



**Statens haverikommission**  
Swedish Accident Investigation Board

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## **SUMMARY of Report RS 2010:03e**

*The grounding of Stena Danica after a close-quarters situation with Tor Magnolia at Gäveskär, Västra Götaland County on 10 January 2008*

**Case S-13/08**

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Statens haverikommission (SHK) Swedish Accident Investigation Board

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Statens haverikommission  
Swedish Accident Investigation Board

19 August 2010

S-13/08

Swedish Transport Agency  
Maritime Department  
Box 653  
601 15 NORRKÖPING

### **Rapport RS 2010:03e**

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The Swedish Accident Investigation Board (Statens haverikommission, SHK) has investigated an accident that occurred on 10 January 2008 at Gäveskär, Västra Götaland County involving the vessel *Stena Danica*.

In accordance with section 14 of the Ordinance on the Investigation of Accidents (1990:717) the Board herewith submits a final report on the investigation.

The Board will be grateful to receive, by 18 February 2011 at the latest, particulars of how the recommendations included in this report are being followed up.

Carin Hellner

Ylva Bexell

Copy to the Swedish Maritime Administration.



# 1 SUMMARY

## Time of occurrence, location, etc

<i>Time of occurrence</i>	10 January 2008, 19:20 hours in darkness <i>Note:</i> All times are given in Swedish standard time (UTC + 1)
<i>Location</i>	Gäveskär in Böttö fairway (Böttöleden), Västra Götaland County, (pos. 57°39,65'N 011°46,12'E;)
<i>Weather and sea conditions</i>	SSW wind 13-15 m/s with wind gusts up to 19 m/s and gusts of rain

The Swedish Accident Investigation Board (SHK) was notified on 11 January 2008 that an accident had occurred in the fairway to Gothenburg, Västra Götaland County on 10 January 2008 at 19:20 hrs.

The accident has been investigated by SHK represented by Carin Hellner, Chair of the committee, Ylva Bexell, Inspector In Charge, Magnus Hammarqvist, Inspector Marine Accidents and Sanny Shamoun, Inspector Human Factors. The investigation was assisted by Peder Lafqvist, Maritime Operative expert and Björn Södal, Maritime Technical expert.

The investigation was followed by Jörgen Zachau, Swedish Transport Agency.

## Summary

On the evening of 10 January, 2008 shortly after 7 p.m., two vessels, the dry cargo vessel *Dintelborg* with a pilot on board and the roro vessel *Tor Magnolia* in regular service, were on their way to Gothenburg in the Böttö fairway (Böttöleden). At the same time, the ro-pax vessel *Stena Danica*, also in regular service, was on her way outward-bound and about to pass through the same fairway. The weather was windy and rainy with wind forces about SSW 13-15 m/s with gusts up to 19 m/s.

*Dintelborg* was on her way to Rivöfjorden to take on bunker. At Brandnäsbrodden she began gradually to reduce speed. *Tor Magnolia*, proceeding aft of *Dintelborg*, quickly gained on the vessel in front. *Tor Magnolia* also began to reduce her speed and took radio contact with *Dintelborg*. It was agreed that *Dintelborg*, who also announced that she intended to continue to reduce her speed, should hold to the starboard side of the fairway and that *Tor Magnolia* would stay on *Dintelborg's* port side.

*Dintelborg* then manoeuvred so that she came to proceed in the middle of the fairway at the turn of Gäveskär while she reduced her speed further. *Tor Magnolia*, who manoeuvred somewhat port of *Dintelborg*, also reduced her speed further in order to avoid colliding with *Dintelborg*. For *Tor Magnolia* the course and speed alterations, together with the strong wind, resulted in that the vessel came over on the wrong side of the fairway.

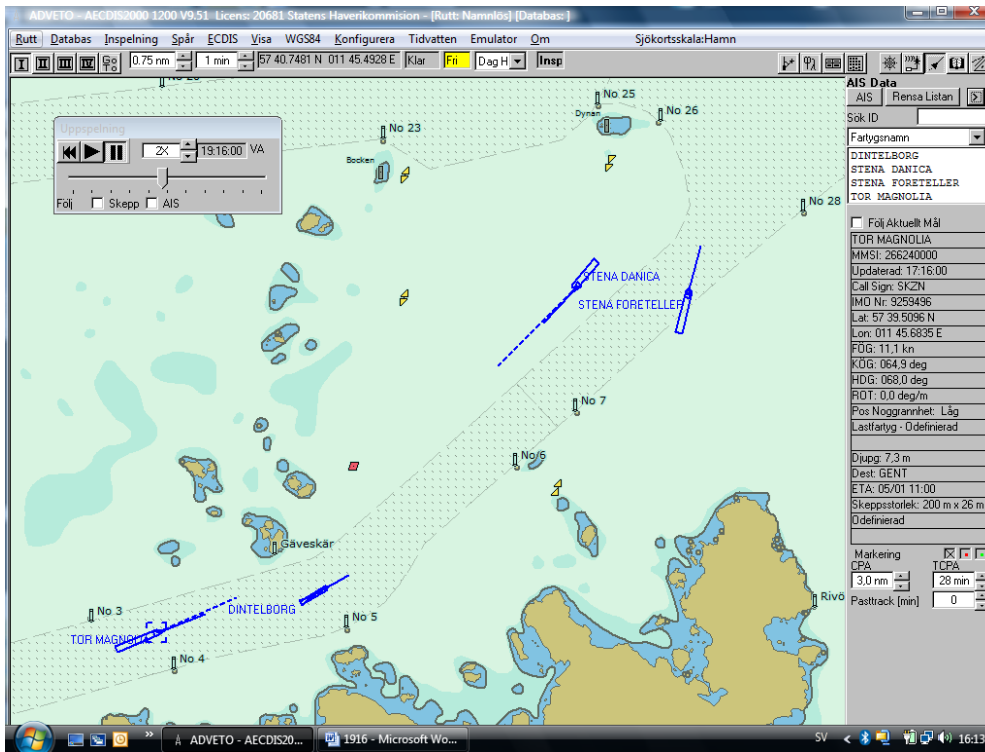


Fig. 1 The vessel's positions at 19:16.

Meanwhile, *Stena Danica* had altered course and was approaching Gäveskär and was on route to meet the two vessels. *Stena Danica*, making 15 knots, took radio contact with *Tor Magnolia* to tell her to give more space in the fairway as a serious close-quarters situation was about to occur between the vessels. *Stena Danica* had difficulty in making any considerable speed reduction without losing the control of the steering.

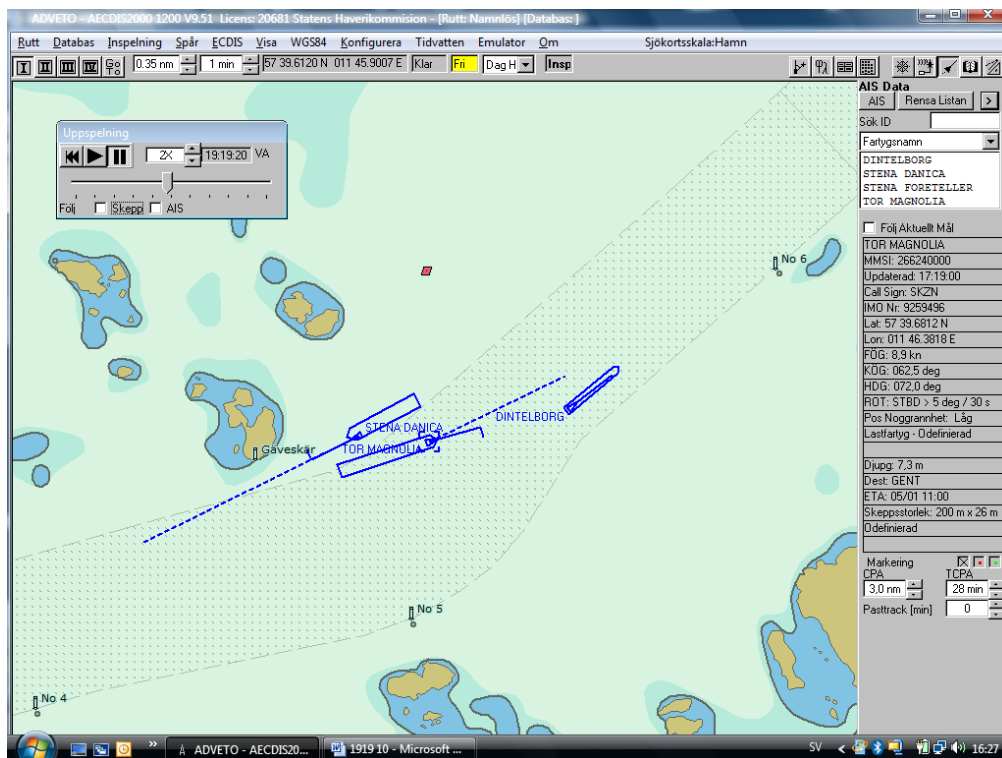
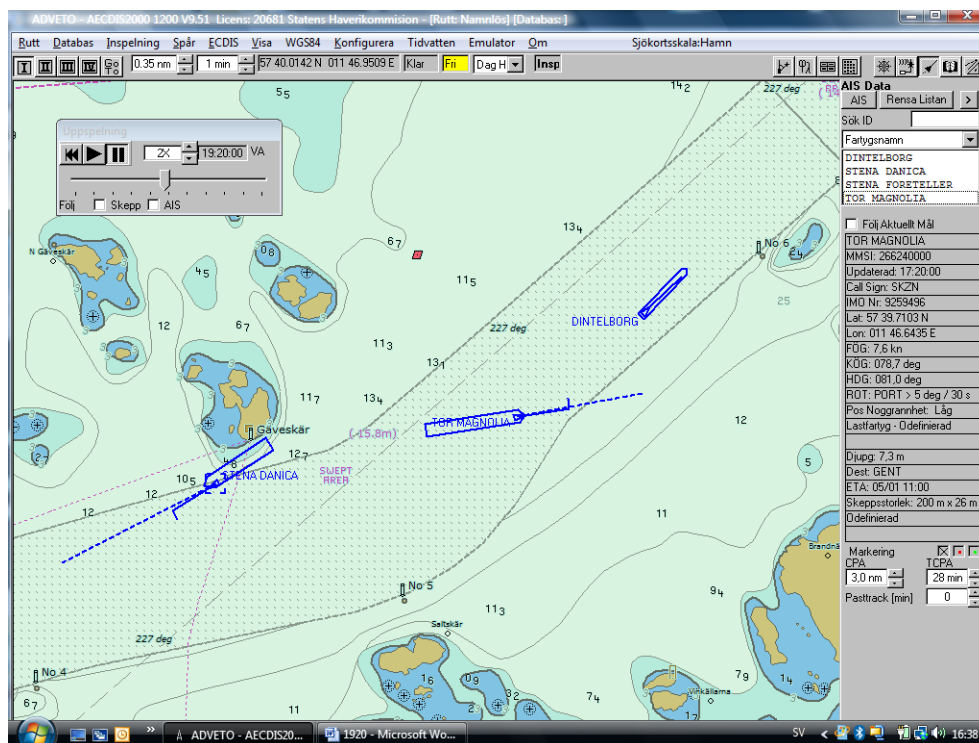


Fig. 2 The vessel's positions at 19:19:20.

Without *Stena Danica* having reduced speed, but after that both vessels had tried to increase the passing distance to each other through various measures, *Stena Danica* and *Tor Magnolia* met near Gäveskär with a margin of only 15-30 meters and at a relative speed of more than 20 knots.

*Stena Danica* was, after the vessels had passed each other, too close to Gäveskär and ran aground on the southwest side of the island at high speed, slid over the shoal and proceeded out into the fairway again. The vessel sustained severe damage to the hull/bottom and starboard propeller and she took in water, however, in a limited and controllable quantity. *Stena Danica* returned to Gothenburg and was taken to the shipyard for repairs.



**Fig. 3** *Stena Danica* has run aground on the southwest side of the shoal of Gäveskär. *Tor Magnolia* has corrected the starboard turn and has started to come to port. The vessel is making 7.6 knots and is still gaining on *Dintelborg*.

The full sequences of events was followed by the VTS Gothenburg which at an early stage realized that the situation developing was disquieting and unfortunate, but for various reasons, refrained from making contact with the vessels.

SHK's investigation of the accident has involved gathering of factual information and analysis of how the accident has been perceived and acted upon on board the vessels involved as well as at the VTS. SHK has also studied the traffic pattern in the fairways and how the Swedish Maritime Administration, which manages the maritime infrastructure, handles the operational safety in the fairways, particularly in relationship to the VTS.

SHK's conclusions are that the accident was caused by various deficiencies in the planning and interaction of the vessels involved in the close-quarters situation, and that the master on *Stena Danica* accepted to meet *Dintelborg* and *Tor Magnolia* in a part of the fairway where meeting situations should be avoided. There were in this respect, deficiencies in the decision support system given to the master of *Stena Danica*.

Contributory factors was a fairway culture that accepted small margins for meeting and overtaking-situations between vessels, a general underutilization of some fairways and a VTS-function which was underdeveloped compared to the needs of the area.

Contributory factors were also poor communication practices in the fairway, including among other things poorly communicated intentions from *Dintelborg* as well as *Tor Magnolia* and the absences of corrective communications from the VTS. The Swedish Maritime Administration had not clarified VTS Gothenburg's assignment and role in relation to vessel traffic.

### **Recommendations**

The Swedish Transport Agency is recommended to issue, for vessels of a certain size, regulations prohibiting vessels to meet in those areas of Gothenburg archipelago where there today prevails recommendations in this field (*RS 2010:03e, R1*).

The Swedish Maritime Administration is recommended to request that the Government may review the statutory system in the field of the VTS role and power so that VTS will be regulated by law (*RS 2010:03e, R2*).

The Swedish Maritime Administration is recommended to review communication procedures for its own pilots, for example, so that manoeuvres that are expected to affect other ships are clearly communicated to the surrounding traffic (*RS 2010:03e, R3*).