



**REPUBLIC OF BULGARIA**  
**MINISTRY OF TRANSPORT**

**DIRECTORATE**  
**FOR AIRCRAFT, MARITIME AND**  
**RAILWAY ACCIDENT INVESTIGATION**

**Investigation of very serious marine casualty, occurred on 27.09.2008 in Black Sea, in contiguous area of the territorial sea of Republic of Bulgaria, with motor vessel „Tolstoy“ IMO № 8942917**



- **On 27.09.2008, at 04:05 h, an EPIRB distress signal has been received at Varna MRCC from Moscow MRCC from a point with probable coordinates at about 14 nautical miles to the East from Emine Cape.**
- **After execution of initial actions and respective operational procedures for identification of distress signal the hypothesis for casualty of m/v „Tolstoy” in a point with coordinates:  $\varphi = 42^{\circ}44' N$ ,  $\lambda = 028^{\circ}12' E$  was accepted as reliable.**
- **An operation for search and rescue has been conducted from 10.15 h on 27.09.2008 to 17.30 h on 01.10.2008. Ships and a helicopter of NF, Border Police and MAEA has participated in the operation.**

Information about m/v "Tolstoy" voyage:

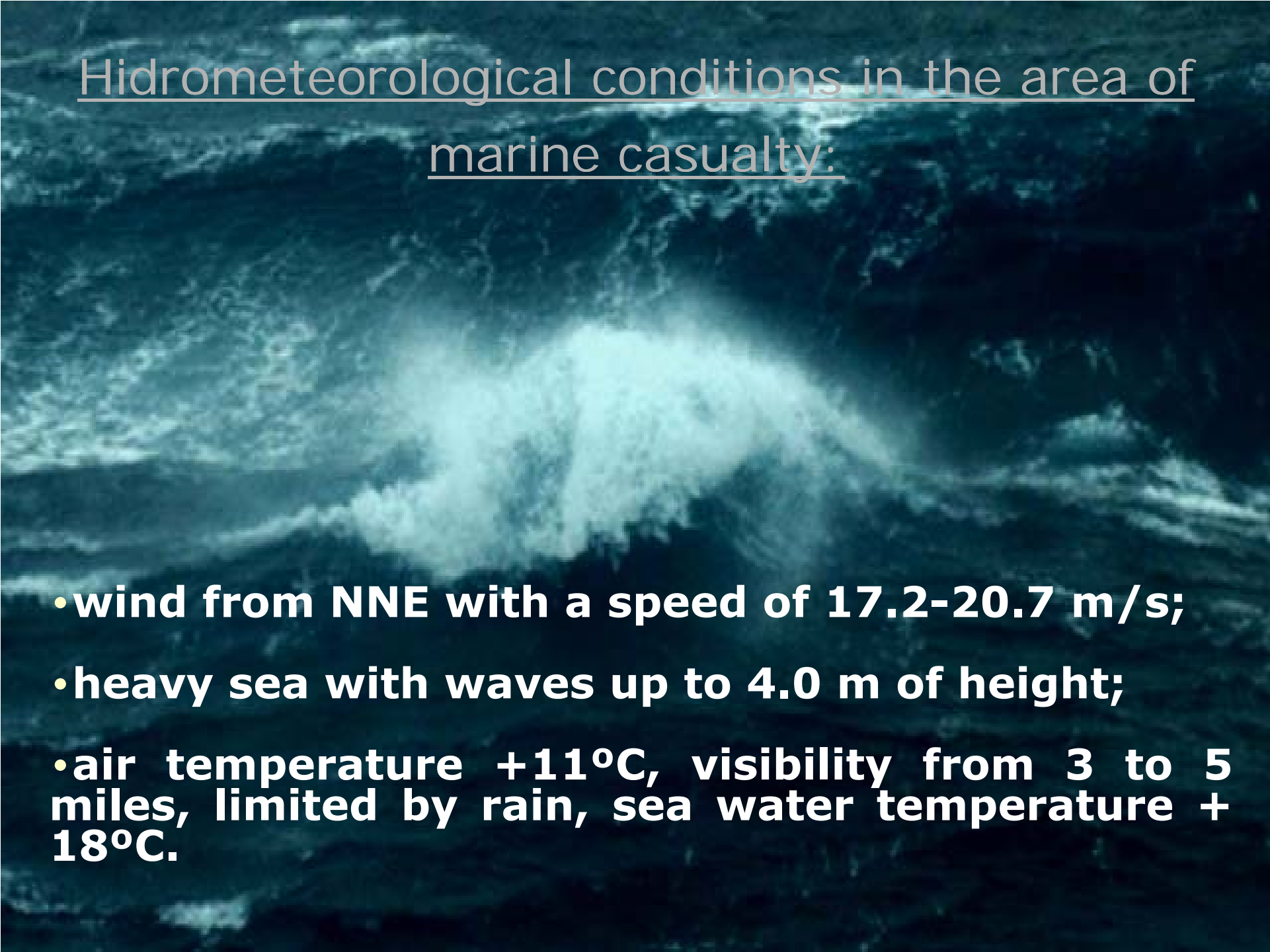
- **On 22.09.2008 m/v „Tolstoy“ has departed from Rostov on Don Port with a crew of ten (10) capable persons.**
- **Voyage destination: Nemrut, Turkey.**
- **Cargo 2568 metric tonnes metal scrap**
- **Draught: forward =1.83 m, aft =2.83 m, midship=2.35m**





## Information about marine casualty

- **The casualty is classified according Art.4, Para.1, item 1 of Regulation No 23 of MT as: very serious marine casualty –total loss of the ship, loss of life.**
- **Date and time of marine casualty: 27.09.2008, at 03.39 h.**
- **Coordinates and location of marine casualty: Black Sea,  $\varphi = 42^{\circ}44.4'N$ ,  $\lambda = 028^{\circ}11.5'E$ , at about 14 nautical miles to the east from Emine Cape in contiguous area of territorial sea of Republic of Bulgaria.**



Hidrometeorological conditions in the area of  
marine casualty:

- **wind from NNE with a speed of 17.2-20.7 m/s;**
- **heavy sea with waves up to 4.0 m of height;**
- **air temperature +11°C, visibility from 3 to 5 miles, limited by rain, sea water temperature +18°C.**

## Consequences:

- **M/v „Tolstoy“** foundered as result of serious structural failure, led to fracture of vessel's hull, without sufficient time for activation of collective rescue means and organized abandonment of the vessel.
- **Reported missing: 8 crew members.**
- **Rescued: 2 crew members by the crew of Mirage yacht, navigating under Belgian flag**

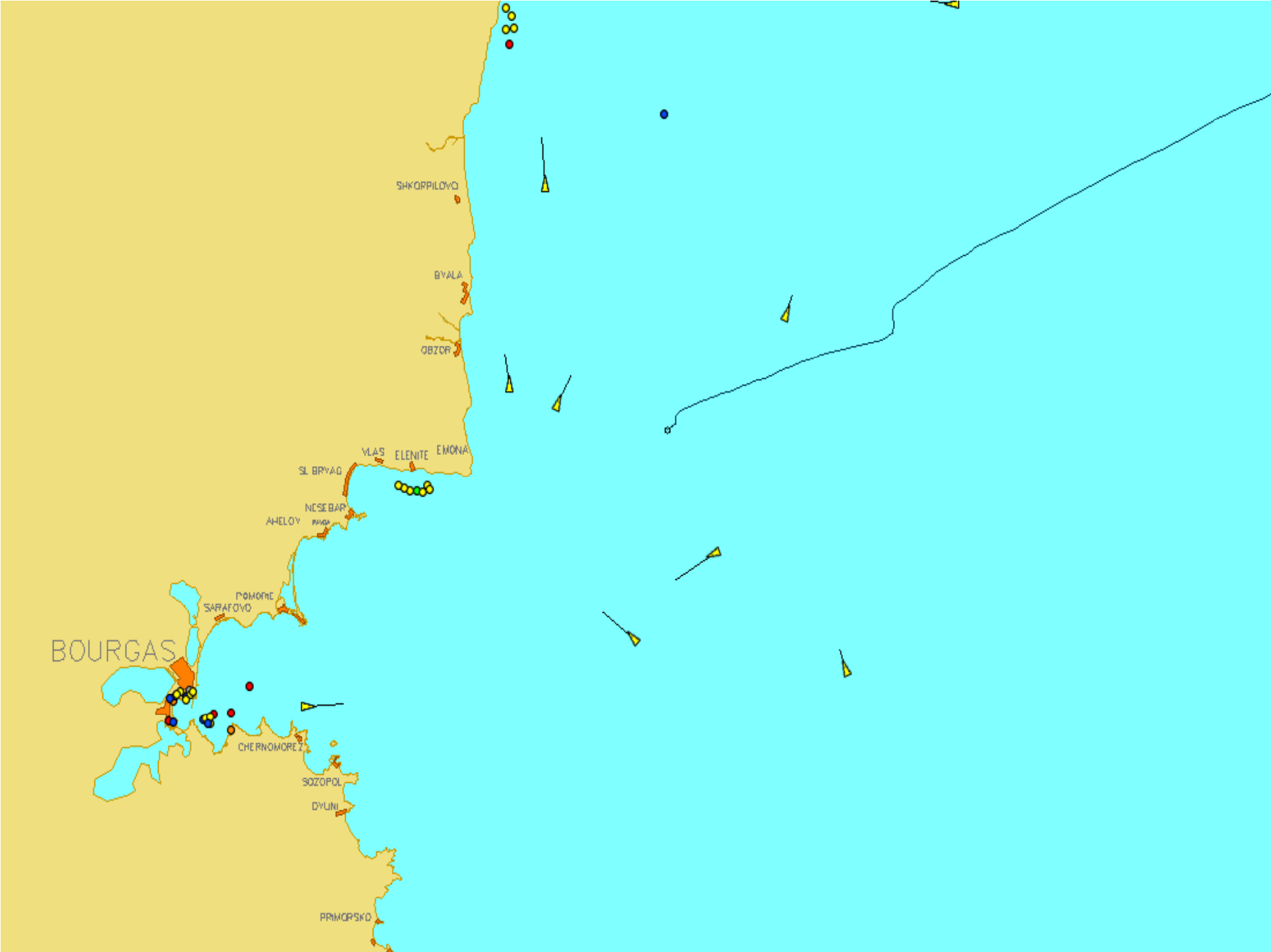


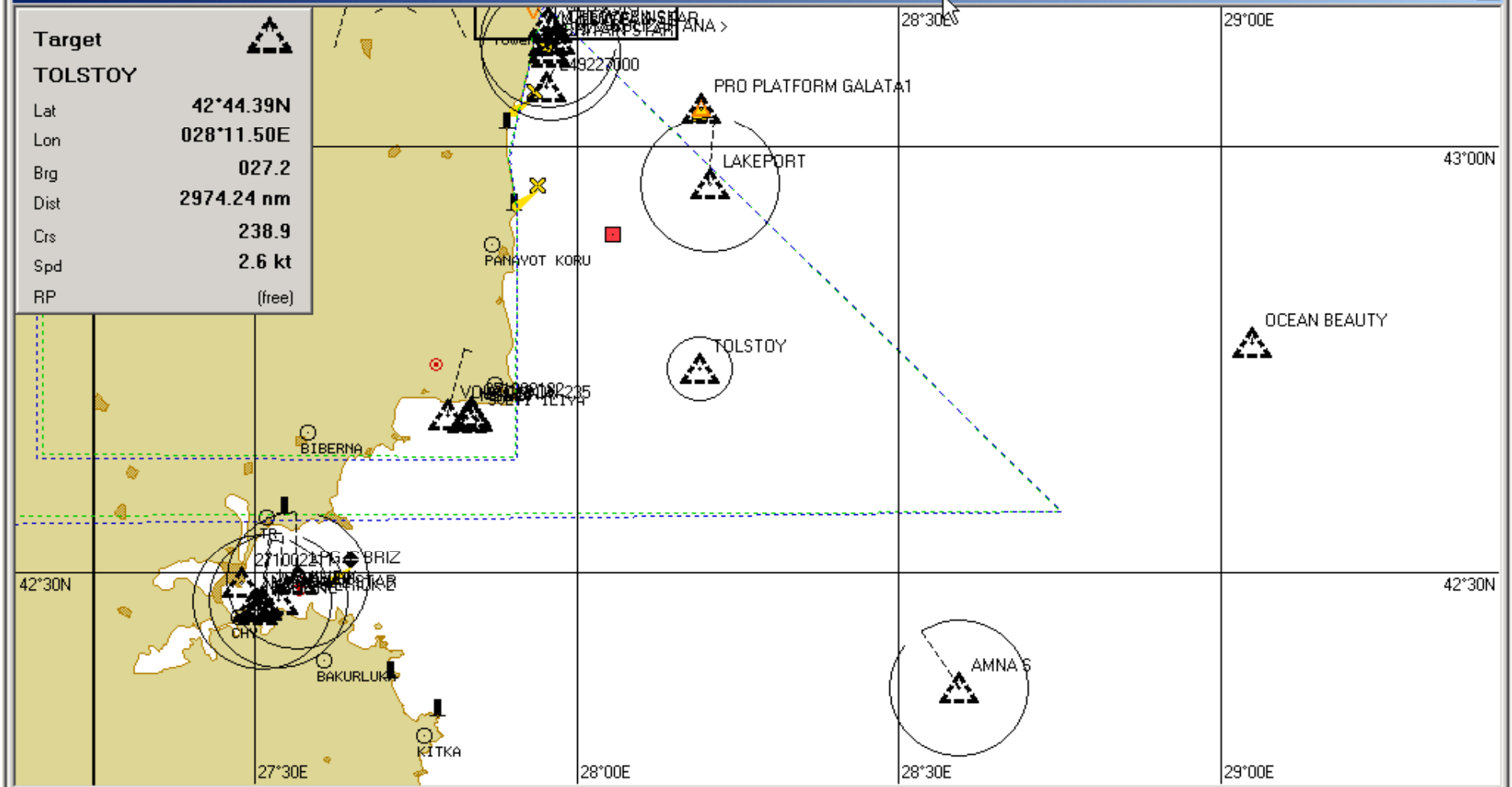
## Description of Marine Casualty

**Till 03.16 h on 27.09.2008 the vessel has steered on course 245° with a speed of about 4.5 knots in direction to Emine Cape, with deviation from the course in the range from 15° to 25° to the portside and stbd side under wind influence from NNE with force-8, seas-5 (sea waves height of about 4 m).**

## Description of Marine Casualty

**At about 03.35 h on 27.09.2008 the vessel came in critical situation, lost control and changed her course by about 120°. The Master tried to steer the course to Emine Cape, but the vessel was flooded and shaken by sea waves induced vibrations.**





**After several powerful vibrations the hull girder collapsed transversely in the area of fore-part of stern cargo hold, close to the bulkhead.**





**During the emergency the usual in such case distress signals haven't been emitted by a radio station or by shooting of pyrotechnic**





# Participation of Coastal Authorities and Emergency Actions

## Actions Undertaken

- **Orientation**

- from 04.06 h till 05.28 h on 27.09.2008;

- **Uncertainty, Alert, Distress**

- till 11.25 h on 27.09.2008)

- **Initial actions**

- from 04.35 h till 07.45 h on 27.09.2008.

- **Planning**

- from 08.45 h till 09.20 h on 27.09.2008.

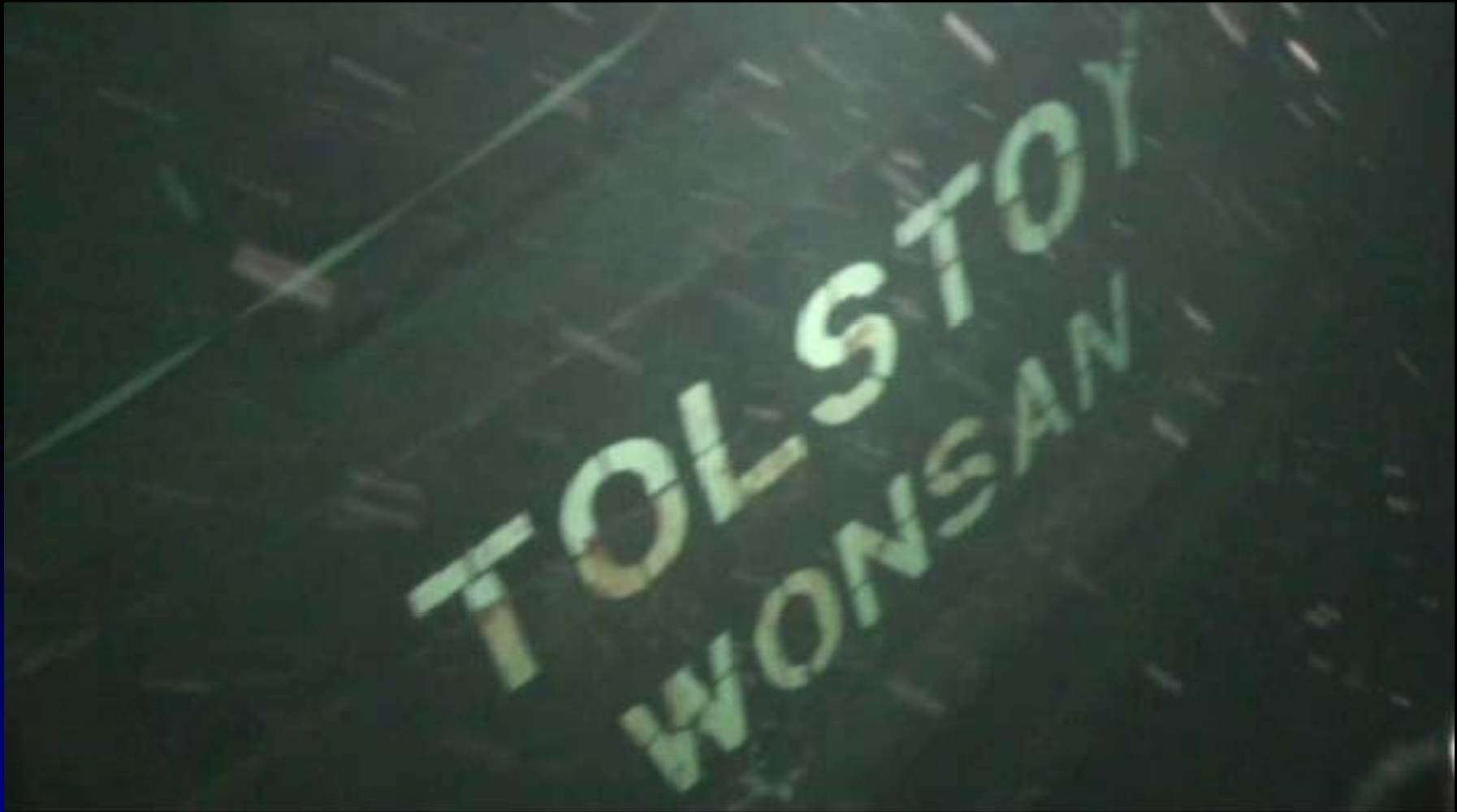
- **Search and rescue**

- from 10.15 h on 27.09 till 17.30 h till 01.10.2008.

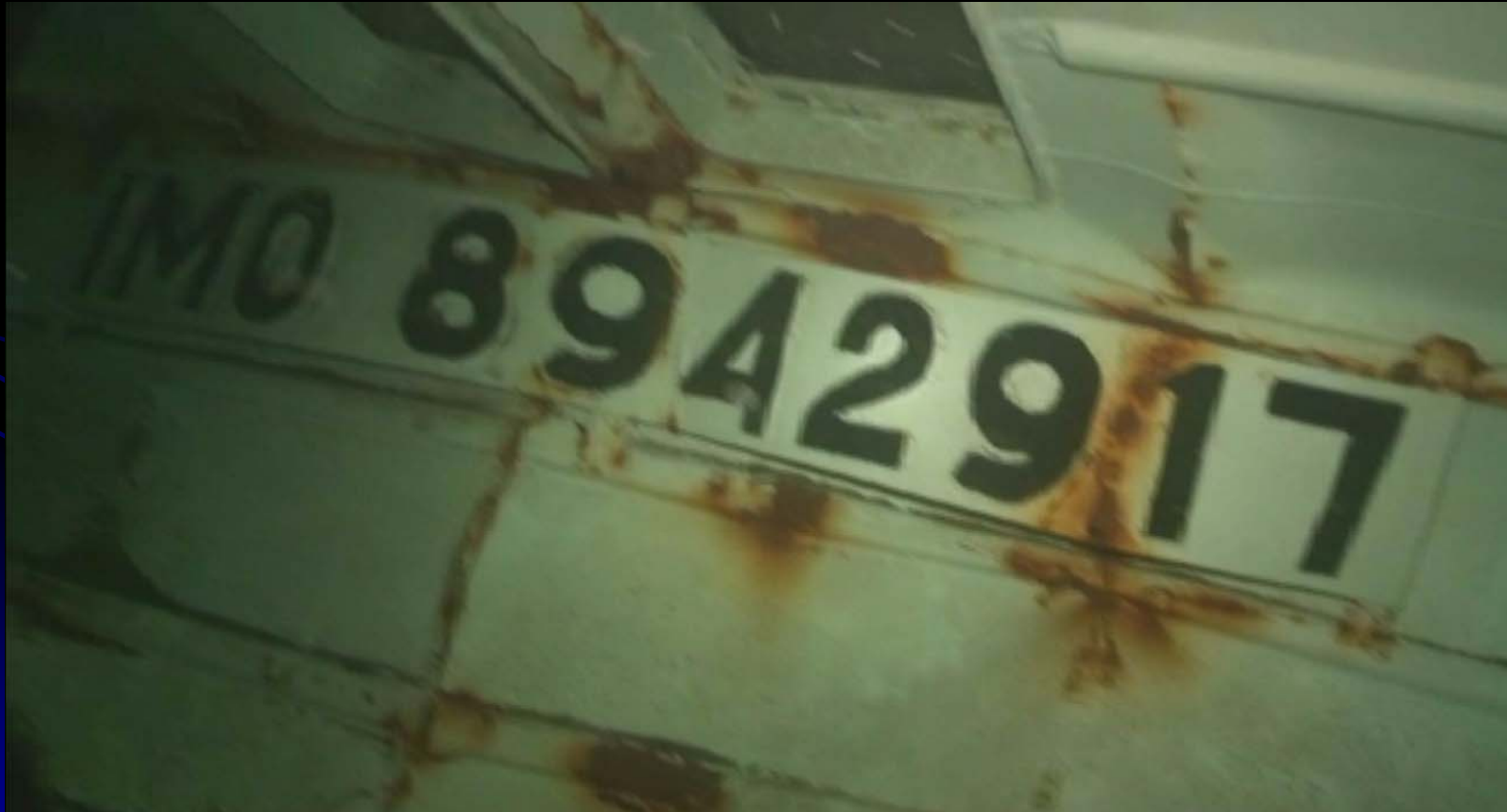
- **Cessation in sea** - at 18.30 h on 29.09.2008;

- **Cessation on land**: at 17.30 h on 01.10.2008

# Underwater Inspection



**An underwater inspection was undertaken on 03.11.2008 in order to identify the vessel and video recording. IMO number and name of the object, written on the stern and on both side of superstructure, were visible and filmed.**



**The vessel's stern lies on even keel at a depth of 76 m in north-south direction. It was established visually that the vessel was fractured into two parts in the area of stern cargo hold, close to the vertical partition wall between the cargo holds, at a distance of about 60 m from the stern.**



**The navigation bridge is heavily bended down in the middle. Starboard side wing door of the bridge is opened and the port side wing one is closed.**



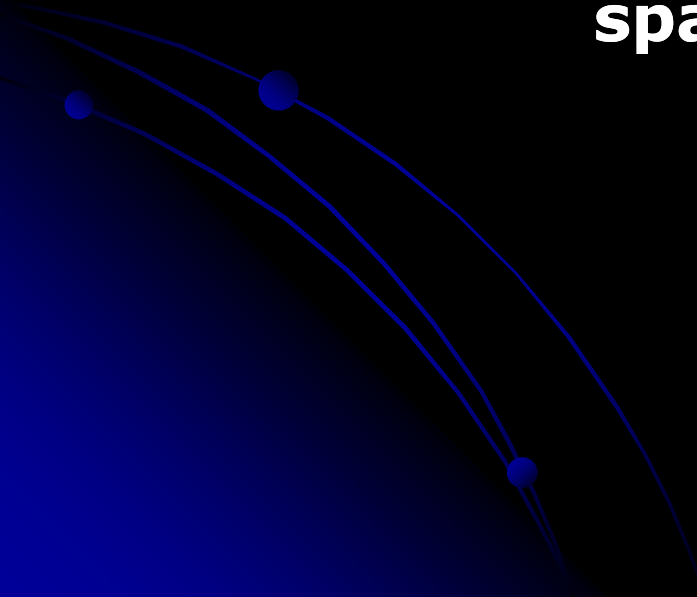
**From the video inspection no presence of crew members was established in this compartment.**





# **Analysis of Causes and Circumstances, Led to the Marine Casualty**

**In accordance with the vessel certificates issued on 30.03.2007 by Marine Administration of DPRK, m/v „Tolstoy” is with limited area of navigation: Red Sea, Black Sea, Mediterranean Sea and water space around Europe.**



- **According the data base of Russian River Vessel Register, m/v „Tolstoy” is a vessel built in the shipyard of Santierul Navale Oltenita, Romania, launched in 1971 under the name Volgo-Don 5028;**
- **It is River-Sea Type, Project 1565, class 0, what means that a vessel of this class might be operated in river-sea water spaces with a height of wave up to 2.0 m.**



**Additional limitations exist for safe navigation in accordance with instructions for navigation in Black Sea and Sea of Azov as follows:**

■ **for Sea of Azov water space: distance of 20 miles from the coast;**

■ **for Black Sea water space: from Odessa to the Danube river mouth: 5 miles from shore and seasonal limitation for the months from March till October;**

■ **from Odessa to Port of Skadovsk: 5 miles from shore and seasonal limitation for the months from March till November.**

## **Main cause led to the Marine Casualty :**

The vessel has found herself in severe hydro-meteorological conditions, for which she is not fit regarding her construction and designed. This has created conditions led to damages, structural deformations and to overall hull-girder collapse.

## Contributing Factors led to the marine casualty:

The commission has ascertained that on 26.10.2007 the Marine Administration of DPRK has sent a note to all member of Paris, Black Sea, Mediterranean and Indian Memorandum of Port State Control to inform the member states, that because of discrepancy of standards and serious omissions, resulting in multiple detentions of the vessel and related with the requirements of DPRK Ship Register, m/v „Tolstoy“ has been excluded from the register.

In the same note Marine Administration of DPRK has asked assistance of the members of Paris, Black Sea, Mediterranean and Indian Memorandum of Port State Control for deprivation of ship documents of m/v „Tolstoy”.

On 06.11.2007 by a letter No 081/07 the note for excluding was sent by the Secretary of Black Sea Memorandum of Port State Control to the Marine Administrations of the States of Black Sea Region for immediate execution.



**According information of „Equasis“, on 19.03.2008 m/v „Tolstoy“ was a subject of inspection by Port State Control during its stay in Port of Rostov on Don, Russia.**



## The inspection established:

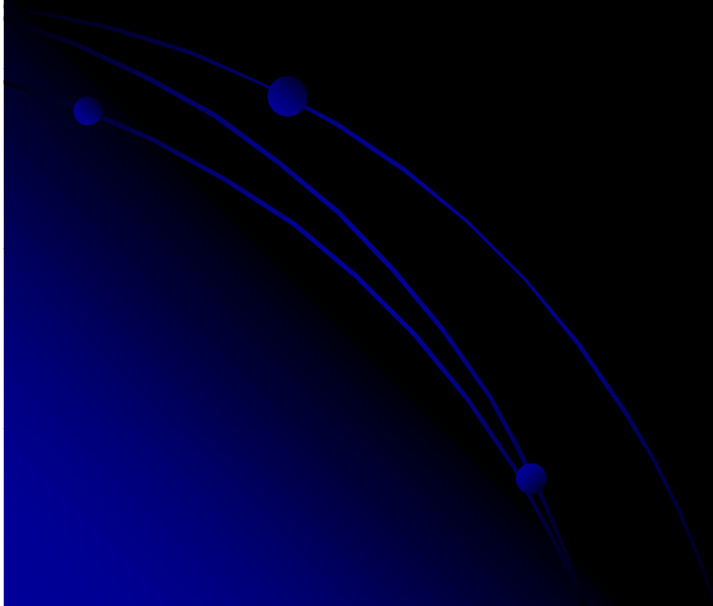
- structural damages and deformations of longitudinal and transverse sets of vessel's hull;
- irregularities regarding the operable condition of radio aids for communication in emergency situation (GMDSS MF/HF) and provision with navigation charts and manuals;

On the base of these results the vessel was detained for 9 days.

- During the check of ship documents, cited above, the fact that the vessel had been excluded from North-Korean Ship Register hasn't been established.
- The practical result of execution of the Note should lead to detention of the vessel at first port visited, which hasn't happen.
- Till 27.09.2008 m/v „Tolstoy“ appears in the data base of International Maritime Organization as a vessel navigating under DPRK flag.

- From 06.11.2007 till 27.09.2008 m/v „Tolstoy“ has navigated, visited ports, conducted cargo handling in violation of the norms, rules and criteria established by International Maritime Organization and European Maritime Safety Agency.

# **Proposals for Safety Measures Excluding Recurrence of Similar Events**



# International Maritime Organization (IMO)

- **To elaborate mandatory criteria for safety of construction and safe operation of river-sea vessels.**
- **To introduce a procedure for deleting of a vessel from the registers of International Maritime Organization after declaration of "Note of Deletion" by the Flag Administration concerned.**



- **To introduce a procedure for control of determine the fact of deprivation of vessel's documents after declaration of "Note of Deletion" by the Flag Administration concerned.**

END

Thanks  
for  
your attention

**Prepared by: state inspector Hristo Papukchiev-master foreign going  
24.03.2009**