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Case study 9: Tugging operation

Welcome to DigiMar case study videos!

To support learning, the case studies in these videos are based on real-world accidents and incidents with authentic VTS-vessel communications, including mistakes or deviations. However, content has been modified, adjusted, and simulated for instructional purposes. The names of ships and ports are anonymized.

You will find suggestions for improving communication at the end of each video. Also, the key issues in maritime communication identified in the accident investigation report will be explained.

In this case study, we will focus on a distressful tugging operation and see how the situation is progressively deteriorating. Rapidly changing sea and weather conditions may considerably impact rescue tugging. In case of accidents or incidents, contingency services must ensure the appropriateness of the tugs' towing capacity with respect to the vessel's needs in terms of towage. After watching this video, you will be able to evaluate whether these key aspects have been properly considered by the stakeholders.

Let us have a look at the initial situation. Motor Vessel Sunrise is a general cargo vessel. Her Gross Tonnage is 10,500 GT. She is carrying steel coils (6,200 metric tons). The ship runs aground with 20 crew members onboard, including the Master.

Motor Vessel Sunrise calls Digimar VTS to inform the coastal state authorities of their grounding.

Report of Grounding to Digimar VTS

Motor Vessel Sunrise: Digimar VTS, this is Motor Vessel Sunrise. We have experienced a grounding at position five nine degrees four five minutes North, zero one nine degrees one one minutes East. Vessel is stable, no immediate danger to the crew or environment. Over.

Digimar VTS: Motor Vessel Sunrise, this is Digimar VTS. Grounding acknowledged. Advise status of your hull and engines. Over.

Motor Vessel Sunrise: Hull damage assessment underway; initial inspection indicates no breach. Engines are operable. Will update. Over.

The Master of Motor Vessel Sunrise sends the Maritime Rescue Co-ordination Center the initial report of the grounding and informs that his vessel needs assistance.

Report to Rescue Services

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. We have grounded at position five nine degrees four five minutes North, zero one nine degrees one one minutes East. No injuries reported, vessel stable. I require tug assistance. Over.

Rescue Services: Motor Vessel Sunrise, this is Rescue Services. Assistance on the way. Stand by for updates. Over.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. We report technical failure of steering system. Attempt to repair the steering gear failed due to the blow out of the relief-valve pipe. Rough seas. Over.

Rescue Services: Motor Vessel Sunrise, this is Rescue Services. The tug Saint Bernards of the Sea is on the way. One five miles from your position. Over.

The tug rescue operation starts.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. We report start of tugging operation. Ship yawing in bad weather. Over.

Rescue Services: Motor Vessel Sunrise, this is Rescue Services. Start of tugging operation received. Over.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. We report broken towline. Two seamen injured. Over.

Rescue Services: Motor Vessel Sunrise, this is Rescue Services. Tug Sea King is on the way to assist. Can you adjust draft with ballast operation? Over.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. No need for a second tug. Shipping company office will not pay for salvage operation. Second attempt by Saint Bernards of the Sea will be executed from astern. We report full ballast capacity. Will deballast. Over.

Motor Vessel Sunrise made a wrong interpretation of what the Rescue Services operator was asking. His purpose was to facilitate the tugging operation by reducing the ship's draft through adjustments to the ballast tanks' capacity. He did not order deballasting. The deballasting operation may cause the ship's hull to be more vulnerable in rough seas.

The conversation between Motor Vessel Sunrise and Rescue Services continues.



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Rescue Services: Motor Vessel Sunrise, this is Rescue Services. Salvage Convention 1989 allows the master to conclude contracts for salvage operation on behalf of the owner of the vessel. No cure no pay. Tug Sea King in stand-by, waiting for your instructions. Over.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. We report failure to launch the towline because of very high waves. Hull has broken during deballasting operation. Heavy fuel is leaking. Tug Saint Bernards of the Sea is near, also in distress position. Over.

Rescue Services: Motor Vessel Sunrise, this is Rescue Services. Do you need second tug assistance? Master can approve Lloyd's standard form of salvage agreement. Over.

Motor Vessel Sunrise: Rescue Services, this is Motor Vessel Sunrise. Injured seamen need immediate medical care. Second tug also needed. Master approves salvage agreement on behalf of shipping company. Over.

Digimar VTS ensures follow-up of the rescue operation.

Digimar VTS: Motor Vessel Sunrise, this is Digimar VTS. Update your situation. Over.

Motor Vessel Sunrise: Digimar VTS, this is Motor Vessel Sunrise. Tugging operation failed. Two seamen injured. Need immediate medical care. Anchor is dropped to avoid ship drifting towards the rocks. Hull is damaged. Spill of large quantity of oil. Damage to the coastal environment. Over.

Digimar VTS: Motor Vessel Sunrise, this is Digimar VTS. Situation update received. Rescue helicopter on its way. Over.

Reflection questions

Now, let us consider what could have been done differently. Reflect on the following points:

- Was it not the VTS center responsible to warn the vessel of the worsening weather and sea conditions?
- Was the tug rescue operation sufficiently prepared through co-operation between the ship in distress, the rescue tug, and the shore authorities?
- In particular, was the towing capacity adequate to the towing needs?

Suggestions for improvement

And now let us have a look at some suggestions for improvement.

IMO Resolution *Guidelines for Vessel Traffic Services* emphasizes the purpose of the VTS in mitigating the development of unsafe situations through providing timely and relevant information on factors that may influence ship movements and assist onboard decision-making.

Warning the vessel in distress of the worsening meteorological conditions is one of the ways VTS centres respond to developing unsafe situations.

According to *Guidelines for Safe Ocean Towing* the tug master is responsible for the towing operation, all aspects of the towage should be prepared, and careful consideration should be given to the bollard pull of the towing vessel (the tug's towing strength). The towing arrangements and procedures should be such as to reduce to a minimum any danger to personnel during the towing operation.

Especially when a ship is caught in rough weather conditions, the tugging operation should be approached and planned (including risk assessment) with extreme caution.

IMO Resolution *Guidelines for Vessel Traffic Services* emphasizes the purpose of the VTS in providing support for emergency services.

A thorough preparation may have avoided the two crew members' injuries.

Please take a moment to reflect on these key takeaways. Thank you for choosing Digimar.