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Background

The national risk assessment for shipping accidents and oil spills in Sweden is one of the documents in Sweden's national strategy for oil spill preparedness and response. A new edition of the risk assessment was published in November 2020 and developed jointly by eight authorities behind the strategy work. The previous edition is from 2014.

The new risk assessment was presented, and filmed at the 2020 National oil spill conference in November (in Swedish). A link to the presentation as well as the publication (also in Swedish) can be found on MSB's website.

Summary of the risk assessment

The risk of shipping accidents and oil spills correlates with the overall traffic intensity as well as type of shipping. Therefore, the report describes the traffic patterns in detail with particular emphasis on the changes since 2014. Trends as well as temporary changes in traffic patterns are described e.g. new route systems and infrastructure projects such as harbours or terminals.

The statistics and prognoses show no dramatic changes in shipping volumes or tonnage in the coming years. However, political measures have been undertaken to shift transport from roads to the sea. The big lakes and inland waterways are expected to receive increased shipping. Routes are becoming safer and infrastructure is developed. There is a trend toward larger vessels and more intense traffic at sea.

The amount of oil spills continues to decrease and shows a positive trend. However, the number of accidents has not decreased. Statistics reveal that small bulk carriers are disproportionally often involved in the occurring incidents. The shipping industry is a global business under pressure. Incidents are often caused by "bad seamanship" such as carelessness, incompetence, alcohol consumption etc. Several initiatives have been taken to increase the overall standard within this segment.

Since several years, the maritime sector is undergoing a rapid technical development with increased digitalisation and automation. Thus, cybersecurity is increasingly important in safety and prevention of maritime accidents.

The big lakes provide drinking water for one third of the population in Sweden. Shipping accidents in these lakes can have severe consequences. The report provides detailed support for the local authorities in their contingency planning.

A collision accident in the Baltic Sea involving a tanker fully loaded with crude oil is considered the worst-case scenario for Sweden. Although the scenario is unlikely it should be used in planning as a dimensioning

target. Transport of crude oil continues to be extensive in the Baltic Sea and it is expected to remain on the same level on short term. Long term estimates are difficult to make as they depend on many factors.

The most likely scenario is a grounding or collision accident where the ship's fuel leaks out in the sea. Hence, the new fuel types pose a new challenge to the responders.

One of the main reasons for updating the risk assessment was to increase the knowledge of the new fuels, what products are used today and what is expected in the future, what a responder can expect from a spill etc. A selection of findings:

- Some of the long distance vessels switch to SECA fuel (0,1% sulphur) while they are within the SECA region, but they also carry cheaper fuels, such as VLSFO (0,5% sulphur) in separate tanks onboard only to switch as they exit the emission control area. This means different fuels types may be spilled in an accident, including fuels prohibited in the SECA region.
- The ULSFO specially developed for the SECA region (0,1 % sulphur) has largely been phased out from the market in favour for lighter fuels such as diesel and MGO. The oil industry and fuel market was influenced by the pandemic in 2020 leading to price fluctuations. How the market will develop over time is highly unclear. New fuels types and products may be introduced.
- Bunkering different fuel types has been discussed as a potential reason for blackouts. Some products may not be compatible with each other and may cause the fuel to harden or become jellylike. An example of this may have occurred in the grounding of Princess Anastasia outside of Stockholm in November 2019 (unconfirmed speculation).

In order to reach the political climate targets Sweden needs to reduce the dependency on fossil fuels. Before reaching climate neutral shipping several different solutions and fuels are expected to emerge. The report includes a list pros and cons as well as describes probabilities for the different alternatives (gas, alcohol, electric etc.). Which alternative fuels will be used has a detrimental effect on the oil spill response of the future.

Climate change is expected to have both positive and negative effect on the risk for oil spills at sea with e.g.

- increased frequency of extreme weather events
- shrinking ice coverage during winter

MSB's messages to the oil spill responders on shore in Sweden

MSB has communicated the risk assessment to its primary target group; the municipal rescue services, who are responsible for oil spill response on the shore. Some of the main messages were:

- A changed fuel market emerges after the pandemic. Difficulty to predict the future. Many different fuel products are used today. Every refinery creates a unique product and their physical properties can vary. Information about the products can be hard to obtain.
- The existing capacity and response equipment may not be sufficient and able to combat every type of fuel. Some fuel types can be very challenging. Potentially, several different oil types can leak out simultaneously, particularly from ocean farers carrying VLFSO.
- Increased shipping near the coasts in Sweden. Response time is of essence. Possibly need to review allocation of response resources in order to shorten the deployment time in vulnerable areas.
- Drinking water is a particular challenge in the big lakes. Increased shipping is expected.
- This risk assessment should be used as a basis for local risk analysis and contingency planning in the county. The contingency plans must include an international dimension, recognising that shipping accidents can lead to catastrophic oil spills.

Action requested

The Meeting is invite to take note of the information.