



BE-AWARE Method Seminar

27th March 10am, Kastellet (Copenhagen Citadel), Building: Nordre Magasin 54, Room: Topografistuen (2nd floor)

Agenda Item 1: Welcome

1. Commander Alex Jensen welcomed participants from Belgium, Denmark, France, Germany, Ireland, the Netherlands, Norway, Sweden and the UK to the Citadel in Copenhagen, as well as observers from REMPEC, and Consultants Peter Poulsen, COWI and MARIN.

Agenda item 2: Introduction and review of national risk assessments

2. Bonn Agreement Secretary Professor David Johnson gave an overall introduction to the project outlining the project structure and the responsibilities of the Coordinating Beneficiary (Bonn Agreement Secretariat) and Associated Beneficiaries (Belgium, Denmark and the Netherlands). It was also highlighted that input from Bonn Agreement Contracting parties would be sought at key stages of the project and through the normal Bonn Agreement meeting cycle but the project travel budget did not contain travel funding for Bonn Contracting Parties. The key outputs expected from the Method Seminar were an agreed methodology for the risk assessment and an agreed data request note to facilitate the timely collection of data for the project.

3. To gain a greater understanding of the status on national risk assessments for mineral oil a 'tour de table' was undertaken to see if there had been any updates since the last review by OTSOPA (OTSOPA 09/3/9 Rev.1-E):

- Belgium: No general update since OTSOPA but had undertaken a quantitative study on shipping risk;
- Denmark: No update since paper;
- France: No update since paper;
- Ireland: No national risk assessment;
- Germany: No update on shipping although considerable work has been done in relation to the risk from wind farms;
- Netherlands: There had been several wind farm risk assessment and a submission was being presented to the IMO to change the shipping routes in Dutch waters, which also included a quantitative risk assessment;

- Norway: A shipping risk assessment had been undertaken over the last year with the aim of developing a more programmable system that could be updated every month. In relation to wind farms a risk assessment was currently being undertaken;
- United Kingdom: The National Contingency Plan for Marine Pollution is currently being reviewed and will be due to be completed in June 2012

It was agreed that an updated version of the report would be produced.

Agenda Item 3: Introduction to methodologies and timeline

4. COWI introduced the methodology and timeline for the project (see **Annex 1**) which highlighted the key activities over the two years of the project including those critical tasks than needed to be completed to ensure progress. MARIN highlighted that they aimed to have collected all data by September but had included a final delivery date of the end of October as a contingency. Belgium highlighted that due to staffing issues that Task F: Sensitivity Analysis would only start in September and therefore a report on best practice would be presented to the Risk Assessment Seminar with the work to be undertaken in the following period, including a seminar.

Agenda Item 4: Review and adaption of BRISK method note

General Methodological Approach

5. COWI started by giving a presentation (see **Annex 2**) highlighting that the BE-AWARE project only covered that part of the BRISK project methodology providing a description of accidents and releases of oil (types, spill volumes) currently and in 2020. Therefore to cover the whole BRISK methodology there would need to be a phase two of the project covering drift, weathering and fate, recovery, oil on beach and scenarios for traffic, risk reduction and recovery. The environmental and socio-economic impacts would also need to be evaluated using the criteria developed in phase one and a cost-benefit analysis (net environmental benefit) to provide suggestions for improvement. However, it was important to give consideration to a potential phase two to ensure the BE-AWARE outcomes would provide the information required for future work

6. COWI highlighted the potential project outputs and the basis of the methodology emphasising that one of the issues that needed attention early in the project was the definition of sub-regions within the project. These should be homogeneous in terms of the shipping pattern, environment, etc. and a potential breakdown was given. During the discussion several participants raised concerns with the indicative sub-regions suggested including, for example, difficulty in splitting the Kattegat into two regions and the potential difference between shipping and environmental sub-regions. Using EEZ's as sub-regions was also suggested, however, this had been tried during the BRISK project and had not proved successful. Other aspects that needed to be finalised in the method note were the need to specify the shoreline limit of the risk assessments

and areas not to be included e.g. harbours, lagoons and inlets, fjords, etc. as well as the magnitude of the spills considered. Germany enquired whether operational spills would be included which was confirmed.

7. The method to be used would be a cumulative risk assessment and this was explained by COWI who highlighted that although larger spills occurred less frequently there were more influential in terms of the risk assessment. The risk assessment could also be broken down into different spill categories however this could make the presentation of the results confusing and therefore was not advised.

8. One crucial aspect which was not directly related to the methodology but which COWI wished to stress was the need for good and early communication between all partners in the project to ensure that mutual deadlines were kept and that any difficulties were identified at the earliest opportunity.

Ship Traffic Analysis

9. The methodology for Task E of the project the Area-wide Traffic Analysis would be based upon AIS and IHS Fairplay data and would utilise route net ship traffic mapping, which was outlined in a presentation by COWI (see **Annex 3**). The traffic intensity would be mapped in cells 500x500m counting the number of passages through each square. Following this the route map would be populated through the determination of the shortest routes and the traffic would be mapped by converting the journeys into sequences of route legs. Potential deviation of vessels from the route map would be calculated through the use of a lateral deviation model.

10. Information on the vessel characteristics, from the HIS Fairplay database, will be linked to the AIS data however additional information is required on the load state (is the ship loaded or in ballast?), the cargo (If loaded, what is the cargo?) and the traffic prognosis (changes in traffic volume by 2020).

Frequency and Quantity of Oil Spills

11. COWI outlined the methodology for the quantitative risk assessment for mineral oil, which would constitute the main part of Task H: Risk Assessment, with a presentation (see **Annex 4**) in relation to the frequency and quantity on oil spills. As part of the hazard identification process the major hazards were identified as vessels, land based activities and offshore oil and gas extraction.

12. The scenarios that would be modelled as part of the mineral oil quantitative risk assessment would include: accidents with navigating ships such as ship-ship collisions, groundings, collisions with fixed structures, collisions with offshore installations, accidents with ship-to-ship transfers or bunkering at sea, fires and explosions and other types of accidents. MARIN questioned whether collisions with ships at anchor should be included and this was agreed as relevant.

13. Ship-ship collisions were highlighted as the most dangerous type of accident for oil pollution and would be modelled using a physical model. REMPEC asked if the 300 GT was the lower cut off for the inclusion of vessels in the risk analysis, which was confirmed by COWI partly due to the fact it is not compulsory for

vessels under 300 GT to have AIS and partly due to the fact that smaller vessels cause less damage in accidents. Germany also questioned the limit of the risk assessment area in relation to inward fairways and was informed by COWI that harbours and estuaries' should not be included but that fairways could be.

14. Powered or drifting groundings would be modelled using physical models and regional and global statistics on accident rates and consequences of groundings respectively. The consequences of groundings statistics had been validated by a new meta-analysis study by Aalto University (2010), which was undertaken for the BRISK project. Norway highlighted that the difference in shorelines and hence the potential impact of grounding was a reason to consider sub regions for the project.

15. COWI highlighted the further accident types that would be included in the risk analysis including those from offshore installations, bunkering and STS, fire and explosion and illegal spills. Germany questioned if illegal spills by per sailed sea mile was a common unit. Belgium and Netherlands highlighted that if the operational spills were based upon aerial surveillance this would result in an underestimation of the total amount and therefore should not be included. COWI explained that smaller spills were less important in terms of the risk assessment as they evaporated quickly. France and Norway supported this conclusion and it was agreed not to include operational spills in the types of accidents considered.

16. In terms of risk reducing measures the most important included in the model were pilotage, VTS and TTS, however double hulls for cargo and bunkers were also included.

Cargo Transport Analysis

17. MARIN introduced the cargo transport analysis (see **Annex 5**) for mineral oil and hazardous and noxious substances (HNS) which would determine the average amount of oil with the probability per ship type/ship size per transport route. France inquired for what time period the cargo analysis would be undertaken and was informed that MARIN held data for 2008 from the Lloyds Database and dangerous goods reports, however the data request note would include a request for information on oil/chemical transports for the major ports.

18. The future increase in ship traffic for 2020 would be based upon expected fleet and cargo transport developments, historical trends and literature on expected ship sizes. The analysis of offshore installation accidents would include three categories: accidents not involving ships, accidents with attendant ships and involving third party vessels. Finally a literature study would be undertaken for accidents relating to wind farms.

19. MARIN outlined that input was needed from Contracting Parties on what data is required to describe the use of maritime space and risk reducing measures and to provide assistance in verifying incoming data. COWI highlighted that the collection of pilotage data could be problematic if it is not compulsory for ships to use it.

Qualitative Assessment of HNS Risk

20. MARIN outlined that the risk assessment would be undertaken using world wide data (IHS Fairplay) together with gathered accident/spill data to gain more information about the probability of HNS spills. A classification of HNS, which could be based on either the damage to the environment or based on the ability to clean up the substances, would need to be done in cooperation with an expert in the project. The final analysis would be based on the available information of how certain classes of chemicals are being transported (ship type/ship sizes, etc.) and would result in density plots per group of chemicals. Finally a data gaps analysis and a future approach on risk assessment regarding HNS would be developed.

Case Study

21. MARIN explained that they would validate the results of the risk assessment (Task H) through the use of a case study. This would select a high risk area as identified by the project and confirm the results using the MARIN model.

22. The Secretary reviewed the conclusions so far including the exclusion of operational spills and the lower limit of 300 GT for the inclusion of vessels. COWI highlighted that if operational spills were not included now their environmental impact could not be assessed in any phase 2 of BE-AWARE however Contracting Parties reiterated that the data was not good enough to extrapolate and that no response was need for most operational spills. The Netherlands suggested including fishing vessels in the risk assessment even if they were under 300 GT however COWI stated that it was essential that they had AIS data so that it could be link to the cargo data and that this would be clear explained in the Method Note.

Agenda Item 5: Review and adaption of BRISK data note

23. COWI introduced the Data Request Note that was used for BRISK and highlighted that if possible they preferred to have the most up to date data (i.e. 2011), if possible, for BE-AWARE. The note would outline in detail the data requirements need for each part of the project. Belgium noted that work had been undertaken at the OTSOPA 2011 meeting adapting the BRISK data note for BE-AWARE and this should be included.

24. The Secretariat highlighted that for offshore installations and offshore wind farms OSPAR had inventories including GIS information. The Netherlands also highlighted that this data was collected for the Tour de Horizon flights from UK, Denmark, Netherlands and Norway. Norway were concerned about the difficulty in collecting HNS data as they had no central agency for shipping issues as well as the split between bulk and packaged data. MARIN recognised this and that was why the assessment was qualitative however to improve the assessment in the future it was essential to identify data gaps. COWI explained that only bulk HNS was considered in BRISK and it was agreed that this should be the priority.

25. The Netherlands highlighted that EMSA collected statistics in relation to accidents involving HNS and MARIN agreed that this could be useful and suggested that the Secretariat should make first contact. Germany asked how the consultants would deal with the difference between an incident and an accident and were informed that this was accounted for in the model as it was also an issue for drifting ships. France highlighted

that when a ship is adrift a Def Rep is made and these could be included in the data however Marin explained that there were examples for AIS data where vessels were drifting but no Def Rep was submitted. It was agreed that they would not be included in the Data Request Note.

26. Norway had a concern about the ranking of risk reduction measures as TTS, VTS and ETV's were linked and all part of the same strategy.

Agenda Item 6: Project Implementation

27. The Secretariat explained that this agenda item was included to identify any issues that could hold up the implementation of the project and needed to be addressed as a priority. Belgium stated that data collection would be the biggest issue for the project and MARIN agreed highlighting that it should be on the agenda for monthly project meetings and that OTSOPA would be a good point to check on progress. It was agreed that Contracting Parties would highlight areas where they had no data as soon as possible. The Secretariat also highlighted that there would be another round of data collection after the summer to fill gaps and improve quality.

28. COWI confirmed that the Data Request Note would be finalised by 16th April and the Method Note would be completed by the 1st May. The Secretariat informed the meeting that Peter Poulsen would follow up with those Contracting Parties who did not deliver the required data. COWI enquired if the outer boundary of the risk assessment was the Bonn Agreement boundary and this was agreed.

Agenda Item 7: AOB

29. The Secretariat highlighted that the project leaflet was now finalised and that it had been circulated to all Contracting Parties and the website design had also completed (beaware.bonnagreement.org) however it still had to be populated with data. MARIN inquired if data would be uploaded by Contracting Parties to Basecamp but was informed by the Secretariat that this was only available to project partners but the regional resource database would be uploaded.

30. Belgium requested that Contracting Parties submitted them their contact points for Task F: Environmental Sensitivity as soon as possible. The Netherlands informed that that Sjon Huisman would be the Dutch contact for Task F.

31. The UK informed the meeting that they were developing a Marine Pollution Incident Information Portal which would include a link to the BE-AWARE website.

32. The Secretariat informed the meeting that there would not be a full written procedure for the report of the meeting, rather the minutes would be shared with Project Partners and then made available for reference.