

Follow-up to recommendations *Oil spill Port of Rotterdam*

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In the report, the Dutch Safety Board issues ten recommendations. These relate to preventing (oil) spills in the port of Rotterdam, the oil clean-up operation and the organization of crisis management in similar occurrences.

The main conclusion of the investigation was that (oil) spills in the port of Rotterdam bring with them considerable risks and far-reaching consequences. These risks and consequences are far greater with seagoing vessels with single-walled fuel tanks. This was once again demonstrated by the collision involving the oil and chemical tanker *Bow Jubail* on 23 June 2018, whereby 214.7 tonnes of heavy fuel oil ended up in the water. In its investigation, the Safety Board concluded that the effectiveness of the strategy employed for preventing the spread of oil was only limited. The persons responsible for carrying out the oil clean-up were insufficiently prepared for the scenario that the oil would become mixed with the water, among others as a result of tidal current. During the initial phases of the crisis management, there was a lack of essential information. As a result, the oil containment and clean-up operation did not run perfectly.

The Safety Board further noted that the parties involved - including Rijkswaterstaat, the Security Region and the various port parties - tackled the oil clean-up operation with huge dedication and effort, but that the agreements and harmonization between them were insufficient. The Safety Board identified cooperation as essential between these parties, because individually, they do not have the necessary knowledge, skills and resources to tackle major disasters such as spills on this scale.

All the recommendations are aimed at removing these safety shortcomings.

The Dutch Safety Board addressed its recommendations to the following parties: the Port of Rotterdam Authority, the (National) Harbour Master of Rotterdam Harbour Master's Division (hereinafter: DHMR or the Harbour Master), the Rijnmond-Rotterdam Security Region, the Minister for Infrastructure and Water Management (IenW) and Rijkswaterstaat, the Regionale Loodsencorporatie Rotterdam-Rijnmond (Pilotage Service), and finally Odfjell Ship Management. During the period June 2020 - March 2021, all these parties issued a written response to the recommendations addressed to them. Their full reactions appear on the website of the Dutch Safety Board.

This document contains a general conclusion about the way these recommendations have been followed up on, itself followed by a summary of the responses received to each recommendation and a conclusion on the way that recommendation was followed up on.

General conclusion about follow-up

The aim of the Safety Board in issuing recommendations is to remove safety shortcomings. To assess the success of this aim, in response to the investigation into the *Bow Jubail* occurrence, the question must be asked to what extent the safety situation in and around the port of Rotterdam has improved since the publication of the report. The answer is a positive affirmation.

Without exception, all the parties addressed confirm the fact that they underwrite the findings in the report and the resultant recommendations. All of them have fully or partially followed up on the recommendations, or intend to do so. They have taken or are taking this action in a generally expeditious and adequate manner, despite the fact that the report was published in the early period of the COVID-19 pandemic.

Following their written response, a number of parties have also taken further steps to increase the impact of the measures taken, by not only implementing those measures within the Rotterdam port area, but by opting to apply the measures throughout the Netherlands. Examples are the start-up of joint, innovative pilots in the field of oil clean-up operations and a national review of the level of cover offered by oil clean-up contracts. The Safety Board sees these developments and initiatives as a positive signal in which the risk of a major oil spill is recognized as limited, but that nonetheless demands maximum preparation for this worst case scenario.

Another positive example is the way in which the recommendation to arrive at improved cooperation for tackling disasters such as large oil spills more effectively in the future has been complied with. The responses show that cooperation between the parties at local, regional and national level has already been considerably improved both in breadth and depth, or that clear plans are in place to bring about that improvement. One concrete step forward for example relates to the follow-up on the recommendation to draw up a disaster management plan and to organize joint exercises. According to the addressed parties, the objective is to ensure better operational and strategic preparation for disasters of this kind.

The responses from the parties involved to the recommendations aimed at improving cooperation have been clearly formulated; plans and agreements have been prepared to bring this about. Some parties, including the Pilotage Service and the Harbour Master offer additional suggestions for further improvement in their response. In this way, all addressed parties have to a considerable extent taken to heart and expeditiously picked up on these and other recommendations.

However, at least one point of attention remains. The addressed parties - in particular the Minister for Infrastructure and Water Management, Rijkswaterstaat, the Port of Rotterdam Authority and the Harbour Master - point out in their response that, to achieve an improved (more) international approach and cooperation, they are dependent upon one another and on

third parties. By above all placing the responsibility elsewhere, the risk remains that this recommendation will only be partially followed up on, if at all. This dynamic is commonplace in respect of issues that seem to simultaneously affect everyone and no one. Responsibility for cooperation between organizations is by definition not covered within one of those organizations: it always calls for management efforts that go beyond each organization's own formal scope of influence. It is specifically these management efforts that the Safety Board views as a regular responsibility for parties that are together involved in important social problems or remedies.

The Netherlands, with a seat on the IMO Council, could more actively take the international lead. This applies in particular for Rotterdam, with its traditional hard-working mentality in general and to the port of Rotterdam as a world port with international ties, in particular. In other words: The Netherlands and specifically the port of Rotterdam have both the capacity and the opportunities to initiate the recommended international approach in tackling future safety risks. One example is to increase the pace at which the proportion of seagoing vessels built before 2010 with single-walled fuel tanks - and the related safety risks - is reduced. To date, none of the parties have taken any real measures to accelerate this process.

Recommendation 1

To the Minister of Infrastructure and Water Management

Place on the agenda of both the European Union and the International Maritime Organization the ambition to bring forward the date for phasing out seagoing vessels with single-walled fuel tanks. For this purpose, make use of the seat occupied by the Netherlands over the next two years in the IMO Council.

Response

The Minister has undertaken to submit the report and accompanying recommendations from the Dutch Safety Board during the 8th session of the 'Sub Committee on Implementation of IMO Instruments' of the IMO. This meeting is due to be held during the course of 2022 (when developments and measures relating to COVID-19 allow).

Conclusion on follow-up

With regard to placement on the agenda with the IMO, this recommendation will be followed up on. In its response, however, the Minister of IenW does not consider placing the phasing out of seagoing vessels with single-walled fuel tanks on the agenda within the European Union.

Recommendation 2

To Odfjell Ship Management and Loodswezen Rotterdam-Rijnmond (Pilotage Service)

Ensure that it is clear to all parties how a manoeuvre is to be undertaken and exactly what is expected of them during that manoeuvre. In the framework of Bridge Resource Management (BRM), actively make this information available to all crew members and check regularly that the BRM system is applied.

Response from Odfjell Ship Management

Odfjell responded that as a rule, it underwrites all recommendations addressed to it. The company pointed out that it had investigated the Bow Jubail occurrence immediately following the incident. Partly in response it took action to improve procedures. The aim was to learn lessons from the occurrence. Odfjell stated specifically that it would be following up on this recommendation from now on, in the event of any Odfjell vessel taking a pilot on board, by ensuring that the pilot is made a full member of the bridge team. Among others this means that the full mooring plan will be discussed with the pilot. Odfjell also emphasized that all its duty officers follow the training courses made compulsory by the IMO, with a view to harmonizing and improving cooperation between them. All officers also receive a five-yearly refresher course. According to Odfjell, their knowledge and skills are periodically assessed during internal and external audits and inspections.

Response from Loodswezen Rotterdam-Rijnmond

Loodswezen (Pilotage Service) said that it underwrites the value and necessity of Bridge Resource Management (BRM)¹. Loodswezen emphasized that this was and is a compulsory part of the accredited training for registered pilots. Newly registered pilots are trained and tested according to their role in the course of a manoeuvre. This was in fact also already the case prior to the *Bow Jubail* occurrence. Registered pilots have been receiving refresher training since the start of 2020. According to Loodswezen, the purpose of this training is to further embed knowledge, and to apply BRM to specific cases where (near) accidents have occurred.

In addition to the response to this recommendation, Loodswezen also replied to other recommendations and findings from the Safety Board. Loodswezen confirmed that in the initial phase of the crisis management, essential information was lacking due to the absence of direct communication with the vessel. According to Loodswezen, this could have been prevented if use had been made of the communication line between the pilot and the Port Coordination

¹ In its response, Loodswezen refers to Maritime Resource Management (MRM). This is another name for Bridge Resource Management.

Centre (HCC). As a result, Loodswezen has called for inclusion of the role of the pilot in crisis management protocols.

Conclusion on follow-up

This recommendation has been followed up on both by Odfjell and Loodswezen. In part this relates to an acceleration or refocusing of actions already initiated prior to the Bow Jubail incident.

Recommendation 3

To the Port of Rotterdam Authority, DHMR and Odfjell Ship Management

For all seagoing vessels visiting the port, ensure that before they enter the port area, the port authorities know whether the vessels are equipped with single-walled fuel tanks.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

The Rotterdam Harbour Master stated that all seagoing vessels built before 1 August 2010 and/or seagoing vessels with a fuel tank with a capacity of less than 600 m³ should in advance be considered as being equipped with a single-walled fuel tank.² From now on, the Harbour Master will inform the pilot service of the year of construction of vessels, via the Port Coordination Centre. This will improve the information position of all parties, in particular of the pilot. This then allows additional alertness.

Response from Odfjell Ship Management

Odfjell stated that it always informs the harbour (master) when its incoming seagoing vessels are equipped with single-walled fuel tanks.

Conclusion on follow-up

Both addressed parties have followed up on the recommendation. By identifying seagoing vessels with single-walled fuel tanks in advance, the parties in and around the port are made more alert to the potential safety risks of single-walled vessels as compared with double-walled vessels.

² Seagoing vessels built after August 2010 and with a capacity in excess of 600 m³ are required by law to be equipped with double-walled fuel tanks.

Recommendation 4

To the Port of Rotterdam Authority, DHMR and Odfjell Ship Management

Draw up an inventory of the key safety risks involving seagoing vessels with single-walled fuel tanks for (the area surrounding) the port and take measures to mitigate these risks. These must include but not be restricted to:

- identifying and creating (guidelines for) appropriate moorings;
- manoeuvring support by (specific types of) tugboats;
- the timing of mooring operations in relation to water levels and the shape and cargo of the vessel.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

In April 2019, the Rotterdam Harbour Master commissioned a risk assessment into possible comparable incidents and risks as those that emerged in the Bow Jubail incident. In his judgement, this revealed no grounds to take additional measures for seagoing vessels with single-walled fuel tanks. In response to the recommendations, the Harbour Master considered in detail the key conclusion of the risk assessment: 'the need and necessity to assess the port more strictly from the viewpoint of the combination of infrastructure and nautical safety'. To this end, together with partners, the Harbour Master has developed a detailed assessment method. The Harbour Master has also requested Loodswezen, in its training programme, to focus explicit attention on the relevant case aspects.

Response from Odfjell

Odfjell stated that following the Bow Jubail incident, it has tightened up its navigation procedures. These procedures are always discussed and talked through by the captain and the bridge team before and during the journey. According to Odfjell, recommendations 3 and 4 have been included in those procedures and are reflected in the checklist that has to be signed by the captain. The checklist then has to be stored for six months. Odfjell ended its response by stating that communication between the pilot, the VTS operator and the tugboat captain took place in Dutch. Odfjell pointed out that the language of communication should have been English.

Conclusion on follow-up

Both parties have followed up on the recommendation. The measures taken by the Rotterdam Harbour Master to identify potential risks involving seagoing vessels with single-walled fuel tanks and to tackle the safety shortcomings are detailed, specific and formulated in a manner that makes them practically implementable. A variety of work approaches, assessments, criteria and guidelines are referred to in the response. The aim is to prepare an inventory, to assess and to analyse the potential safety risks. This detailed new work approach has been implemented since the start of 2020. Odfjell's comment about communication in Dutch is

justified. At the very least, the pilot should have translated all communication into English, for the bridge team. In other investigation reports, too, the Safety Board has drawn attention to the working language employed during shipping related communication in situations where different nationalities are required to work together.

Recommendation 5

To the Port of Rotterdam Authority and DHMR

Together with national and international ports, draw up additional safety requirements on seagoing vessels with single-walled fuel tanks.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

The Harbour Master has called for an international approach to the safety requirements on seagoing vessels, and has expressed an interest in initiating discussions with the Ministry of IenW on placing this approach on the international agenda. The Harbour Master himself has expressed the intention to proactively place the subject on the agenda in the Netherlands and within the EU (with the national State Harbour Masters' Consultation Organization and the European Harbour Masters' Committee respectively).

Conclusion on follow-up

The response from the Harbour Master shows the intention to follow up on the recommendation, but to date, this has not yet been done.

Recommendation 6

To the Port of Rotterdam Authority, DHMR and Rijkswaterstaat

Invest in knowledge and innovation in relation to oil cleanup and restricting the spillage of oil. Make use of knowledge available abroad.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

The Rotterdam Harbour Master provided specific examples of all existing (inter)national cooperation and information exchange, but recognized that even this is insufficient. For that reason, the Harbour Master wishes to enter into discussions with the Ministry of IenW on establishing and implementing a more in-depth study, for example into the behaviour of low-sulphur fuel in different layers of water.

Response from Rijkswaterstaat (answered by the Minister of IenW)

The Minister of IenW stated that this recommendation has been specifically followed up on with the establishment of the Water & Shipping Incident Management Office within Rijkswaterstaat (at the end of 2018). Employees of this office, according to the Minister of IenW, are explicitly selected for their scientific and practical expertise. According to the Minister of IenW, these staff participate in (inter)national knowledge initiatives for improving cooperation for oil cleanup operations. Rijkswaterstaat also plans to set up an 'Expert Team on Oil and Chemical Cleanup Operations' (at the latest by mid-2021).

Conclusion on follow-up

Both addressed parties have followed up on or intend to more specifically implement this recommendation, by expressing the intention to further promote and intensify (inter)national cooperation. Both responses reflect an active attitude to the follow-up of this recommendation.

Recommendation 7

To the Port of Rotterdam Authority, DHMR and Rijkswaterstaat

Develop scenarios about oil spillages or spillages of other substances in which such factors as tide, type and volume of the substance and current play a role, and use these scenarios in the operational choices and preparations for disasters.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

The Rotterdam Harbour Master has followed up on this recommendation by stating that all existing plans on this issue will be further specified by the addition of (more) detailed scenarios. By way of example, the DHMR referred to a scenario of pollution present (perhaps temporarily) below the surface of the water.

Response from Rijkswaterstaat (answered by the Minister of IenW)

The Minister of IenW emphasized that it is still in discussion with the partners about the way in which this recommendation can actually be put into practice. In the judgement of the Minister of IenW, the Harbour Master, RWS and Rijnmond-Rotterdam Security Region are the parties with initial responsibility for elaborating the scenarios in question.

Conclusion on follow-up

The addressed parties have expressed the wish to follow up on this recommendation, in discussion with each other and other parties. The recommendation will actually be implemented after they have elaborated the scenarios together, and in mutual consultation.

Recommendation 8

To the Port of Rotterdam Authority, DHMR and Rijkswaterstaat

In the event of disasters, ensure that aerial support is immediately available and ensure that information and images can be rapidly exchanged and used.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

The Rotterdam Harbour Master said this recommendation would be followed up on by making use of the Rijnmond-Rotterdam Security Region's certified drone team, in a pilot programme still being implemented. On the basis of the exercised scenarios during the pilot programme, the Harbour Master has assessed the use and value of the findings of the drone team as 'highly promising'. He also suggested that agreements should be reached with Rijkswaterstaat on the drone team (see below). According to the Harbour Master, aerial support will then be fully available and usable in the event of future disasters.

Response from Rijkswaterstaat (answered by the Minister of IenW)

The Minister of IenW suggested that this recommendation has been followed up on. At Rijkswaterstaat, a drone team (of 13 pilots, possibly due to be expanded to 23 in 2020-2021) was launched in May 2020. Further agreements, in particular on the use and exchange of (picture) material will be reached during the course of 2021, according to the Minister of IenW.

Conclusion on follow-up

Both addressed parties have initiated a follow-up to this recommendation. The full follow-up has not yet been implemented because specific agreements have not yet been reached between the various parties on the exchange of information and images. The responses from the addressed parties however reflect sufficient intent to agree on and consolidate these issues, in the foreseeable future.

Recommendation 9

To the Minister of Infrastructure and Water Management

Ensure that Rijkswaterstaat actually fulfils its responsibility for the quality of the surface water in the port of Rotterdam. This calls for cooperation agreements with the other stakeholders at tactical, operational and strategic level. Check whether these matters are also well-organized at other locations in the country.

Response

The Minister of IenW stated that Rijkswaterstaat and the Port Authority made an immediate start following the Bow Jubail incident on jointly assessing the lessons learned. This was carried out within cooperation agreements at strategic, tactical and operational level. According to the Minister of IenW, these agreements have led to a series of actions in real terms, including: tightening up and assessing the legal aspects of all existing cooperation schemes, drawing up additional agreements (for example on tackling spills) and establishing new consultation structures with an explicit role for Rijkswaterstaat. According to the Minister of IenW, all of these actions have resulted in more specifically fulfilling the responsibility of Rijkswaterstaat for the quality of the surface water in the port of Rotterdam.

Conclusion on follow-up

The recommendation is being followed up on. By issuing this recommendation, the Safety Board emphasized the control task of the Minister of IenW with regard to Rijkswaterstaat, and specially called upon the Minister of IenW to ensure cooperation with other stakeholders. In its response to the report, the Minister of IenW explained in detail how cooperation agreements have been established between Rijkswaterstaat and other parties, or will be implemented in the near future. The Minister of IenW gave examples of all existing agreements that have been reinforced and/or extended. Within those agreements, in addition, explicit attention has been focused on for example the wish for (annual) evaluations.

Recommendation 10

To the Port of Rotterdam Authority, DHMR, the Rijnmond-Rotterdam Security Region and Rijkswaterstaat

Improve preparations for large-scale oil spills at operational and strategic level, by drawing up a disaster management plan and organizing joint exercises.

Response from DHMR (also on behalf of the Port of Rotterdam Authority)

According to the Harbour Master, the Incident Management Plan (under the auspices of the Rijnmond-Rotterdam Security Region) will be further focused. Just like the other addressed parties, he emphasized that the harmonization process is currently underway. The Harbour Master pointed out that he already regularly works and trains alongside the Security Region, and that with regard to oil cleanup operations, he intends to seek to cooperate with Rijkswaterstaat, too. He (the Harbour Master) and the Security Region are currently investigating the details. The Harbour Master and Rijkswaterstaat are at present working to update their cooperation agreement. They are also preparing a joint oil containment exercise.

Response from the Rijnmond-Rotterdam Security Region

The Security Region undertook to implement this recommendation together with the other stakeholders mentioned. According to the Security Region, consultation is currently underway between the parties in response to the Bow Jubail incident. These consultation sessions will be continued in order to ensure that the recommendation is jointly implemented. In real terms, the Security Region has undertaken to adjust the *Incident management plan on the water* and to add 'additional and more in-depth' agreements on the scenario in which the pollution is caused by substances located in deeper layers in the water. In addition, the Security Region and Rijkswaterstaat have included the insights gained from the report of the Safety Board in reviewing their covenant (a process that was already planned for 2020-2021). Finally, the Security Region indicated that it is investing further in cooperating with Rijkswaterstaat in crisis management exercises.

Response from Rijkswaterstaat (answered by the Minister of IenW)

The Minister of IenW stated that it has initiated discussions with the other parties involved. In 2020, a start was made on updating the disaster plans at Rijkswaterstaat for tackling water pollution. Those plans describe the various roles and responsibilities of all stakeholders. Rijkswaterstaat is also entering into agreements with them on organizing joint exercises.

Conclusion on follow-up

All the addressed parties intend to follow up on this recommendation, or have already done so (to a large extent). The responses from the addressed parties are formulated clearly and all parties have undertaken to draw up plans and agreements. All parties individually have reached these conclusions, which makes it highly plausible that this recommendation will be followed up on.