the ship.

The Chief Officer then instructed crewmembers on the bridge to go forward to the area between cargo hold No.1 and No.2.

Fedra grounded stern first, striking the cliffs at Europa Point at approximately 1736 in position Lat. 36º 6.55'N Long. 005º 20.58' W. She subsequently turned beam on to the sea, parallel to the cliffs.

The Master and Chief Officer left the bridge at approximately 1736.

1.2.5 Events following the grounding

1.2.5.1 Rescue of crew

Severe sea and weather conditions made it impossible to launch life-rafts or lifeboats. Some of the crew were lifted off by helicopter. However, conditions proved too severe for helicopter operations and the helicopter had to make an emergency landing due to ingress of sea spray into the engine intakes.

The following morning, on 11th October, the remainder of the crew were lifted off using a mobile crane positioned on the cliffs above the forepart of the vessel.

1.2.6 Main Engine problems and engine room issues prior to 10th October 2008

1.2.6.1 Voyage to Xinsha Gang, China, 23rd June 2008

On the 23rd June 2008, 0700 hrs, the main engine was stopped while the vessel was on route to the Port of Xinsha Gang, China, due to problems with Cylinder unit No.3 exhaust valve.

The Chief Engineer reported the incident to the Company's Technical Department and stated that the main engine had to be stopped due to "knocking", "high temperature" and "smoke" (Refer to Annex C).

Eight bolts from the piston actuator were reported to have sheared and the inner side of the actuator chamber above the piston was found to be full of lubricating oil.

1.2.6.2 Passage from Port of Zhousan, China to Port Said, Egypt

On the 27th August 2008, a noon report obtained from the vessel, stated that the vessel's main engine had been repaired whilst at sea, in position
Lat. 06º 06 N Long. 096º 12' E (Refer to Annex D).

1.2.6.3 Passage from Port Said, Egypt to Gibraltar

On the 24th September 2008, the vessel suffered main engine problems while at Sea and as result the main engines had to be stopped on several occasions. An extract of the correspondence between the Chief Engineer and the Company's Technical department can be found at Annex E.

The Chief Engineer informed the Company that there were no spare parts for the main engine onboard and urgently requested spares parts for the main engine to be delivered to the ship for safety reasons. It could not be confirmed as to whether the required spares were delivered onboard at Gibraltar during the vessels call on the 26th September 2008.

1.2.6.4 Repairs to the main engine at Gibraltar 27th September 2008

During *Fedra's* call at Gibraltar on the 27th September 2008, repairs were carried out on the main engine at anchor in the Bay of Gibraltar after completion of bunkering.

At the time of the vessel's call, the GPA were informed that the *Fedra* would remain in the Western anchorage to carry out minor engine repairs which were estimated to last for 10 hours or more.

The *Fedra* remained at anchor for over 24 hours which suggests that the repairs were not minor in nature. The repairs were carried out after the sea passage from Port Said and after the Chief Engineer had informed the Company's Technical Department that spares were required upon the vessel's arrival at Gibraltar for "safety reason".

The vessel declared to her Gibraltar agents that the vessel would remain with main engine power available at all times.

1.2.6.5 Passage from Gibraltar to El Ferrol, Spain, 7th October 2008

According to a noon report dated 7th October 2008, the main engine encountered problems and was stopped on a number of occasions (Refer to Annex F).

During the vessel's call at El Ferrol, repairs were reported to have been carried out to the main engine. No 3 cylinder liner was leaking. The piston was pulled and the liner inspected. Due to time constraints, unit no.3 was re-assembled without completing repairs. The vessel departed El Ferrol with no.3 unit still leaking.

On 8th October 2008 the Master requested 200-250 mt of fresh water to be delivered onboard as a result of high fresh water consumption onboard, attributed to the leak in unit no.3., a leak from the main engine economizer and an in-operative fresh water generator (Refer to Annex G).

1.2.6.6 Problems with auxiliary machinery

In addition to the main engine defects, there were further problems with other items of machinery and auxiliary systems onboard.

On 12 September 2008 the Chief Engineer reported to the Company's Technical Department that main air compressors No.1, No.3 and No.4 were damaged and compressor No.2 was malfunctioning. He stated that there were insufficient spare parts onboard (Refer to Annex H).

The Chief Engineer requested replacement compressor spares, including bearings and pistons. The spares onboard were not of the correct size/type and thus the ship's engineers were unable to repair the compressors.

When the compressors were dismantled, it was apparent from the accumulation of sludge, aluminium, dust and carbon indicated lack of maintenance in the past.

The Chief Engineer informed the Technical Manager that, in his opinion, there was insufficient knowledge, experience and resources onboard to carry out the planned maintenance. He requested the Company to arrange for shore based support to assist the *Fedra* engine department carry out the complete maintenance of the compressors and that the spares and technicians requested were required on arrival at the next port.

On the 8th October 2008 the economizer was leaking and the fresh water generator onboard was inoperative.

1.2.7 Choice of anchoring in waters to the East of Gibraltar

The Master was instructed by the Company to anchor off Gibraltar as this was a cheaper option that laying alongside a berth at Algeciras

Evidence suggests that Company may also have favoured an anchorage rather than a berth because the ship was due a mandatory expanded inspection under the Paris MOU and an anchorage would be less accessible to PSC inspectors.

The East side of Gibraltar is well sheltered from westerly winds, has generally good holding ground and suitable depths for anchoring sea going vessels. It is very exposed to Easterly (Levanter) winds. Strong tidal currents may be experienced, particularly in the vicinity of Europa Point and Los Picos.

1.2.8 Gibraltar Port Authority

1.2.8.1 GPA Duties

The Gibraltar Port Authority was set up as an authority by the Gibraltar Port Authority Act 2005.

The Gibraltar Port Authority Act imposes a number of duties and responsibilities on the GPA. Among the duties imposed by the Act is the control and monitor all shipping movements in Gibraltar waters.

1.2.8.2 Port Limits

The Gibraltar Port Act (1960) 2 (a) defined the Port Limits as follows:

2(a) That area of water and the foreshore adjacent and thereto as is commonly known and recognised as the Port, roadstead and anchorage ground of Gibraltar

The Gibraltar Port Authority Act (2005) reaffirms the above definition and includes an additional part 2(c) which defines an area within the territorial waters which is designated as the Eastern Anchorage.

2(c) The area within Gibraltar territorial waters commonly known as the Eastern Anchorage, within the co-ordinates specified in the schedule (Refer to Annex I).

The territorial waters to the East of Gibraltar were used by vessels waiting to proceed to the Port of Gibraltar, being serviced by local ship agents' launches to deliver stores, spares, provisions, to effect crew changes and to carry out repairs. They either drifted or anchored in this area.

Vessels anchoring within Gibraltar territorial waters to the East of Gibraltar were not charged port dues for anchoring.

1.2.8.3 Gibraltar Port Control

The Port Act (1960) provides for the control of vessels as follows:

5.(1) All vessels in the port shall, subject to the provisions of subsection (2), be under the control of the Captain of the Port.

The Port Rules (1960) states the following regarding repairs to vessels within the Port waters:

Rule 19(1a) – No person shall drop main steam or power on any ship within the port nor carry out any repairs to main propulsion machinery or steering gear or carry out any repairs affecting the immediate availability of such machinery or steering gear without first obtaining permission from the Captain of the Port.

Rule 54 – Except at places authorised by the Government or the Captain of the Port for the purpose, it is an offence for any person to carry out any repairs of vessels within the Port save with the written permission of the Captain of the Port, and subject to any conditions the Captain of the Port may deem fit.

Gibraltar Port Control is manned 24 hours a day, 7 days a week, on a rotational basis by one Port Operative, assisted as necessary by other port personnel on duty and supervised by the duty Port Officer. Outside normal working hours, a Senior Port Officer is on call should an emergency situation arise.

The Port did not have a fully comprehensive VTS system at the time of the incident and was therefore unable to have radar coverage of the Eastern side of Gibraltar

There were no facilities for the recording of VHF transmission by the Port

AIS information received by the Port operational officers was occasionally subject to signal interruptions and delays

Pilotage was not compulsory for vessels anchoring, entering or leaving the Port's Eastern anchorage and territorial waters to the East of Gibraltar.

It was normal practice for vessels intending to anchor to the East of Gibraltar, to call Gibraltar Port Authority prior to anchoring.

The local ship's agents in Gibraltar have a duty of care to provide information regarding Port Rules.

1.2.8.4 Gibraltar Port Emergency Plan

The Gibraltar Port Emergency Plan sets out the action to be taken during emergencies or potential emergencies in the Port. The plan provides an overall

plan of action by the GPA, including the assistance from other emergency services.

The Plan also stated that exercises should be held as 'frequently as possible' to test the 'efficiency and practicability' of the Plan. Meetings are required to be convened after the exercises for the purpose of reviewing the plan.

Section 3 (2.1) Action by Port authority staff, of the plan, states that:

The COP will make a broadcast on Channel 16 declaring a Port emergency. The purpose is to ensure that all persons concerned are alerted. The COP will indicate the presence of a hazard in the Port and temporarily suspends entry of all craft except those having the specific authority of the COP.

Section 3 also provides a list of interested parties to be contacted and is contained in an appendix to the plan.

Section 3 (2.3) also states the following:

The COP or his representative, will establish a control post at the Port Office and –

(i) Direct the emergency.
(ii) Control the movement of all vessels.
(iii) Direct communication channels for VHF communications.

Section 5 of the plan highlights the procedures to be taken in the event of a '*Collision or emergency other than fire or explosion involving vessels within Gibraltar waters'*.

Section 5(1.2) and 5(1.3) states the following on "raising the alarm":

If the vessel is out of control or in danger of sinking or foundering or is likely to constitute a danger to other vessels or other property, the Master of the vessel concerned will raise the alarm.

The Master will immediately inform the GPA on channel 16, 12 or 20.

Section 5(2) entitled Action provides the following information:

The Master will inform the COP as whether he needs the assistance of other vessels, namely tugs or launches, although the COP reserves the right to call out assistance from tugs or launches if the safety of other vessels or the Port is threatened in any way.

Appendix 1 of the Contingency Plan defines the duties and responsibilities of key personnel and in particular two roles are identified: the *'Incident Controller'* and *'Incident Commander'*.

1.2.8.5 GPA duties - GoG Major Incident and Disaster response plan – Annex 20 Severe weather alert and response plan

The purpose of the GOG 'Major Incident and Disaster Response Plan' is to assist those persons involved in the preparation for and the response to major incidents and disasters in Gibraltar.

The plan contains procedures and guidance on a number of identified incidents which could occur in Gibraltar and in which both the assistance of Government of Gibraltar emergency services and departments and UK MoD personnel would be required.

The plan falls under the responsibility of the Civil Contingency Planning Adviser.

Within the Government of Gibraltar interagency emergency response plan there is annex covering 'severe weather alert and response'.

The plan establishes the following procedure:

As a result of this the Met Office forecasters will initiate the severe weather alert procedure once they are convinced that certain weather criteria's are met. The Criteria for each element are as follows:

a) *Wind – mean speed 45.KT or more and/or gusts of 55KT or more.*
b) *Rainfall – 50mm or more within 6 hours.*
c) *Swell – A significant swell (4m) which is likely to cause flooding/damage to coastal area.*

As previously mentioned the warning would be issued at least 6 hours before the event is expected to take place.

The plan also states the following with regard to the port:

The Captain of the Port is to ensure that all vessels, either anchored or berthed are made aware of the weather warning. Equally they should inform all the marinas of the need to advice boat owners to take extra safety precautions.

1.3 Environmental data

1.3.1 Weather forecast

The Gibraltar Met Office forecast received by the Gibraltar Port Authority Port Control Office, for the 24 hours from 0600 UTC 9th October 2008 for a 50NM radius of Gibraltar predicted:

Valid 090600 to 091800 UTC October 2008:

Synopsis: A thundery low to the east of Gibraltar will move slowly westwards during the period.

Wind: Westerly or variable fore 3 or less settling to easterly force 2 to 4 during the day, but could reach force 5 to 7 near any thundery activity later today.

Weather: Fair, chance of thundery showers mainly in the east and later in the day.
Visibility: Good, but moderate or poor with showers.
Sea state (wind wave): Slight, but could become locally moderate or rough for a time near any thundery activity.
Swell: Nil becoming low short easterly by end of period.

Outlook for next 12 hrs: Easterly winds increasing to force 4 to 6 by dawn tomorrow but could reach force 7 or gale 8 near thundery showers. Sea state becoming moderate locally rough or very rough near thunderstorms. Low short easterly swell becoming moderate average.

Valid 091800 to 100600 UTC October 2008:

Synopsis: An unstable air mass over the area will continue to give unsettled conditions.
Wind: East or South easterly 3 or 4, locally reaching force 5 or 6 in thundery showers; generally increasing easterly force 4 to 6 reaching force 7 or gale force 8 in the west.
Weather: Thundery outbreaks of rain, heavy and prolonged at times.
Visibility: Moderate or good, locally poor in precipitation.
Sea state (wind wave): Slight or moderate becoming rough in the Strait.

Swell: Negligible or low short easterly.

Outlook for next 12 hrs: Easterly wind increasing force 6 to gale force 8 but locally reaching severe gale 9 in and to the west of the strait. Thundery outbreaks of rain, heavy and prolonged at times. Swell, moderate average easterly.

In addition the Gibraltar Met Office also issued strong wind and gales warnings on the morning of the 10th October 2008 as follows:

Strong wind warning, issued 0426 Z

The easterly winds will increase to mean 25 knots with gusts to 35konts during today and tonight (Valid from 100500 Z to 110700 Z)

Gale warning, issued 0534 Z

There is a 100% probability of the easterly winds meaning 35knots with gusts to 45knots at times today and most of tonight (Valid from 10700Z to 110600Z).

1.3.2 Observed weather

Weather conditions at the time prior and during were recorded the lighthouse located at Europa Point.

The data recorded from this location was as follows:

9th October 2008, 1820 UTC	Wind: South Easterly 0-3 kts Visibility: 20 Sea: 2 Swell: 1 East
10th October 2008, 0640 UTC	Wind: North Easterly 20-30 knots plus (gusting 35 to 40 kts) Visibility 2 miles Sea: 5 Swell: 3 East
10th October 2008, 1035 UTC	Wind: North easterly 20-35 knots (plus) Visibility: 2 miles Sea: 6 Swell: 4 East
10th October 2008 1835 UTC	Wind: North easterly 25-35 knots Visibility: 2 miles Sea: 6 Swell: 4 East

1.4 Manning

1.4.1 Structure

The Safe Manning Document issued by the LISCR required 13 Officer and crew. *Fedra* was manned by 28 crew, of which the senior officers were Rumanian, the junior officers were Filipino and the rest of the crew were Filipino and Rumanian nationals. The duration of crew contracts onboard ranged from 10 months to 26 months.

In addition, on the day of the accident there were three Greek nationals onboard, one a Company Superintendent and two auditors.

The working language of the ship, according to the SMS, was English but Rumanian and Filipino was also widely used.

Dilek Transport Inc operated a zero tolerance policy on the consumption of alcohol onboard its vessels.

1.4.2 Watchkeeping

The Chief Officer and two OOW kept the three bridge watches. They worked a 4 on 8 off system, in accordance with the Company's Safety Management System (SMS) as detailed below:

Rank	Watch times	Watch times
Chief Officer	0400-0800	1600-2000
Third Officer (Safety)	0800-1200	2000-2400
Second Officer (Navigator)	1200-1600	2400-0400

1.4.3 Deck and Engine Officers

The crew's certificates of competency could not be sighted as these were lost during the evacuation.

1. The Master: The 56 year old Master had been in rank for 26 years. He had served exclusively in large vessels, ranging from Capesize to Panamax dry bulk cargo vessels. The Master had been a long term employee of Dilek Transport Inc. having also worked on the Company's other vessel, MV "Venus".

2. The Chief Officer: He had been a Chief Officer since 1998 and had experience on a variety of ship types but mainly on bulk carriers. He joined the *Fedra* on 21st April 2008.

3. Second Officer: The 2nd Officer joined the *Fedra* on the 18th July 2008 on his first contract as 2nd Officer. Previously he had served as 3rd Officer on bulk carriers.

4. 3rd Officer: The 3rd Officer had been in rank for 24 years. His previous experience was exclusively on large bulk carriers. He had been serving onboard the *Fedra* since 6th May 2008.

5. Chief Engineer: The Chief Engineer had been a Chief Engineer for 26 years. He had previous experience serving on tankers, bulk carriers and general cargo (Capesize). It was the Chief Engineer's first contract with Dilek Transport Inc, and had joined the Fedra on 26th February 2008.

6. Second Engineer: The Second Engineer's past experience was mainly on passenger vessels. It was his first time serving as a second engineer on a bulk carrier. However he had served previously on the *Fedra* for 10 months and had rejoined on a second contract on the 9th July 2008.

7. 3rd Engineer: The 3rd Engineer had been in rank for 3 years, during which he had served on container vessels, reefers and bulk carriers. He had joined the *Fedra* on the 17th April 2008.

8. 4th Engineer: The 4th Engineer had been a working as 3rd Engineer for 6 years prior to working onboard the Fedra as 4th Engineer. He had been employed on the *Fedra* for 3 months. It was his first time working on bulk carriers.

1.5 Conduct of the anchor watch

1.5.1 Deck anchor watch routine

The Company's ISM manual required a continuous bridge watch to be maintained while at anchor. This required the OOW, among other things, to*;*

- *Monitor metrological, tidal and sea conditions*

- *Notify the Master and take all necessary corrective measures if the ship dragged anchor.*

The ISM manual included an anchoring and anchor watch Bridge Checklist which was provided to assist the crew and was to be used as reference for anchoring, anchor watch plan and arrangements.

Upon completion of the anchor watch checklist, the SMS required an entry to be made into the deck log book. It was confirmed that checklists were completed for the 9th October and 10th October (Refer to Annex J & K).

The deck log book could not be sighted as this was washed away during the rescue of the crew.

1.5.2 Standing Orders and Night Orders

The Masters standing orders also required the OOW to maintain a proper watch when the vessel was at anchor. A copy of the master's standing orders duly signed by the OOWs can be found in Annex L & M.

The SMS also required the Master's standing orders to be supplemented by a Night Order Book, with any additional instructions not included in the standing orders.

The SMS required the Master to be specific in his orders with regard to keeping a bridge watch while at anchor. Among other things, these included:

- *Detailed instructions in case of dragging anchor*
- *Frequency of anchor bearing and choice of navigational aids*
- *Limitations of the vessel due to weather or equipment*
- *Anticipated environmental conditions*
- *Status of machinery*

The SMS required the 'night orders' to be written in the night orders book.
It was confirmed that the Master made an entry in the night order book for 9th October (Refer to Annex N).

1.6 Engine Department Watch-keeping

The Company's ISM SMS detailed procedures to be followed by the Engine department during anchorage. The SMS stated the following:

When the ship is at anchor the Engineer of the Watch shall ensure the following:

- *The state of readiness of the main engine is maintained as per Chief Engineer's orders.*
- *For any work to be carried out on the main engine during long stay at anchorage the Master's permissions shall be taken.*

1.7 Masters overriding authority

Within the SMS, the Company had clearly established that the Master had the overriding authority and responsibility to make decisions with respect to safety and pollution and to request their assistance as and when required.

Safety procedures 01, section 3 of the SMS stated the following:

Master's overriding authority: Nothing in this SMS removes from the Master his overriding authority and responsibility to make decisions, take any steps and issue any orders, whether or not they are in accordance with the contents of this SMS, which he considers are necessary for the preservation of life, prevention of pollution or for the safety of the ship and to request the Company's assistance as may be necessary.

Section 5.1 stated the following with regard to deviations from the SMS:

The safety manager at the office and the Master onboard each vessel are the only persons having the authority to approve a deviation from the documented instructions of the SMS provided that the deviation could be justified. On every such deviation from the SMS onboard the vessel the Master should inform the Safety Manager or the Managing Director at the first opportunity (Master's discretion) and report as required by the Managing Director (Managing Director's discretion).

The SMS vessel contingency planning SP-14 Section 2.3 stated:

Master's role: The Master is always the ultimate authority and final decision make on board the vessel during an emergency situation.

Ultimate authority of Master: The Master is the ultimate authority on board the ship for matters affecting the safety of the ship, her crew, the cargo and the environment and he shall be overall in charge of emergency operations on board. The Master has the overriding responsibility and authority to make decisions in respect to safety and pollution prevention and to request the Company's assistance as may be necessary.

Where salvage assistance is required for the ship under his command, the Master shall contact the Managing Director, in order to receive necessary instructions. In case where contact is not possible and the criticality of the incident requires immediate action the Master has the authority to engage salvors on the terms of NO Cure No Pay as contained in Lloyd's Open form 2000.

LOF is a standard legal document which is proposed during salvage incidents. The amount of money paid or salvage award is determined by arbitrators in London following the incident. Factors which are taken into account when determining the salvage award are, the value of the ship, cargo onboard and

freight at risk, together with the extent of the dangers and the difficulty encountered when effecting the salvage.

1.8 Anchors and cables

Fedra was fitted with two Germanischer Lloyd approved 9900 kg anchors, with 660m of chain.

1.9 IACS requirements

The International Association of Classification Societies (IACS) Requirements concerning mooring, anchoring and towing (Annex 3) states:

The anchoring equipment required herewith is intended for temporary mooring of a vessel within a harbour or sheltered area when the vessel is awaiting berth, tide, etc.

The equipment is therefore not designed to hold a ship off fully exposed coasts in rough weather or to stop a ship which is moving or drifting. In this condition the loads on anchoring equipment increase to such a degree that its components may be damaged or lost owning to the high energy forces generated, particularly in large ships.

The anchoring equipment presently required herewith is designated to hold a ship in good holding ground in conditions such as to avoid dragging of the anchor. In poor holding ground the holding power of the anchor will be reduced.

1.10 The Ship Owner and Managers

1.10.1 Dilek Transport Inc.

Dilek Transport Inc. operated two bulk carriers*, Fedra* and *Venus.*

Fedra was owned by Fedra Navigation S.A, 80 Broad Street, Monrovia, Liberia. According to the CSR file, the owners of the Fedra purchased the vessel on 20th April 2006.

Records indicate that, as required by the ISM Code Section 3.1, the owners, on the 10th July 2006, reported to the Liberian Administration that Dilek Transport Inc., based in 10 Sp. Trikoupi & 3 Irodotou Street, Piraeus 185 38, Greece (IMO No.5057547) were appointed as the Company responsible for the operation of the ship.

The ISM code defines the “Company” as follows:

The owner of the ship or other organization or person such as the manager, or bareboat charterer, who has assumed the responsibility for operation of the ship

from the shipowner and who, on assuming such responsibility, has agreed to take over all duties and responsibility imposed by the Code.

Under section 5.2 of the ISM Code, *"the Company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as required.*

1.10.2 Document of Compliance and Safety Management Certificate

The Company, Dilek Transport Inc, had a valid ISM Document of Compliance for the operation of bulk carriers. The DOC had been issued under the authority of the Government of the Republic of Liberia by the Office of the Deputy Commissioner, Bureau of Maritime Affairs.

Fedra had a valid ISM Safety Management Certificate issued under the authority of the Government of the Republic of Liberia by the Office of the Deputy Commissioner, Bureau of Maritime Affairs.

External ISM audits for the issuance of the above were carried out by Liberian ISM auditors.

1.10.3 ISM Shipboard external and internal verifications

1.10.3.1 External ISM shipboard verification

External ISM shipboard verifications were carried out in accordance with the requirements of the ISM Code. The most recent external shipboard verification was a combined ISM and ISPS initial audit, completed on the 1st/2nd October 2006 in the Port of Rotterdam.

The audit was carried out by an auditor from the Liberian International Ship & Corporate Registry. A total of 13 non conformities / recommendations were raised by the auditor, requiring the Company to respond with proposed corrective actions within thirty days (Refer to Annex O).

1.10.3.2 Dilek Transport Inc internal shipboard verification

An internal shipboard verification of the SMS was carried out at sea on the 7th July 2008 in accordance with the Company's internal audit schedule.

The audit was carried out by the Company's Technical Manager. The report stated that the "*ISM system implementation was within acceptable levels'* with no non-conformities or observations being raised.

During the course of 2008, a total of 11 non-conformities were raised internally by the Master and Chief Engineer onboard. The non-conformities were brought

to the attention of the Safety Manager (DPA) in accordance with the Company's ISM SMS procedures.

1.10.4 Port State Control history

Fedra had a poor Port State Control history, having been detained twice within the last two years, the last time on the 14th August 2008.

She had a high target factor, 84, under the Tokyo MOU and was considered a 'High' risk ship.

Under the Paris MOU her target factor was 26 and was eligible for a mandatory expanded inspection.

A summary of her PSC history since Dilek Transport Inc took over as managers of Fedra on the 10th July 2006 was as follows:

PSC Organisation	Authority	Port of Inspection	Date of Inspection	No. of Deficiencies	Detained
Tokyo MOU	China	Zhousan	14.08.08	18	Y
Tokyo MOU	China	Jiangyin	11.08.08	7	N
Tokyo MOU	China	Zhangjiagang	26.02.08	11	N
Paris MOU	Italy	Taranto	02.11.07	9	N
Tokyo MOU	China	Tianjin	21.09.07	16	Y
Paris MOU	Spain	Alicante	12.03.07	4	N
Paris MOU	Netherlands	Rotterdam	02.10.06	8	N

During the vessel's last PSC inspection in Zhousan, 3 deficiencies were attributed to "propulsion and auxiliary machinery' and 1 deficiency was ISM related.

1.10.5 LISCR Annual Safety Inspection

The vessel was subject to an LISCR annual safety inspection on the 19th September 2009 at the Port of Kalamata, Greece. Two observations were raised as follows:

ASI 1: Port and stbd lifeboat ladders to be renewed.
ASI 2: Engine room to be further cleaned.

1.10.6 'Venus'

1.10.6.1 Port State History

Dilek operated/managed a second ship, the 35886 GT bulk carrier, 'Venus'.

The *Venus* had not been detained since Dilek resumed responsibilities for her management but she had a target factor of 98 under the Tokyo MOU and was

considered a 'high' risk ship.

A summary of *Venus* PSC history since Dilek Transport Inc took over her management was as follows:

PSC Organisation	Authority	Port of Inspection	Date of Inspection	No. of Deficiencies	Detained
USCG	USA	New Orleans	24.02.08	5	N
Paris MOU	Italy	Taranto	07.01.08	26	N
Tokyo MOU	China	Zhangjiagang	01.11.06	8	N
Indian MOU	Iran	Bandar Khomeini	13.05.06	1	N
Paris MOU	Latvia	Ventspils	06.09.05	5	
Indian MOU	Iran	Bandar Khomeini	30.04.05	3	N
Paris MOU	Italy	Taranto	03.12.04	5	N
Tokyo MOU	Singapore	Singapore	02.07.04	0	N

1.10.6.2 Casualty

On the 29th August 2008 *Venus* bound for the Port Qingdao, China, suffered main engine failure, off the coast of Singapore.

A Lloyd's Open Form (LOF) salvage contract was signed between the owners of the *Venus* and Five Oceans Salvage Consultants Ltd based in Athens, Greece.

Five Oceans Salvage Consultants Ltd engaged the 200 tonne bollard pull tug *Fairmount Alpine* from Singapore. *Venus* was towed to the Port of Qingdao where she arrived on the 10th September 2008.

1.11 Events Ashore

1.11.1 Gale and strong wind warnings

At 0426 Z on the 10th October, the Gibraltar Met Office issued a strong wind warning which was received by the GPA. An entry was made in the GPA PO logbook as follows:

0620 for information strong wind warning Serial No.12, the easterly winds will increase to mean 25 knots with gusts to 35 kts during today and tonight valid until 10.0500Z until 11.0700Z issued 10.0426 Z.

At 0534 Z the Gibraltar Met Office issued a Gale warning (Serial No.13) which forecast the following:

There is a 100% probability of the easterly winds meaning 35knots with gusts to 45 knots at times today and most of tonight. Valid from 100700Z valid until 110600Z issued 100534Z

No entry of the Gale warning Serial No.13 was made in the PO's logbook.

1.11.2 Deteriorating weather conditions and closure of the Port

At 0800, on the 10th October, GPA PO and DPO watch change over commenced. The six hour watch consisted of a PO and DPO in charge of the watch. As he commenced his watch, the PO checked the previous meteorological office forecast for the Gibraltar area, issued at 0452 Z, which forecast:

'Easterly force 6 to gale 8 reaching severe gale 9 or storm 10 near thundery activity. Rough or very rough, locally high. Moderate average easterly developing'.

Outlook for next 12 hours: Easterly winds decreasing slowly after midnight becoming force 4 to 6 by dawn tomorrow but could still reach force 7 to severe gale 9 near any thundery activity. Sea state becoming moderate or rough by end of outlook, locally very rough with thunderstorms, otherwise similar.

The DPO had been previously made aware of the impending inclement weather on the 9th October 2008 at 2100 (DPO logbook) as an STS operation scheduled for the 10th October 2008 had been cancelled by the Operators due to the strong winds being expected. The Senior Port Officers were reported to have been notified.

The adverse weather forecasts were discussed in the usual morning meeting held by the COP and Port Officers. The implications of the weather forecast on Port operations were discussed and following the meeting the PO's and Port Officers were aware that the weather had to be monitored.

By around 0840 commercial operations within the Port's Western anchorage, within the Bay of Gibraltar, had begun to be affected by the deteriorating weather conditions. A bunkering operation between local bunker barge *Spa Bunker Twenty* and MV *Hong Jing* was postponed as a result of inclement weather.

At around the same time, another local bunker barge, *Vemaoil IX*, had also postponed a scheduled bunker supply operation as she was reported to have been unable to go alongside MV *Cape Bantry* in the Northern limits of the Port's Western anchorage.

Following the receipt of information regarding the deteriorating weather conditions from a local bunker vessel operating within the Western anchorage, the GPA stopped the next bunker operation which was scheduled to take place within the Northern limits of the Western anchorage due to weather/sea conditions.

Shortly after, at 0841, the Gibraltar Pilot on duty informed the Port Operative that he would not be bringing in any other vessel to the Port's Western anchorage due to the weather and sea conditions.

At approximately 0900 LT (0700 UTC), the Port of Gibraltar was officially closed for commercial operations. Port Operative's logbook record entries indicate that the Senior Port Officer was kept informed of the developments in relation to the deteriorating weather conditions.

At 0915 *Cape Bantry* who had previously attempted to engage in a bunkering operation with a local bunker barge and was anchored in the proximity of MT *Vemabaltic* within the Western anchorage was instructed to heave up anchor and proceed to the Eastside. From 0715, vessels which began reporting they were dragging anchor were ordered to heave up anchor and were instructed to leave the Western anchorage.

SECTION 2 - ANALYSIS

2.1 AIM

The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents occurring in the future.

2.2 Fatigue

Fedra's manning scale provided additional crew to that required by the statutory minimum safe manning document.

Records for the Deck Officers and crew showed that the hours worked were broadly in line with the table of shipboard working arrangements and that, as a consequence, the average daily hours of rest by officers and ratings was 13 hours. The hours of rest were in excess of the ILO Convention minimum requirements. The working routine prior to the 9th and 10th October allowed normal hours of rest to be achieved prior to the incident. Additional man power gave considerable flexibility to the ship board management, and reduced the impact on hours of rest requirements.

Records for the engineer officers and engine room crew could not be obtained. Information obtained from interviews and ISM records indicate that the workload within the engine department appeared to be excessive. The Chief Engineer's decision to suspend repairs on the night of the 9th October was based on the need for the engine crew to be given rest. However, no evidence could be found to suggest that fatigue was a significant factor in this accident.

2.3 Anchorage selection

2.3.1 Waters to the East of Gibraltar

After departing the Port of El Ferrol, the Master was instructed by the Company to proceed to anchor in the waters to the East of Gibraltar. The intention of the Company was for Fedra to remain at anchor for 2-3 days during which time they would undertake crew changes and receipt of stores, lubes and bunkers. The Company also intended to carry out some maintenance in the engine room.

The agents asked for confirmation from the Managers as to whether the vessel would be undertaking repairs to the main engine, with the view to organising a tug to be placed on standby.

The agents obtained confirmation from the Managers that the vessel would remain at anchor with the main engine in full operational condition and thus a standby tug was not arranged for the duration of *Fedra's* stay.

However, information obtained from interviews, indicate that the Company intended to carry out the repair to cylinder liner no.3. Despite the agents' notification that a tug would be required on standby if the main engines were to be disabled, the Company chose not to inform either the agents or the GPA that they would be carrying out the repairs that would require the disabling of the main engine.

Furthermore, carrying out main engine repairs while at anchor appears to have been a common Company practise. During the *Fedra*'s stay at Gibraltar's Western Anchorage on the 27th September 2008, the *Fedra* requested permission to remain at anchor following completion of bunkering. The fact that the vessel remained at anchorage for over 24 hours is a clear indication that the repairs were not minor in nature. These repairs were undertaken after *Fedra* had suffered main engine problems whilst at sea on passage to El Ferrol, and following the urgent request of the Chief Engineer for spare parts for the main engine for 'safety reasons'.

On this occasion no tug assistance was requested.

VDR recordings taken from conversations in the bridge between the Master and Company personnel and crew during the incident suggest that the Master was not in agreement with the Company's decision to carry out the repairs to cylinder unit No.3 main engine at anchor in the waters to the East of Gibraltar and had recommended to the Company that *Fedra* call at the Port of Algeciras to repair the main engine alongside. He referred to the waters to the East of Gibraltar as 'open sea', and stated that these were chosen by the Company over calling at the Port of Algeciras, as it was 'free' and therefore cheaper.

The Master also claimed that the Company appeared to favour anchoring *Fedra* in the waters to the East of Gibraltar in preference to the Port of Algeciras as the vessel was due a mandatory expanded inspection under the Paris MOU. It was suggested that the Company considered that by anchoring the *Fedra* in waters to the East of Gibraltar, the likelihood of the vessel being subject to a PSC inspection was decreased as the ship would be less accessible to PSC inspectors.

Having been advised of the cost of having a tug on standby, the Company chose not to organise a tug for the duration of the repairs.

2.3.2 Granting of authority to replace cylinder Liner No.3

At the time of the incident specific anchorage positions in the waters East of Gibraltar were not allocated by the Gibraltar Port Authority.

Choosing a position clear of other vessels on the East side of Gibraltar the Master anchored his ship, letting go the port anchor and veering 8 shackles of cable on deck, in relatively benign conditions at 1445 on 9th October.

The Master was aware of the extent of the repairs that were expected to be undertaken and that the task of replacing the liner would take a minimum of 12 hours, during which time the vessels main engine would be disabled.

A weather forecast received onboard on the 9th October at 1011 UTC issued by Meteofrance, gave an outlook for Easterly force 8 to 9 winds overnight, with severe gusts and very rough seas for the area.

Nonetheless, despite being aware of the forecast deterioration in weather and his disagreement/professional opinion on the location for carrying out the main engine repairs without a tug on standby, he granted permission for the main engine to be repaired. At approximately 1630 the Chief Engineer and Engineer Officers began the task of replacing No. 3 cylinder liner.

After being notified that the repair work had been suspended at approximately 0145 on the 10th October, the Master gave consent for the engineers to resume work the next morning and for *Fedra* to remain at anchor with no main engine capability.

Had he not granted permission for engineers to rest for the night and had requested them to continue to work until the repairs had been completed, it is possible that the main engine could have been ready before the weather had deteriorated.

Without tug assistance, the Master was therefore solely relying on the anchoring equipment, until such time that the engineers had re-assembled the main engine.

The decision to suspend repairs did not take into account any changes in weather, sea or swell conditions, which could affected the ability of the ship's engineers to restore the main engine to fully operational condition. Similarly, other circumstances such as the potential rate of drift in the strong currents off Europa Point and the proximity of nearby hazards such as the *New Flame* wreck site and the rocky shore were risks that appear to have been ignored or dismissed.

The Master should have been aware that anchoring equipment is not suitable for severe gale force conditions, particularly on exposed lee shores. With the *Fedra* in ballast condition the Master was potentially relying on the anchors and anchoring equipment to perform beyond their designed limits.

2.3.3 Night Orders

Although there were clear instructions on how to use the Night Orders Book, evidence was found to suggest that this had not been taken into account.

The night orders for the 9th October had not been signed by any of the watch officers. Records indicate that this was a common occurrence.

The Master did not supplement the standing orders with any specific orders in relation to keeping watch whilst at anchor. No information was recorded on the operational status of the main engine or anticipated weather conditions as required by the Company's SMS.

The Master did not include any limiting criteria that could have assisted his Officers in making a decision to inform him of the deterioration in weather conditions. Specifically the master could have included in his night orders a requirement for the OOW to inform him if:

1. The wind speed increased or the weather deteriorated beyond certain levels.
2. Worsening weather forecasts were received.
3. Specified bearings and/or ranges exceeded pre-defined limits.
4. Other vessels nearby dragged anchor, or departing the anchorage due to heavy weather.

The Master should have made reference to the fact that the engine onboard the *Fedra* had been disabled and was being worked on. The OOWs were not aware that the main engine onboard *Fedra* was inoperative.

The OOWs claim to have checked the weather forecast but they did not note any inclement weather, notwithstanding the receipt of NAVTEX weather forecast at 1011 hrs on the 9th October which predicted inclement weather and the advent of worsening weather conditions.

A more comprehensive set of night orders might have prompted the OOWs to inform the Master as soon as it became clear that the weather conditions were deteriorating, which in turn would have alerted the Master to take immediate action such as to call for tug assistance or order the repair work to the main engine to be resumed prior to the weather deteriorating further.

2.4 Control of the Eastern anchorage and territorial waters to the East of Gibraltar

Gibraltar territorial waters to the East of Gibraltar, including the defined Eastern Anchorage, were used by the GPA for vessels waiting to proceed to the Port of Gibraltar and its Western anchorage.

Although vessels were advised by the GPA to anchor in the Eastern anchorage, the GPA had no formal procedures in place to control the Eastern Anchorage or territorial waters to the East of Gibraltar.

Therefore, on the 9th October, upon the *Fedra's* arrival at Gibraltar, the GPA were not aware that the *Fedra* was planning to undertake repairs to the main

engine which required the vessel to remain without propulsion for a minimum of 12 hours.

Taking into account the weather forecast on the 10th October, and the fact that there was a possibility that the anchorage to the East of Gibraltar could become untenable, the GPA would have refused permission for the vessel to undertake main engine repairs and required her to have her engine immediately available.

2.5 Master's response to deteriorating weather conditions

On the 10th October at 0737, as the weather forecast indicated deteriorating conditions and having observed that *Fedra* had begun to drag her anchor, the Master directed that another shackle of cable be veered on the port anchor. Shortly after the Master ordered the starboard anchor to be let go with 5 shackles of cable.

Work on re-installing the liner resumed at approximately 0700. The swell which had developed by then was causing the vessel to roll heavily to such an extent that the Chief Engineer considered the operation of lifting the replacement liner (estimated weight 4 tonnes) into place using the engine room overhead crane to be unsafe.

The Chief Engineer and engineer officers considered other options to return the main engine to operational status but eventually were unable to do anything so postponed the work on the main engine in the hope that the weather would improve. No further work was carried out by the engineers in attempting to return propulsion power to *Fedra.* With one cylinder liner missing, the main engine remained inoperative for the duration of the incident.

After having let go both anchors, the vessel continued to drag towards Gibraltar. Despite the fact that the Master was aware that the vessel was not holding its position and that he was of the opinion that he required immediate tug assistance, the Master did not request tug assistance at the earliest opportunity.

It was at 0815 on the 10th October that he contacted the Company and informed them that he required urgent tug assistance for the purpose of *"holding" Fedra* in position. He then attempted to contact the ship's agents in Gibraltar for the purpose of organising a tug for assistance. However, he chose not to alert the Gibraltar Port Authority of the situation.

After failing to contact the agents and following consultation with the Managers, the Master alerted the GPA that *Fedra* had some "difficulties" in starting the main engine, that the engineers onboard were investigating the problem and that he had requested their agents to arrange a tug to assist.

It was not until 0839, approximately 2 hours after the vessel had begun to drag its anchors, that the Master made a VHF emergency call to the GPA requiring urgent tug assistance.

With the engineers having postponed work on the main engine and therefore with no prospect of regaining propulsion power, given the vessel's rate of drift with two anchors deployed and the deteriorating weather forecast, the Master's primary objective should have been to attempt to keep the vessel away from the immediate hazards of the *New Flame* wreck site and the Gibraltar coastline.

Despite having decided that his vessel required the assistance of at least two tugs, there was no evidence to suggest the Master made any preparation or plan as to how he intended the emergency towing operation to be undertaken. This should have including considering methods of making the towing connections, manpower and equipment required, the most effective locations onboard for securing towlines, the advisability of towing from the stern or bow, considering actions necessary due to both the anchors and chains being deployed, the ability of windlass to be able to recover the anchors given the heavy weather conditions and taking into account the state of sea, swell, wind direction and rate of drift.

Evaluation of accident statistics demonstrate that in emergency towing situations such as this incident, where tugs were required to prevent a grounding, even if tugs or towing vessels are available, it is far from certain that there would be enough time or that weather conditions would allow a towing operation to be carried out successfully.

2.6 Masters overriding authority

The Dilek SMS included a statement under "safety procedures -1, section 3" which stated that the Master had the overriding authority and the responsibility in making decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary.

However, under section "Contingency planning SP-14 Section 2.3", the SMS stated that where salvage assistance was required, the Master was required to contact the Company's Managing Director, "in order to receive necessary instructions". In cases where the Master could not contact the Company and "the criticality of the incident" required immediate action, the Master had the authority to engage salvors on the terms of Lloyds Open Form 2000.

According to the Dilek SMS, the Master had therefore no overriding authority in this situation, as he was able to contact the Managing Director. Throughout the incident the Master was in frequent contact with the Company and received instructions with respect to the incident response, in particular as to the tug from which he had to accept the towline. This ultimately resulted in decisions being made which were against the Master's better judgement

Noting the above, prior to making the decision to remove the cylinder liner at the anchorage, the Master had the authority within the SMS to postpone the repairs if he considered it was not in the interests of safety. He could have chosen not to repair the main engine at the Eastern anchorage and could have insisted that the Company arrange for the repairs to be undertaken in port. The

presence on board of the Company Engineering Superintendent may also have influenced the Master's decision.

Had the decision been taken not to repair the vessel at anchor, the incident could have been prevented.

2.7 Emergency response and rescue vessels

2.7.1 *Warrior* towing arrangement

After receiving the request from the GPA to assist *Fedra* at 0842, the Master on *Warrio*r, made contact with *Fedra* at 0858. In this initial VHF contact, the Master of Fedra informed Warrior that he was dragging with two anchors deployed, could not start the main engine and required assistance for "holding".

Based on this information*, Warrior*, working on the premise that *Fedra's* main engines were unable to start and that the only assistance required would be to hold him in place until such time that the difficulties in starting the main engine would be overcome, arrived at the vicinity of *Fedra* at 0909.

Having received confirmation that *Fedra* had power in their windlass and winches and the number of anchors deployed, *Warrior* proceeded with passing their emergency towing line assembly, which was rigged ready for use.

Warrior intended to swing *Fedra's* stern into wind for the purpose of holding *Fedra* into weather until such time that they started their engines.

The emergency tow gear or "soft line" consisted of 3 layers of wire (2 ½ inch) which was used by the *Warrior* for emergency towing. The wire was described by the Master of *Warrior* as not having been intended as a "shock line" and thus was aware of the limitations of the emergency tow gear in use and being offered to *Fedra*.

After several failed attempts at 1000, the emergency tow line was secured onboard *Fedra*, this was approximately one hour and eighteen minutes after having been requested by the GPA to assist *Fedra* and approximately two hours and twenty three minutes after the Master had realised the vessel was dragging its anchors.

Warrior managed to reduce the *Fedra's* rate of drift for approximately 55 minutes, whilst attempting to manoeuvre the stern of *Fedra* into the wind.

The towline parted at 1055 as a result of not being able to take the shock load as the two vessels rolled and pitched in the swell.

The decision of *Warrior's* Master to use the emergency towing arrangement, was based on the fact that he had been requested by the Master of *Fedra* to hold the *Fedra* in position and he was working on the assumption that *Fedra*

would be able to start their main engines within a reasonable time frame and before the weather deteriorated.

Similarly, the decision to try to turn the *Fedra's* stern into the wind was based on the same premise. Had the *Warrior* been aware that the *Fedra* would be unable to start her engine in reasonable time, the Master of the *Warrior* may have considered towing from the bow so that the *Warrior's* towing effort would have been in the same direction as the anchor cables were leading. The combined effort of the *Warrior* and the two anchors may have been sufficient to significantly reduce or even stop her rate of drift towards the shore.

Warrior managed to pass a second tow line onto *Fedra* at 1155 of the same composition as the initial tow line which eventually parted shortly before the vessels grounding.

2.7.2 Refusal of assistance from SAR *Clara Campo Amor*

The Spanish salvage tug *CCA* was requested by the GPA to go to the area and arrived at the vicinity of *Fedra* at 1050 just prior to the tow line from Warrior parting. At 1059 *CCA* approached *Fedra.*

The Master of *Fedra* informed *CCA* that he needed assistance for "holding" and failed to inform *CCA* that *Fedra'*s main engine was disabled and with no possibility of being re-started.

Clearance for *CCA* to approach and assist *Fedra* was granted by the Master of *Fedra* at 1107. However VDR recordings conversations between the Master and the Company suggest that the Company had been instructing the Master to avoid using a second tug despite the Master's judgement that a second tug was required.

The Company's insistence that the Master not take a towline from the *CCA* continued. Audio records of conversations between the Master and the 2nd Officer from 1215 and 1220 suggest that the Company made various phone calls to the Master in which they instructed him not to take the towline from the *"big one"*, making reference to the *CCA* and to remain with the towline from *Warrior* only. The reason being cited by the Master for this was to reduce costs.

At 1229, VDR recordings from the bridge of a conversation between the Master of Fedra and Company suggest that the Master was informed that the Company had organised the *Med Fos* to assist *Fedra* and that the Master should delay in passing a towline to *CCA* or any other tug until such time that the *Med Fos* arrived.

Further VDR recordings taken from the bridge from 1230 to 1238 between the Master of Fedra and the 2nd Officer suggest that the Master's instructions from the Company were for the Master to cut the line of the *CCA* and to wait until *Med Fos* arrived, following which a towline would be passed. The Master cited

the reasons being given by the Company were because the *CCA* was deemed to be *"very expensive".*

Evidence retrieved from the VDR suggests that the Master of *Fedra* was not in agreement with the Company's instructions due to the close proximity of *Fedra* to the rocks and he did agree with the Company's instructions up to this point and so continued efforts to try to secure a towline from the *CCA.*

At 1243, one hour and thirty three minutes after having been granted authority to assist, a towline from *CCA* was successfully secured onboard on a bollard on the starboard side in the vicinity of cargo hold No.1.

The operation to pass a towline onto *Fedra* took one hour and thirty three minutes in total. During this time, the crew of *CCA* and *Fedra* attempted on several occasions to use line throwing appliances to pass heaving lines. During these attempts *Fedra* used all of their line throwing appliances which proved to be ineffective on the day either as a result of inexperience in the use of the equipment or as a result of strong gusts of wind.

Just prior to the *CCA* towline having been successfully passed onto *Fedra*, *Warrior* had also managed to re-rig and pass their second emergency towline to the *Fedra's* port bow.

At this time, *Fedra* had two tugs assisting her, both *Warrior* and *CCA*.

At 1247, VDR recordings of a telephone conversation between the Master and the Company suggest that the Master was further instructed to wait for the *Med Fos* to arrive. The Company indicated that the *Med Fos* would take half an hour to arrive at *Fedra's* position. However during the conversation, the Master made it clear to the Company that he could not wait for the *Med Fos,* stating that within half an hour the vessel would be *"Finished".*

Despite his assessment of the situation and having informed the Company he could not wait until the *Med Fos* arrived, the Master attempted to make contact with *Med Fos* at 1247.

This would suggest that the Master of *Fedra* had, despite his objection to the Company's instructions regarding the assistance of a second tug and more specifically the assistance of the *CCA*, opted to follow their instructions to refuse the assistance of any tug other than *Warrior* and to wait for the assistance of Med Fos.

Audio records of a VHF conversation between the Master and Chief Officer, who was on Fedra's main deck attempting to secure a towline from *CCA*, demonstrate that the Master informed the Chief Officer that the tug *Med Fos* was proceeding to assist *Fedra* and that the towline from the *CCA* should not be taken.

Furthermore at 1318, after a heaving line was successfully passed by *CCA* crew to *Fedra*, the Master instructed the Chief Officer to *"drop"* the line being provided by the *CCA.*

Although no physical evidence could be recovered, the conversation between the Chief Officer and Master suggests that the line was deliberately broken. Shortly after, the Master informed the *CCA* that the line had parted.

At 1338, the crew of the *CCA* again managed to successfully pass a heaving line onto the deck of *Fedra*. Following a request from *CCA* to the *Fedra* to take the heaving line which was on the deck of *Fedra*, VHF communication between the Master and Chief Officer suggests that the Master of *Fedra* instructed the Chief Officer to "drop" the heaving line provided by the *CCA.*

Shortly after the Master told the Company that the *CCA* had attempted to give *Fedra* a line and he had cut it three times.

Following repeated requests from *CCA* to *Fedra* for them to take the heaving line being offered, the Master of *Fedra* informed the *CCA* that they did not require their assistance, citing the reasons that they could not take the line from *CCA* because she was too big and couldn't approach and that one of the *Fedra* crewmembers was having problems. The Master then informed *CCA* that he would be taking the assistance of another tug i.e. *Med Fos*, which would tow the *Fedra* into the Port of Algeciras.

There were two opportunities to secure a towline from the CCA, at 1318 & 1338. Failure by the *Fedra* to take positive action to secure the towline offered by the C*CA* greatly reduced the chances of preventing the grounding.

At the time when the heaving line was broken and the second heaving line rejected, *Fedra* was still very close to danger, approximately 5 cables from the shore.

Even though approximately 7 hours had elapsed since the *Fedra* started to drag her anchors, apart from a period during which the *Warrior* managed to reduce the rate of drift towards the shore, the *Fedra* Master still instructed the line being offered by the *CCA* to be dropped and rejected the assistance of the *CCA*.

Although the Master had expressed the opinion that the assistance of *Warrior* alone was insufficient and had communicated the urgency with which the vessel needed to be towed away from its present location, he opted to accept the Company's instruction to wait for the arrival of *Med Fos.*

2.7.3 Company assigned rescue vessel *Med Fos*

Med Fos was operated by Five Oceans Salvage based in Athens, Greece. Dilek Transport Inc. had previously used their services during the salvage of their other managed vessel, *Venus.*

By the time the *Med Fos* had arrived at the scene of *Fedra* at 1337 the weather conditions recorded onboard were: Wind SE 25-27 m/s (gusting 30 m/s) with a swell of 5/6 metres from SE.

The first attempt by *Med Fos* to send a line to *Fedra* was made at 1521. This delay was due to the inclement weather conditions and the seas which kept the aft deck of the *Med Fos* awash, making the work for the crew difficult and dangerous.

Attempts on the part of the crew of *Med Fos* to using line throwing appliances also proved ineffective.

2.7.4 GPA assigned tugs *Capable, Wellington VB Artico*

With the locally based harbour tugs and MoD operated *Capable* unable to rendezvous with *Fedra* due to the sea conditions and TP Towage operated *Wellington* having broken down, the GPA looked for alternatives. With no suitable tugs or emergency towing vessels within Gibraltar, the GPA made arrangements for the salvage tug *VB Artico*, based in Ceuta, and CCA to render assistance.

Proceeding across the Straits of Gibraltar from Ceuta, the *VB Artico* arrived at the vicinity of *Fedra* at 1352. Two hours later, at 1502, *VB Artico* was told by *Fedra* that their assistance was not required.

VB Artico had no involvement in the incident until she tried to approach *Fedra* after the towline from Warrior had parted,

SECTION 3 - CONCLUSIONS

3.1 The main engine had a history of poor performance with frequent stoppages / breakdowns. A number of attempts had been made to rectify these problems by the ship's staff but they were hampered by lack of spares and commercial pressure (1.2.6).

3.2 The decision to undertake main engine repairs at anchor as opposed to alongside a berth appears to have been based on financial considerations rather than on a safety based assessment (2.3).

3.3 The Master's overriding authority was undermined by the Company resulting in decisions being made which were contrary to the Master's better judgement (2.3, 2.7.2)

3.4 The Master withheld important information regarding the status of the main engine from the GPA and from the tugs in attendance:

3.4.1 The GPA was not made fully aware of the severity of the problem until a very late stage (1.2.4.17)

3.4.2 The *Warrior's* decision regarding what towing gear to use was based on the premise that the ship only needed to be held in position for a limited period while the Fedra's engineers started the engine (2.7.1)

3.5 A timely, accurate assessment of the developing situation may have resulted in earlier intervention by the Captain of the Port, but the GPA was unable to so because:

3.5.1 Inaccurate information was received from the Master (1.2.4.1, 1.2.4.4, 1.2.4.5, 1.2.4.17)

3.5.2 The GPA had no radar, video or visual coverage of the Eastern anchorage or territorial waters to the East of Gibraltar (1.2.8)

3.6 Deployment of suitable tug(s) was delayed by the failure of the Master to provide accurate information to the Port and the interference by the Company, effectively preventing the Master from engaging tugs at the earliest opportunity (1.2.4.1, 1.2.4.4, 1.2.4.5, 1.2.4.11, 1.2.4.13, 1.2.4.15, 1.2.4.17, 1.2.4.19, 2.7.2)

3.6 The two tugs based in Gibraltar that were tasked to assist were unable to do so. One was too small to operate in the prevailing conditions and the other developed mechanical problems. The bollard pull of both vessels would probably have been insufficient to render effective assistance to such a large vessel in the sea / swell that had built up off Europa Point during the incident (2.7.4)

SECTION 4 - RECOMMENDATIONS

4.1 Flag State

To complete a thorough audit of the Company with regard to their suitability to hold an ISM Document of Compliance for the operation of bulk carriers / other cargo ships, including an investigation into the suitability, experience and training of the Designated Person.

4.2 Company

4.2.1 To modify the SMS to remove any ambiguity regarding the Master's overriding authority.

4.2.2 Review the Company's contingency planning and procedures for emergency response.

4.2.3 Provide ship-specific emergency towing procedures within the SMS or Ship's Emergency Response Manual.

4.3 Gibraltar Port Authority

4.3.1 Complete the installation of all elements of the VTS system as a priority.

4.3.2 Develop procedures for the monitoring of all vessels anchored within the territorial waters of Gibraltar including an assessment of manpower requirements to provide an enhanced VTS service during severe weather conditions / heavy congestion / high levels of ship activity / accidents / incidents.

4.3.3 Investigate the possible provision of a large salvage tug (bollard pull 150+ tonnes) for ETV duties in the territorial waters of Gibraltar.

4.4 Gibraltar Maritime Administration / Royal Gibraltar Police

Develop a protocol and memorandum of understanding /agreement with regard to maritime investigations.