



MARINE ENVIRONMENT PROTECTION
COMMITTEE
60th session
Agenda item 17

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FORMAL SAFETY ASSESSMENT

Information on the costs of oil spills in Norwegian territorial waters and proposal for an environmental risk criteria

Submitted by Norway

SUMMARY

<i>Executive summary:</i>	This document provides information on the costs of oil spills in Norwegian territorial waters and proposes a possible solution
<i>Strategic direction:</i>	12.1
<i>High-level action:</i>	12.1.1
<i>Planned output:</i>	12.1.1.1
<i>Action to be taken:</i>	Paragraph 6
<i>Related documents:</i>	MEPC 55/18, MEPC 55/18/1, MEPC 59/17, MEPC 59/17/1 and MEPC 59/INF.21

Background

1 The Maritime Safety Committee, at its eighty-second session (29 November to 8 December 2006) noted that MEPC 55 had considered the outcome of the drafting group established at MSC 81 and the relevant decisions by MSC 81 and, *inter alia*, agreed that the environmental risk criteria needed in-depth consideration and invited Members to submit comments to MEPC 56 for further consideration prior to referring the agreed criteria to the Committee for appropriate action.

2 The Marine Environmental Protection Committee, at its fifty-sixth session, (9 to 13 July 2007) agreed to establish a correspondence group, under the coordination of Greece to review the draft Environmental Risk Acceptance Criteria as set out in annex 3 to document MEPC 55/18, taking into account document MEPC 56/18/1 (Greece) and the comments made in plenary with a view to finalize the criteria.

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3 Despite all efforts since MEPC 56, no final conclusion has been made, and this document is submitted to make information available, with regards to the costs of oil spills, and hopefully assist the Committee in its deliberations.

Discussion

4 The most important finding of the analysis is that a linear representation of the total cost as a function of the quantity of spilled oil is meaningful, and that the initially proposed CATS value of \$60,000 is below the lower limit for costs of oil spill in Norwegian territorial waters.

Proposal

5 From the data, it is therefore evident, in Norway's point of view, that a constant value for the CATS criterion can be justified. Furthermore, the CATS value should not be decreased from the value currently widely accepted for use in FSA studies (CATS 60,000 USD).

Action requested of the Committee

6 The Committee is invited to consider the information set out at annex, the proposal in paragraph 5 and take action as deemed appropriate.

ANNEX

COSTS OF OIL SPILLS IN NORWEGIAN TERRITORIAL WATERS

1 Accidents which resulted in a release of oil above 10 t in Norwegian territorial waters from 1981 until 2009 are presented at Table 1. Only one accident has been caused by an oil tanker. All other accidents are associated with oil spills from bunker oil. The release of oil from grounding accidents accounted for 39% of the total quantity spilled, whilst foundering accidents accounted for 48%. The remaining 13% was due to operational pollution.

Table 1: Oil spills in Norwegian territorial waters with known total costs and quantity spilled						
Date	Ship name	Ship type	Accident type	Oil spill (t)	Total cost† (10 ⁶ NOK)	Total cost‡ (10 ⁶ USD)
25-01-1981	Deifovos	Ore/oil carrier	Foundering	1,200	50	23.71
09-11-1982	Carthago Nova	Oil tanker	Cargo release	600	2.5	0.75
28-12-1982	Bayard	Ro-ro cargo	Grounding	60	21.3	6.7
30-10-1984	Balduin	Ro-ro cargo	Grounding	30	7.5	1.74
21-10-1989	Mercantil Marica	Bulk carrier	Grounding	420	95	23.65
22-03-1990	Azalea	Ore carrier	Foundering	330	55	13.94
20-09-1991	Astrea	Ro-ro cargo	Grounding	20	2.3	0.55
13-11-1991	Sonata	Ore carrier	Foundering	170	36.3	8.86
11-01-1992	Arisan	Ore carrier	Grounding	150	87.5	22.37
08-02-1997	Leros Strength	Bulk carrier	Foundering	150	17	3.53
15-12-2000	Green Ålesund	Reefer	Grounding	160	216.3	29.84
25-12-2000	John R	Bulk carrier	Grounding	30	36	5.08
07-10-2002	Skude Jura	Fishing trawler	Grounding	20	0.8	0.13
18-06-2002	Gudrun Gisladotti	Fishing factory	Grounding	250	92.5	14.19
19-01-2004	Rockness	Bulk dumping ship	Foundering	350	270	45.39
12-01-2007	Server	Bulk carrier	Grounding	380	575	95.09
31-07-2009	Full City*	Bulk carrier	Grounding	256	200	32.45
TOTAL				4,576		
* Cleanup not finalized yet. Therefore estimated values.						
† Total costs, not including future cleanup cost from ships that sunk.						
‡ The values have been converted to USD at the date of the accident with rates available from (http://www.norges-bank.no/templates/article____200.aspx) and afterwards have been inflation adjusted to current (2009) USD from: http://inflationdata.com/Inflation/Inflation_Calculators/Inflation_Rate_Calculator.asp .						

2 It can be argued that the total cost of an oil spill consists of two categories, cleanup expenditure and claims paid for compensation. The first one is associated with the response costs covering the removal of oil by bringing response equipment and personnel with the use of mechanical containment and recovery or chemical dispersants or both. The latter category is concerned with the monetary losses and property damage of economic users such as fisheries and

tourism, which contributes to the third party claims in an admissible compensation scheme. From the recorded costs in Norway, it is reported that from the total cost, only 38% has been compensated, whilst the rest has been paid by the society (for various reasons the polluter has not paid). Furthermore, the values provided do not include the degradation of the marine ecosystem in deep waters as well as the long term socio-economic effects.

3 The relationship between the total cost and the amount spilled is shown at Figure 1, where it can be observed that a linear approximation is meaningful, although a better regression is possible. In this figure, although the fit is not perfect, the correlation between oil spill cost and size is high ($\rho = 0.64$). It should be noted that the data points do not include any cost of dead birds and sea life but only the affected coastline. Moreover, the value of lost oil as well as the cost of damage to the ship is not included. By enforcing the power equal to unity, the model's validity is not lost despite the slightly changed parameters. The value of \$68,911/ton therefore represents a lower limit, and not the CATS value, which is meant to be a societal willingness to pay for preventing spills. It is also noted that a constant value for the CATS criterion is justified by the Norwegian data, unless a nonlinear (dis-) utility function is introduced.

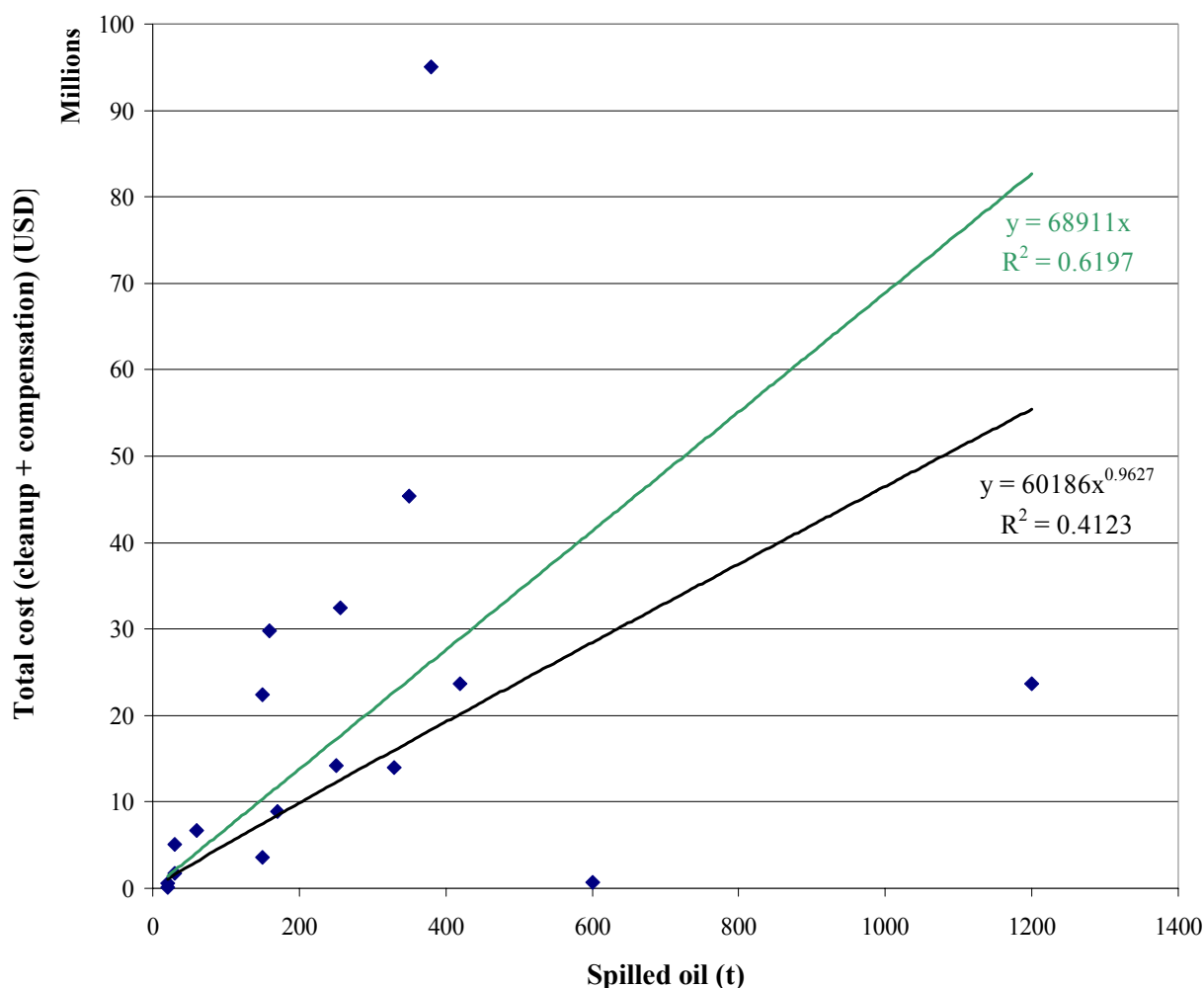


Figure 1: Fitted model to the total cost of oil spills as a function of the quantity spilled (black line) together with the linear approximation (green line)