



Case Study 6: Traffic Coordination in Complex Meeting Maneuvers

Welcome to DigiMar case study videos!

To support learning, the case studies in these videos are based on real-world events with authentic VTS-vessel communication, 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 this video.

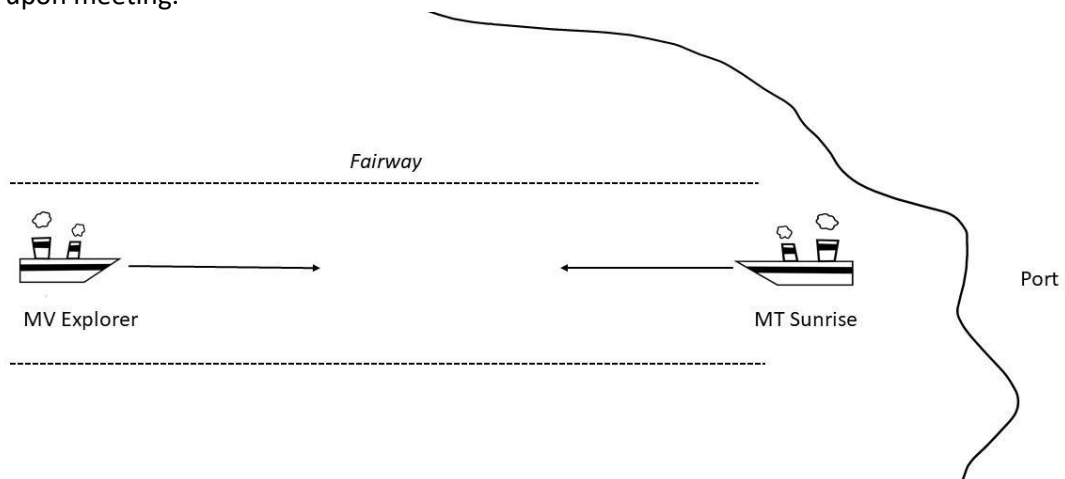
In this case study, two vessels are about to meet and pass each other in a narrow fairway.

Here are some important points to reflect upon before watching this video:

- How is the VTS operator addressing the vessels in the fairway to avoid ambiguity?
- What communication tools are used to comply with routine communication regulations to avoid a collision?
- How is the VTS operator ensuring that all the vessels have understood the advice and will act in a synchronized way to avoid collisions?

In this case study we observe two vessels who are about to meet and pass each other in a narrow fairway.

The vessels who are about to meet are Motor tanker Sunrise, on her way out of the fairway, and Motor Vessel Explorer, a large container vessel, on her way into the fairway. VTS calls the vessels to ask them to agree upon meeting.





Digimar VTS: Sunrise, Digimar VTS, over.

Motor Tanker Sunrise: Digimar VTS, this is Motor Tanker Sunrise.

Digimar VTS: Sunrise, Digimar VTS. Traffic information: You will meet Motor Vessel Explorer, on her way into the fairway, ahead of you. Talk directly to Explorer and arrange meeting.

Motor Tanker Sunrise: I will talk to Explorer, thank you.

Following the VTS advice, Motor Tanker Sunrise calls Motor Vessel Explorer.

Motor Tanker Sunrise: Explorer, this is Sunrise.

Motor Vessel Explorer: Sunrise, this is Explorer.

Motor Tanker Sunrise: Sir, can we pass starboard to starboard?

Motor Vessel Explorer: Naaah, I am port side, so I'm turning to port now.

Motor Tanker Sunrise: Copy that, thank you.

VTS tracks the vessels on their AIS and notices that Motor Vessel Explorer prepares for a port-to-port turn, but Motor Tanker Sunrise had asked for a starboard-to-starboard meeting. VTS calls Motor Vessel Explorer.

Digimar VTS: Explorer, Digimar VTS, over.

Motor Vessel Explorer: Digimar VTS, this is Explorer.

Digimar VTS: Motor Vessel Explorer, Digimar VTS, you are very close to Sunrise. What is your intention?

Motor Vessel Explorer: We will meet port to port Sir.

Digimar VTS: Explorer, Digimar VTS, Advice: call Sunrise and confirm. You have a very short CPA.

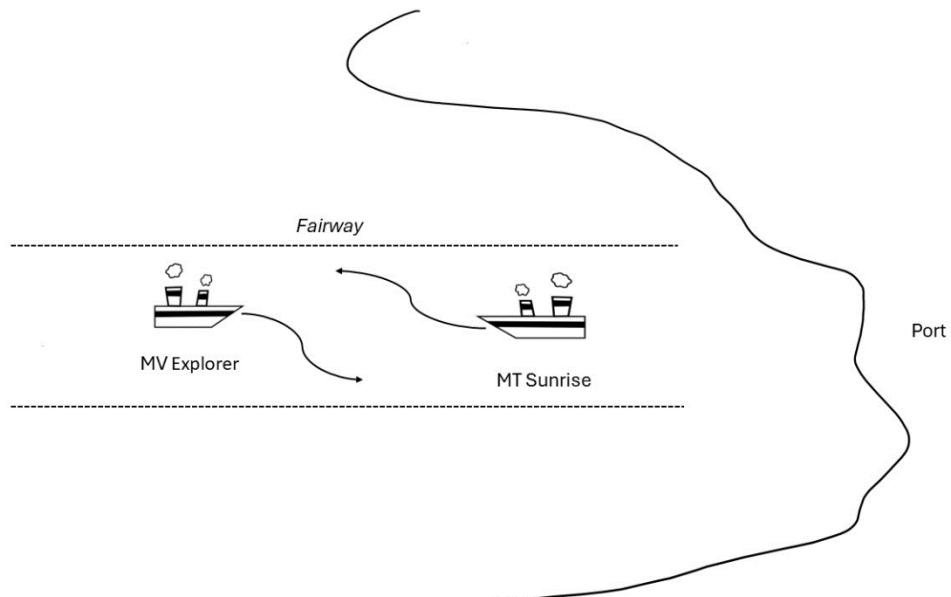
Motor Vessel Explorer: Will do, Sir, thank you.



Following the VTS advice, Motor Vessel Explorer calls Motor Tanker Sunrise.

Motor Vessel Explorer: Sunrise, this is Explorer, please come in.
Motor Tanker Sunrise: Explorer, Sunrise.
Motor Vessel Explorer: Sunrise, this is Explorer. I will pass you now on your port side. Please confirm.
Motor Tanker Sunrise: Negative, I am going starboard, Sir.
Motor Vessel Explorer: We must go port to port. I cannot alter course now.
Motor Tanker Sunrise: You want to meet port to port, Sir?
Motor Vessel Explorer: Yes, port to port.
Motor Tanker Sunrise: Received. We will meet port to port. Please stop your engines to give some time.
Motor Vessel Explorer: I stop my engines. Thank you.

By now, VTS can see that Motor Vessel Explorer is almost at a standstill turning to port, and Motor Tanker Sunrise proceeds to port.



The vessels pass safely but at a very close CPA in the fairway and continue to their destinations.



We may reflect upon the following key takeaways:

- Why did the vessels misunderstand each other?

Probably because Motor Tanker Sunrise confirmed when Motor Vessel Explorer said “I am turning to port now!” and Motor Vessel Explorer proceeded. Both of them should have repeated and confirmed their intentions according to the principles of closed loop communication.

Never assume there is an understanding, unless it is specifically confirmed.

- How did the VTS operator react? Was it timely? Was the advice given to the vessels, correct?

The VTS operator could see the vessels’ trajectory on his screens and monitored them closely as he knew the fairway is narrow. Thus, he could discover that their respective trajectories were on opposite courses, and he intervened.

- In what way was the role of the VTS operator decisive for safe navigation?

The vessels have little or no possibility to follow each other as the VTS operator can do. The visual element of the VTS is unique, and in combination with their authority, it makes them decisive in coordinating safe navigation.

- What communication strategies can we identify in this recording? For example message markers or prowords?

In this recording we can identify the message marker “information” in “traffic information”. The VTS operator also uses simple questioning techniques, such as in “What is your intention?” Please note that the use of “Received” is recommended instead of “copy that”.

- Is the language used in these exchanges correct according to the regulations?

The language used was occasionally informal, for example when Motor Vessel Explorer answers with “naaaah”.

Message structure in this recording is also failing at times, because closed loop communication is not used, even as it would be useful for improved understanding.

Let us now revisit some maritime communication techniques that could have been applied in this case.

- closed loop communication
- message markers
- straightforward questioning techniques
- prowords
- repetition
- confirmation

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