



## Technical report S-22/2013

# Investigation of the running aground of vessel CELIA, on 28 September 2012 at the beach of El Saler in Valencia.

### NOTICE

This report has been drafted by the Standing Commission for Maritime Accident and Incident Investigations, CIAIM, regulated by article 265 of the consolidated text Law of the National Ports' (Puertos del Estado) and the Merchant Navy (Marina Mercante), and approved by Royal Decree 2/2011, dated 5 September and by Royal Decree 800/2011, of 10 June, whose functions are:

1. To carry out the investigations and technical reports of all very serious maritime accidents in order to determine the technical causes that originated them and make recommendations for the purpose of implementing the necessary measures to prevent them from occurring in the future.
2. To carry out the technical investigation of serious accident and maritime incidents when lessons learned can be obtained for maritime safety and for preventing marine pollution from vessels, and to produce technical reports and recommendations on the same.

In accordance with Royal Decree 800/2011, the investigations will not be conducted to determine responsibilities or fault. However, CIAIM will report the causes of the maritime accident or incident even though from its results, the fault or responsibility of individuals or legal entities may be inferred. The drafting of the technical report will in no way pre-judge the decision that may fall upon the courts of law, nor will it seek the assessing of responsibilities or determination of culpabilities.

The investigation included in this report has been conducted with no other fundamental purpose than to determine the technical reasons that may have caused the maritime accidents or incidents and make recommendations for the purpose of improving maritime safety and the prevention of vessel pollution in order to prevent maritime accidents from occurring in the future.

Therefore, the use of the investigation results with any purpose other than the one described is subject in all cases to the aforesaid premises and must not, therefore, prejudice the results obtained from any other report that, in relation with the accident or incident, may be initiated in accordance with current legislation.

The use made of this report for any purpose other than for the prevention of future accidents may lead to erroneous conclusions or interpretations.



## DETAILED DESCRIPTION

The investigation of the running aground of vessel CELIA has been carried out jointly between the Antigua Department of Marine Services and Merchant Shipping - Inspection and Investigation Division (ADOMS IID) from Antigua & Barbuda, and the Standing Commission for Maritime Accident and Incident Investigations (CIAIM) from Spain, pursuant to the provisions of the IMO Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or a Marine Incident (Casualty Investigation Code) and the European Directive 2009/18/EC.

The following report of the events has been drafted from the statements provided by the crew and other documents. The times referred to in the report are local.

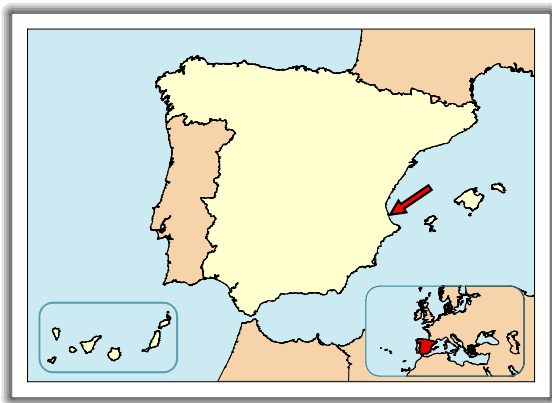


Figure 1. Location of the accident

### Chronology of the events

#### 27 September 2012

On the 27<sup>th</sup> of September 2012, general cargo merchant vessel (M/V) CELIA, originating from Algiers in Algeria, arrived at the anchorage area of the port of Valencia. The vessel was scheduled to wait anchored near Valencia until the 5<sup>th</sup> of October 2012, at which time it was supposed to dock at the port of Valencia and subsequently depart for Ceuta.

At 10:12 hours the vessel dropped the port anchor with six shackles in the water, at position 39°23'N, 000°15'W, outside the area designated for anchoring. The free depth under the keel was

35m. minutes later, at 10:30 hours they shutdown the main engine.

#### 28 September 2012

On the 28<sup>th</sup> of September 2012 at about 18:00 hours, being aware that the weather conditions were getting worse, the skipper asked the Chief Engineer how long it would take to start-up the main engine if needed. The Chief Engineer estimated that the engine could be fully operational in twenty minutes.

At 20:00 hours the vessel was still anchored using her port anchor, with six chain shackles in the water, at position 39°23.04'N, 000°1619'W. At that moment, according to crew statements, the wind direction was from the NE with a force of 8 on the Beaufort scale. The Skipper ordered the Chief Engineer to be ready to quickly start the main propulsion engine if required.

At 20:30 hours, according to crew statements, downpours were being generated accompanied by storms, winds were blowing from the NE with a force of 8 on the Beaufort scale (34 to 40 knots) with intervals of force 9 (41 to 47 knots) and gusts nearing 60 knots. The waves increased to significant heights exceeding 4 m, which equates to very rough seas.

At 20:50 hours the anchor began to drag and the Skipper ordered to start the main engine.

Container ship BENEDIKT RAMBOW with a total length of 147.87 m was also anchored and began to drag; therefore she heaved in her anchor and exited the anchorage area.

At 21:16 hours the port of Valencia was closed to maritime traffic because as a result of the poor weather and sea conditions, some of the ships that were docked at the port had begun to break their moorings and impact against the peer.



At 21:40 hours, the Chief Engineer informed the Skipper that he could not start the main engine. After two unsuccessful attempts to start the engine, they noticed that the start air pressure dropped to 1.5 MPa (15 bar) after each attempt.

At 22:00 hours, the Skipper of M/V CELIA contacted the Rescue Coordination Centre (RCC) in Valencia to request assistance since the anchor was still dragging and they could not start the main engine. The RCC in Valencia contacted with the Pilots at Valencia, who informed them that at that time, all the tug boats were occupied assisting other vessels that were in similar situations. At that moment the vessel was at position 39°22.45'N, 000°17.3'W, at 1.5 miles from land and moving at an approximate speed of two knots towards the coast. Because of how close they were to land, the Skipper activated the general alarm and the entire crew went to the designated meeting point with their life vests donned. Shortly thereafter, at 22:06 hours, the vessel continued dragging her anchor, so they ordered to also lower the starboard anchor.

At 22:10 hours tug boat VB FURIA received an order from pilot control to assist M/V BSLE SUNRISE. Minutes later, they were informed that M/V BSLE SUNRISE had run aground and they were instructed to assist M/V CELIA, which was near the other vessel and was running the same risk. From tug boat VB FURIA, they contacted with vessel CELIA, who informed them that they had prepared a line hanging at the cathead, at the centre of the bow and that they had both anchors lowered. At that moment, vessel CELIA was at position 39°22.31'N, 000°17.42'W.

At 22:35 hours, RCC at Valencia contacted with the vessels at the anchorage area to inform them that as a consequence of the worsening weather and sea conditions, it was recommended that they raise their anchors and distance themselves 12 miles from the coast.

At 22:41 hours, tug boat VB FURIA arrived on the port tack of M/V CELIA and they noticed that the ship was anchored using only the starboard anchor because the port anchor had been lost. From the tug boat, they attempted to grab the line using a hook, but after 15 minutes and three unsuccessful attempts, they asked the vessel to throw over a towrope so they could hand them the towing line. All attempts were unsuccessful due to the poor weather and sea conditions and CELIA's protected forecastle deck.

At 22:56 hours tug boat VB FURIA abandoned M/V CELIA because they also ran the risk of running aground. The depth of the location they were in was 5.5 m and the tug boat's draught was 5.2 m.

At 23:00 hours M/V CELIA ran aground on the beach of El Saler, at position 39°21.83'N, 000°18.92'W, in a sandy bottom, 0.1 miles stern of M/V BSLE SUNRISE. The entire crew of M/V CELIA was in perfect health. One minute later, at 23:01 hours, pilots from Valencia reported this fact to the RCC in Valencia.

At 23:58 hours, the crew of M/V CELIA reported that the depth around the vessel were 4.8 m at the bow, 3.5 m at half length and 3.5 m at the stern. After an inspection was conducted, they also reported that there were no fuel leaks near the vessel and that no water was present in her bays, but that the port anchor chain was broken and the anchor had been lost.



Figure 2. Proa del buque CELIA



### 29 September 2012

At 00:02 hours, the RCC at Valencia contacted M/V CELIA and notified them that two tug boats had been dispatched to assist them. Five minutes later the crew of M/V CELIA reported that they were still attempting to start the engine but their attempts had not been successful.

At 00:26 hours on the 29<sup>th</sup> of September 2012, the port of Valencia was once again opened to traffic.

### 24 October 2012

At 23:45 hours the vessel was re-floated from the beach.

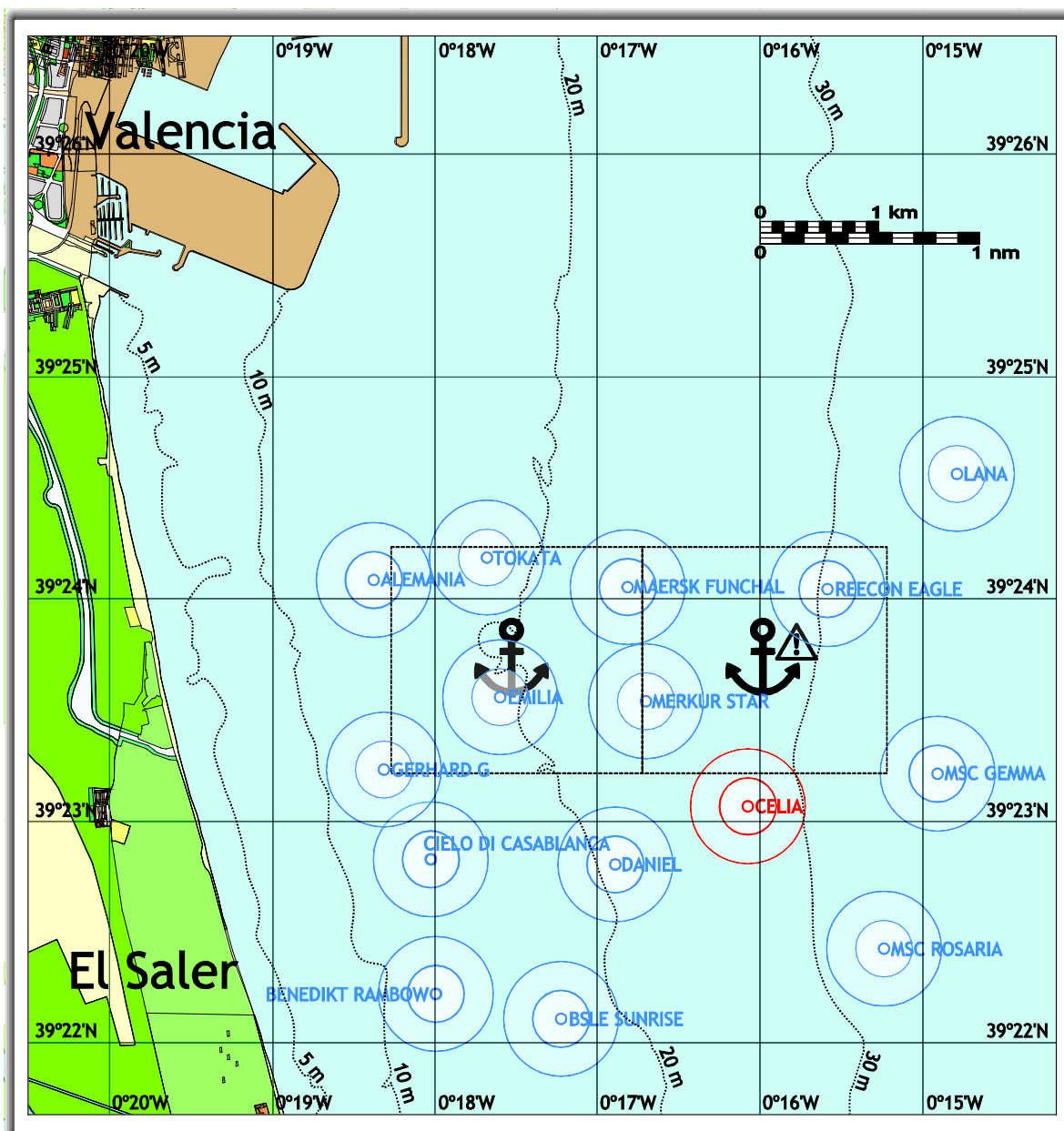


Figure 3. Vessels run aground on 28 September 2012 at 17:06 hours near the port of Valencia.



## OBJECTIVE DATA

### Data from vessel CELIA

M/V CELIA, whose main characteristics are provided in table 1, is a vessel used for transporting general type cargo.

At the time of the accident the vessel was owned by company MS Celia Schiffahrtsgesellschaft mbH. & Co. Reederei KG. (Germany) and she was being operated by Intership Verwaltungsgesellschaft mbH (Germany).



Figure 4. Cargo vessel CELIA

Table 1. Main characteristics of the vessel

Vessel name	CELIA
Type	Cargo
Flag country	Antigua and Barbuda
Location where she was built	Karadeniz Eređli (Turkey)
Year built	2005
Shipyard	Madenci Gemi Sanayii Ltd. Sti.
Classification company	Germanischer Lloyd's
Marking	V2BK7
MMSI	304887000
IMO number	9184237
Port of Registry	St John's (Antigua and Barbuda)
Hull material	Steel
Length overall	118.40 m
Length between perpendiculars	108.17 m
Breadth by design	18.40 m
Maximum draught	8.152 m
Gross Tonnage (GT)	6264
Net tonnage (NT)	3125
Deadweight	8,250 t
Minimum safety crew	10
Propulsion	Diesel engine (MAN B&W 7S35MC Mk7) directly coupled to a controllable pitch propeller.
Power	5180 kW at 173 rpm.

### Vessel operations and trip segment

The vessel was anchored near the Port of Valencia anchorage area.

### Certificates and documentation

The vessel's certificates were current. All crewmember diplomas and certificates were current.



## Details of the voyage

Port of departure	Algiers (Algeria)	
Port of arrival	Valencia, Spain	
Type of trip	International	
Cargo	221 containers with a total load of 731 t.	
Crew	12 persons: <ul style="list-style-type: none"> <li>• 1 x Skipper,</li> <li>• 1 x First Engineer</li> <li>• 1 x Wheelhouse Duty Officer,</li> <li>• 1 x Chief Engineer,</li> <li>• 1 x First Engineer,</li> <li>• 3 Able Seamen,</li> <li>• 1 x Deck Hand Trainee,</li> <li>• 1 x Oiler,</li> <li>• 1 x Mechanic,</li> <li>• 1 x Cook,</li> </ul>	Of Bulgarian nationality. Of Romanian nationality. of Romanian nationality. of Lithuanian nationality. of Romanian nationality. of Romanian nationality. of Romanian nationality. of Romanian nationality. of Romanian nationality. of Romanian nationality.

## Information relative to the maritime accident

Type of accident	Running aground	
Classification	Serious	
Date	28 September 2012	
Time	23:00 hours	
Location of the accident	Beach of El Saler in Valencia at 100 m from the shore, at position 39°21.83'N, 000°18.92'W	
Outdoor environment from 21:00 to 23:00	Wind	NE Beaufort force 8 (34 to 40 knots) abating to force 6 (22 to 27 knots) after 22:00.
	State of the sea	Rough increasing to very rough
	Visibility	Low, between 0.5 and 2 miles
	Precipitation	Numerous electrical storms.
Indoor environment	Not applicable	
Vessel operation	Anchored	
Trip segment	Anchored	
Human factors	No	
Personal consequences	No	
Material consequences	Loss of the port anchor and the bow transverse propeller port side tunnel grille. Scratches without deformations of the hull bottom and rudder plates.	
Alteration of the marine environment	Dredging of 6540 m <sup>3</sup> of sand at the beach of El Saler.	



### Involvement of the authorities on shore and the emergency services response

**Table 4. Involvement of the authorities on shore and the emergency services response**

Involved organisations	<ul style="list-style-type: none"> <li>• Spanish maritime safety and rescue agent (SASEMAR)</li> <li>• Prácticos de Valencia S.L.P. (Pilots)</li> <li>• Valencia Maritime Authority</li> </ul>
Resources used	<ul style="list-style-type: none"> <li>• Rescue vessel PUNTA MAYOR sent by the Spanish maritime safety and rescue agent (SASEMAR).</li> <li>• Tug boat VB FURIA, owned by Boluda Corporación Marítima, S.L. and dispatched by Prácticos de Valencia S.L.P.</li> </ul>
Quickness of the response	The vessels that were near the port of Valencia and issuing safety warnings were being monitored several hours before the accident Minutes prior to vessel CELIA running aground, a tug boat was dispatched to assist her.
Measures adopted	A towing was attempted prior to the accident. After the accident, dredging of the beach and towing of the vessel.
Obtained results	The ship was re-floated from the beach on 24 October 2012.

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## ANALYSIS AND CONCLUSIONS

**Problems starting the main engine**

On the 8<sup>th</sup> of October, personnel from company OS Schiffahrts GmbH went on board M/V CELIA in an attempt to discover the reason why the main engine did not start.

After conducting an inspection of the different components involved in starting the main engine, it was determined that all the components were in perfect working order except for an o-ring from the start air distributor, which was broken. In order to check if said broken o-ring may have been the cause of the engine failure, they simulated starting the engine after disconnecting the cylinder aeration control lines. It was discovered that air exited the distributor towards all the start valves at the same time, which would prevent starting the engine.

Subsequently the start air distributor cover was re-opened and a new o-ring was installed. Another start was simulated, checking that the air exited exclusively through the two lines that are supposed to provide air to the start valves.

Once these tests were completed the air distributor was removed and sent to Man engine manufacturer for them to study the component. They concluded that the broken o-ring may have been the reason why the main engine did not start.

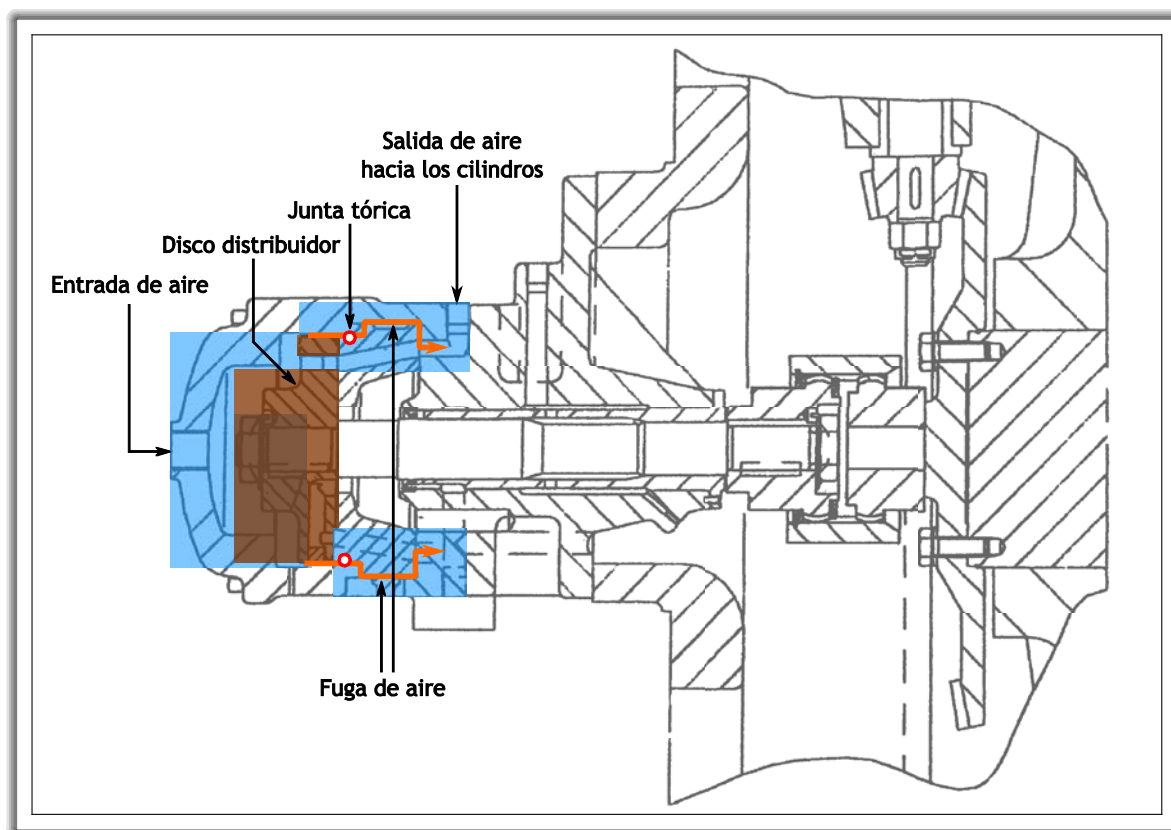


Figure 5. Start air distributor



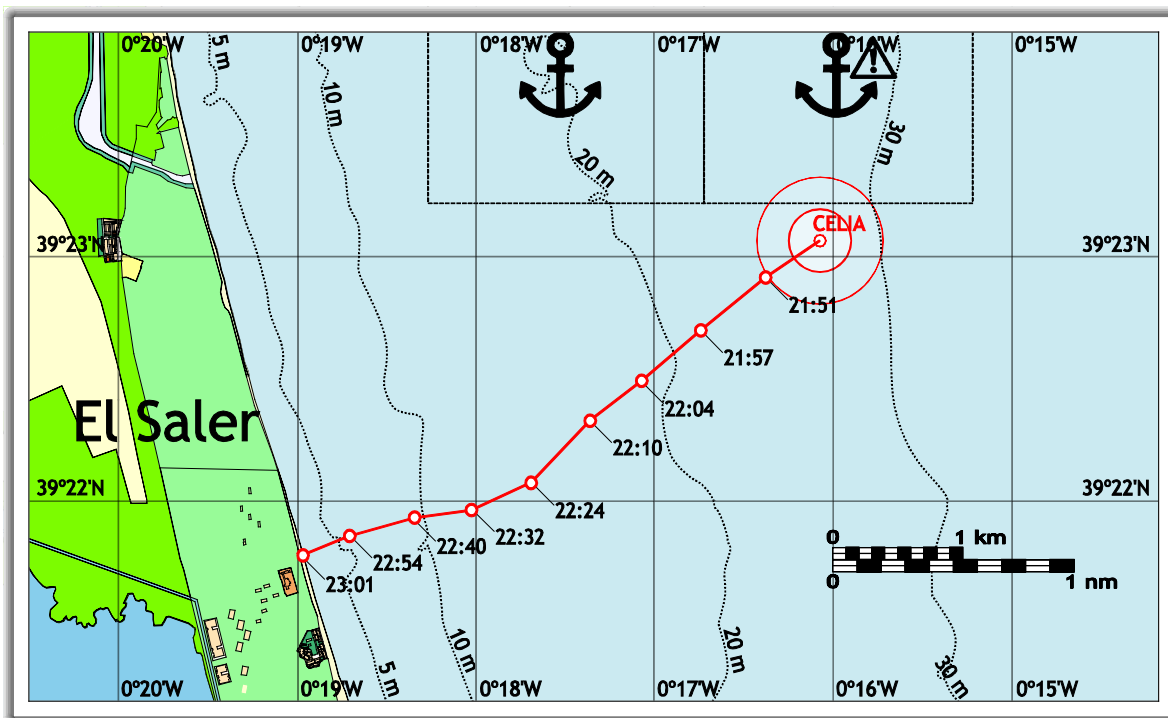


Figure 6. Route of vessel CELIA.

### Weather forecast

During the evening of Friday the 28<sup>th</sup> winds blowing from the NE intensified as a consequence of a reduced size micro low or depression that was moving from the South to the Northern part of the coastline of the province of Valencia, focalising the precipitations and generating severe weather conditions such as torrential rains, storms, some tornadoes and very rough seas. As is normal for that location and time of year, these conditions covered a relatively small area and they were not forecast by the atmospheric models on a timely basis.

The weather and marine bulletin for the coastal areas of Valencia, issued by AEMET on the 28<sup>th</sup> of September 2012 at 11:00 (local time), were forecasting winds from the NE with force 3 to 4 on the Beaufort scale, which intensified during the morning from 5 to 6, with a slight swell increasing during the evening and a strong swell and rough seas off shore. Downpours and some storms.

According to the statements made by the Skipper of M/V CELIA, the weather reports issued at 20:00 hours on VHF channel 10 by the RCC of Valencia were forecasting winds with a force of 4 or 5 on the Beaufort scale.

Additionally, AEMET at 11:16 issued an alert bulletin for strong winds and waves on the Valencia coast, forecast for the timeframe between 18:00 and 22:00 hours, which was not reported through the TIMON network and was not received by the RCC of Valencia or the Port Authority of the Port of Valencia.

### Wind speed records

figure 7 shows the data collected by weather stations near the Port of Valencia for the day of the accident. Weather Station Principe Felipe shows values that are slightly lower because its position is located further inward and protected from the port.

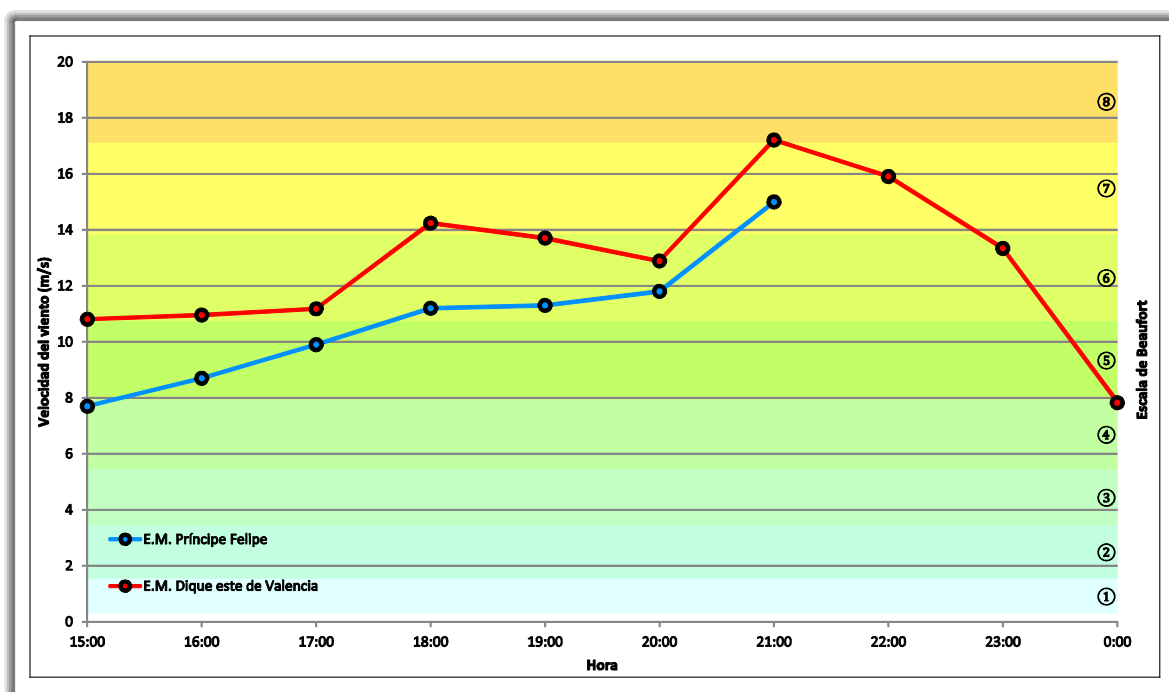


Figure 7. Wind speed records on 28/09/2012 at the Weather Stations (W/S) of the port of Valencia

### Vessels anchored at the port of Valencia anchorage area

The vessels anchored at the port of Valencia on the day of the accident were of similar size and characteristics as that of M/V CELIA. Some of the vessels began to drag and therefore raised their anchors, which left them adrift until they were able to start their engines. Only M/V BSLE SUNRISE ran aground a half an hour before vessel CELIA.

### Conclusions

The running aground of MV CELIA occurred as a consequence of bad weather. The following factors contributed to the accident:

- Not being able to start the main engine in order to raise the anchor and head to deeper waters when the weather and sea conditions worsened.
- A coastal weather bulleting was not issued forecasting a worsening of the weather and sea conditions on the evening of 28 September.

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## SAFETY RECOMMENDATIONS

From the analysis of the Investigation of the running aground of vessel CELIA that occurred on 28 September 2012 on the beach of El Saler in Valencia, the Standing Commission for Maritime Accidents and Incident Investigations Plenary provides the following safety recommendations:

To the vessel's company Intership Verwaltungsgesellschaft mbH:

1. To incorporate a periodic inspection and maintenance of the start air distributor o-ring to its safety management system in accordance with the instructions provided by the engine manufacturer.

To the Maritime Authority of Antigua and Barbuda:

2. As part of its duties as stipulated in Article 13 of the IGS code, it is recommended they check the treatment given by SGS to the company and the vessel, as well as its compliance regarding the requirement to maintain the wheelhouse and engine room watches at port and while anchored, and reinforce these under poor weather conditions.
3. Ensure the necessary resources are available and verify the on board compliance with section VIII-2, part 4, Port watches, of the STCW Code.

To the Public Meteorological Agency (AEMET):

4. To review their procedures for sending information to SASEMAR, Harbour Masters and Port Authorities, so that when adverse coastal weather conditions are present, extraordinary severe weather bulletins are communicated and sent to rescue centres and involved port authorities.

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