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INTERNATIONAL CONFERENCE ON
MARINE POLLUTION, 1973

CONSIDERATION OF A DRAFT INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS, 1973

Comments and proposals on a draft text of the Convention

Submitted by the Oil Companies International Marine Forum

Further to MP/CONF/8/2, attached hereto are comments and proposals of OCIMF relating to Regulation 13 (Segregated Ballast), Regulation 2(5) and Regulation 26 of Annex I of the draft International Convention for the Prevention of Pollution from Ships, 1973.

OCIMF SUBMISSION ON ARTICLE 2 (5) and REGULATION 26 of ANNEX I GIVING FURTHER JUSTIFICATION FOR EXCLUDING FIXED AND FLOATING PLATFORMS FROM THE INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS - 1973.

Article 2, Section (5) of the draft text of the International Convention for the Prevention of Pollution from Ships, 1973 defines "ship" as " a vessel of any type whatsoever and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms operating in the marine environment". OCIMF recommends that this definition be deleted and that the definition contained in the 1954 Convention be substituted, viz: "Ship" means any seagoing vessel of any type whatsoever including floating craft, whether self-propelled or towed by another vessel, making a sea voyage."

We believe that in the preparatory work for this Conference time has not permitted sufficient attention to be given to the problems which would arise from the inclusion of fixed and floating platforms in the definition of "ship". It is for this reason that we strongly recommend that the 1954 Convention definition be retained. This will permit further consideration as to how this subject can be most appropriately handled. It is possible that the regulation of fixed and floating platforms and similar facilities could be handled as an Amendment to Annex I or perhaps as a new Annex to the 1973 Convention. This may be an appropriate subject for consideration by the new Marine Environment Protection Committee. Alternatively, the Law of the Sea Conference may develop proposals regarding the regulation of such equipment.

It must be appreciated that when a movable platform is underway — either in tow or as a self-propelled vessel — it will meet the 1954 Convention definition of "ship" and thus be within the jurisdiction of the IMCO Convention.

There are a number of reasons why fixed and floating platforms specifically should, at least for the present, be excluded from the 1973 Convention:

1. The lack of similarity between seabed development facilities and traditional maritime vessels makes it inappropriate to incorporate such facilities in the definition of "ship" in the draft Convention. As proposed, the definition is capable of being interpreted to include offshore vessel terminalling facilities for deep draft vessels, offshore oil and gas processing facilities, offshore tanks and production storage facilities as well as major regional power generating facilities which, in the future, may be constructed offshore. These facilities will frequently be permanent installations firmly anchored and integrally attached to the seabed by pilings, subsurface production casing and pipelines. Thus the equipment is similar to any onshore facility in that the State within whose jurisdiction it is located will directly control its installation and operation.

2. Not only is the equipment dissimilar but the operating problems encountered in the development of seabed resources are quite different from those encountered by seagoing vessels. The occurrence of hydrocarbon production will govern the location of such equipment. Not only must the operator of offshore drilling and production equipment cope with the sometimes very hostile sea but must also keep the subterranean pressures which may be encountered under full control. Only experienced drilling and production personnel can judge adequately the emergency measures which may be required under any given circumstance. Therefore, regulations drafted by such personnel in consultation with marine experts could form the basis for operating such equipment.

3. Regulation 26, Annex I provides that "Every stationary ship shall keep a record of all operations involving oil or oily mixtures discharges". Even though oil discharges may not be anticipated, such a requirement cannot be reasonably applied in the common case of unmanned offshore facilities.

It is also noted in Regulation 26, Footnote 53, that Regulation 12 involving Special Areas may have to be extended to cover fixed platforms. This could prove to be a difficult matter upon which to obtain agreement in view of the numerous national jurisdictions involved.

4. The need for uniform worldwide regulation of seagoing vessels involved in international trades derives from the inherent mobility of such vessels. International regulation of worldwide shipping is both necessary and appropriate. The situation involving offshore platforms is entirely different. The national administration or authority conferring the right to install and operate such facilities is in the best position to establish regulations governing equipment specification operating procedures and effluent standards which are suitable to the locality. Such effluent standards can thus be established and integrated into an overall domestic environmental protection programme under the national administration involved instead of being fragments drawn partly from national and partly from international regulations. In some regions, such as in the North Sea, various governments are cooperating in developing uniform evironmental protection standards governing offshore drilling and production equipment. Recognising the diversity and wide geographical extent of the activities which may be involved, regulation of pollution from stationary offshore equipment under standards specifically governing those activities and suited to the region is preferable to the imposition of standards which have been established primarily for maritime vessels. Moreover, the regulations of fixed platforms or floating platforms when fixed, in this Convention could very possibly lead to confusion and conflict with national jurisdictions.

Some of the complications of attempting to regulate fixed and floating platforms under this Convention are illustrated under Article 2, Section (2), Footnote 4 which relates to the "Administration" of such equipment.

5. Seabed resource development activity is predominantly the concern of the adjacent coastal State and will be found in three separate legal regimes:
(1) the territorial sea, (2) the Continental shelf and slope, and (3) the deep sea.
The UN Seabeds Committee is now considering proposals with respect to (i) the extent of these areas, (ii) various regulations including pollution regulations for the three areas, and (iii) the coastal State's jurisdiction with respect to enforcing such regulations in each of the areas. The results of the Seabeds Committee's activities will be presented to the 1974 Law of the Sea Conference for incorporation in a Law of the Sea Treaty. It may be appropriate for that Conference to consider the establishment of a suitable international body to assist in regulating pollution which might result from the development of seabed resources.

6. Article 2, Paragraph (4) (b) (ii) of the draft Convention would exempt pollution "directly arising from the exploration, exploitation and associated seabed processing of sea-bed mineral resources." It has been noted that seabed mineral development does not contribute substantially to marine pollution, particularly when compared to pollution from land-based sources and from vessels. Moreover, the amount of potential pollution which the Convention proposes to regulate is so small that it would not be unreasonable for IMCO to defer consideration of the overall problem at this time. The time which would have to be devoted to discussing the specialised problems involving fixed and floating platforms in finalising this Convention would divert attention from and reduce the time available for consideration of maritime vessel matters which should be of paramount concern.

7. It might even be a matter for debate as to whether regulation of facilities and equipment which do not involve marine transportation is within the jurisdiction of IMCO. In this regard the 1948 Convention establishing IMCO states that one of the purposes of the organisation is to

> "provide machinery for cooperation among Governments in the field of regulation and practices relating to technical matters of all kinds affecting shipping

engaged in international trade, and to encourage the general adoption of the highest practicable standards in matters concerning maritime safety and efficiency of navigation"

This particular reference to "shipping engaged in international trade" along with other references in the text of that Convention to "international shipping","international shipping services" and "international seaborne trade" suggest that IMCO was conceived with the view it would deal solely with matters involving international merchant shipping. Consequently member nations may wish to weigh the appropriateness of extending this mandate to include fixed and floating platforms and other non-shipping facilities before devoting time to drafting applicable regulations.

For the foregoing reasons OCIMF believes that fixed and floating platforms while not under way should be excluded from the IMCO Convention for the Prevention of Pollution from Ships which is now under consideration.

If this proposal is accepted this would obviate the need for Regulation 26 as now drafted. However, Paragraph 1 of the present Regulation 26 would be appropriate for inclusion in Regulation 9 insofar as it applies to conventional ships when stationary.

OCIMF SUBMISSION ON SEGREGATED BALLAST LEVEL, REGULATION 13 (3) OF ANNEX I

1. The preparatory meeting for the International Conference on Marine Pollution 1973 (PCMP) of February 1973 did not agree on a proposal for the formula to specify the amount of segregated ballast capability in tankers. This matter is the subject of Regulation 13 (3) of the final draft. The problems encountered at PCMP are clearly described in footnote 35. Among other things it was agreed that minimum ballast levels as a function of displacement or deadweight had pitfalls, and that ballast levels specified in terms of draft only would probably be optimum if this could be accomplished in terms of unambiguous parameters which would not encourage "paragraph ships", or produce undue incentive for unacceptably low ballast levels. Another type of proposal frequently offered for consideration is a definition of minimum ballast level as a function of depth. This proposal also has shortcomings and therefore is not believed acceptable for reasons which are more fully explained later. Accordingly PCMP agreed that further development was needed to produce an acceptable form for Regulation 13 (3).

2. OCIMF has studied this matter and developed a proposal for Regulation 13 (3) which is believed consistent with the desires of delegates to PCMP. The OCIMF proposal for Regulation 13 was submitted to IMCO in late June 1973 and appears in document MP/CONF/8/2. While the Forum study dealt specifically with Regulation 13 (3), certain changes for consistency were recommended as well to paragraphs (1) and (4) of Regulation 13 and a new paragraph (6) has been proposed as well. The reasons for these proposed changes are given in the Footnotes.

3. The OCIMF proposal gives a minimum ballast condition which is designed to produce coverage of the propeller and proper trim in ballast. The proposed propeller coverage and trim formulation is similar to a Japanese proposal to PCMP, but taken alone it could conceivably provide inadequate ballast capacity for vessels with either abnormally small propellers or abnormally great length. Accordingly, our proposal includes a limitation on the mean ballast draft to prevent this type of distortion. After careful review of a wide range of existing and proposed new tanker designs OCIMF is convinced that the combination of abnormally small propeller diameter and unusual ship length is the only distortion against which the rule need specifically guard.

4. Formulas defining minimum ballast draft as a function of displacement, deadweight, or depth, either singly or in combination, have serious shortcomings. The problems with deadweight and displacement formulas have been adequately reviewed at PCMP. The problems associated with proposals which use ship's depth as the basic parameter to define minimum ballast level are discussed herein by considering the case of two ships of identical proportions and design, except depth. Length, breadth, form, and propeller diameter are the same for both ships, although the deeper ship has greater loaded draft and deadweight. Any formula defining minimum ballast draft as a function of depth for these two designs would automatically require a greater ballast draft for the deeper design. In order to achieve this deeper draft with segregated ballast, a greater additional increase in depth would be needed for the already deeper ship to provide space for this additional ballast. The result is that two ships with identical underwater body shape and dimensions would require significantly different ballast drafts.

Experience indicates that minimum ballast requirements are dictated principally by seaworthiness considerations and coursekeeping ability of the ship in a seaway. Factors affecting these qualities are propeller emersion, bow emersion, springing, vibrations, and strength. It is recognized that freeboard and increasing sail area are factors in a ship's manoeuvring capability in port approaches generally indicating more draft for deeper ships in these areas. It is conceded that windage could be a problem for vessels with a large amount of superstructure, but tanker superstructures are generally very small. The ballast draft requirements in port areas should generally be less than the minimum requirement in average rough weather at sea. For this reason we believe that tankers of different depth but otherwise of identical design, and deadweight, should have the same ballast draft requirement.

5. The ballast draft capability which the OCIMF proposal would produce is considered realistic and consistent with the general philosophy of paragraphs (2) and (5) of Regulation 13 which describe the essential bases for the Regulation. The ballast drafts produced by the proposal will generally be found to be lower than those associated with past practice in

the ocean going ballasting of tankers. In this regard, however, delegates to PCMP clearly recognized that since past tanker operations incurred no premium for additional ballast, historical data would undoubtedly show rather heavy ballast levels. The OCIMF proposal was developed recognizing the limited value of this historical data and in a way so as to encourage logical design development of the most appropriate segregated ballast tanker designs in the future. With these principles in mind the OCIMF proposal provides a simple and clear basis to accomplish this dual objective.

6. The above paragraphs cover the general principles behind the OCIMF proposal. It is also useful to test this formula against current tanker design practice, and to compare the results to historical trends in the ballasting of tankers. Table I gives pertinent characteristics for a wide range of current existing and ordered tankers having a range of deadweight from 19,000 to 540,000 tons. For each of these designs the mean ballast draft by the proposal and the ballast displacement as a percentage of load displacement are given. Since the proposed ballast draft formula consists of two parts, the heavier of which would control, the table indicates for each design that part of the formula which would control - that it is the mean draft formula ("mean draft") or the propeller diameter plus trim provision ("trim"). It will be seen from Table I that for tankers of all sizes each of the two parts of the formula controls a substantial number of designs.

7. Figure 1 is a plot of mean draft as a function of ship length, based on the OCIMF proposal. The lower curve, labelled A, is mean draft by the formula dm = 1.8 + 0.018L giving the absolute minimum which would be permitted. The points falling above curve A indicate the mean draft which would be required for those tanker designs from Table I in which a deeper mean draft is produced by the propeller emersion plus trim formulation. The points falling beneath curve A show possible mean drafts for some ships which would be permitted were it not for the mean draft formula. These points represent designs with a relatively small single propeller, or with twin screws as shown by two points. Additional points for a range of combination carrier designs appear as well. Collectively the points falling beneath curve A demonstrate the need for an absolute minimum mean draft formula. Curve B represents an approximate upper bound on mean draft in

ballast for ships having relatively large propellers. Accordingly the shaded zone between curves A and B represents the expected range of required segregated ballast drafts which the OCIMF formula would produce. It is important to recognize that with the addition of OCIMF's proposed paragraph (6) to Regulation 13, all points just discussed represents drafts for tankers with no fuel aboard. Accordingly slightly deeper drafts and trim by the stern would generally be realized at sea.

8. Figure 2 is the same plot of mean draft as a function of tanker length as given in Fig. 1 including the shaded zone defined by curves A and B. Figure 2 also shows several points representing actual mean draft practice taken from historical tanker voyage records. In Figure 2, points C and D show for ships of 22,000 DWT and 212-250,000 DWT respectively the heaviest ballast drafts recorded during 90% of some 320 voyages for which data were recorded. These data come from ocean going ballast voyages, with the predominance of data for the large tankers being ballast voyages from North Europe to the Persian Gulf via the Cape of Good Hope. Had values for 100% of the sampled voyages been plotted, they would have shown substantially greater drafts reflecting the usual practice of ship Masters to ballast very deeply in the most severe weather. Comparison of points C and D with the proposed mean draft requirement show two important trends:

1. With no ballasting controls exercised, the mean draft as a proportion of ships' length decreases with increasing ship size. The validity of this trend has been substantiated by theoretical studies, and is believed to be correctly reflected in our proposal.

2. The "no control" past practice points C and D show substantially deeper ballast drafts than the proposal, as would be expected, and as discussed at PCMP.

9. In order to help determine an acceptable lower bound for minimum ballast draft conforming to the general principles given in Regulation 13 (2), several tankers of 250,000 DWT have been operated under controlled ballast conditions for over two years in all weather conditions. The results of this experience are shown in point E representing 100% of 11 test voyages

on ballasted routes to the Middle East from both Europe and Japan. The experience from the tests represented by point E has been satisfactory in regard to all important parameters including ship motions, vibration, lack of structural damage, manoeuvrability and general crew comfort. It is apparent that the experience represented by point E indicates a substantial departure from past practice in the direction of the proposed draft requirement for new segregated ballast tankers. Accordingly OCIMF recommends the adoption of its proposal for Regulation 13 (3).

TABLE I

BALLAST DRAFT LIMITATION
RULE COMPARISON

			Trim Limitation For da to Prop. Tips & Trim 1.5% L		Mean Draft Limitation When dm=0.018 (L+100)		Controlling Rule	
MDWT	LBP	da to Prop. Tips	dm	$\Delta B/\Delta L$	dm	$\Delta B/\Delta L$	Trim	Mean Draft
L.T.	m	m	m	%	m	%		
540	40[illegible].0	11.32	8.32	27.7	9.0	29.9		X
400	349.9	11.20	8.58	35.8	8.10	33.7	X	
332	330.0	8.33	5.86	21.6	7.75	29.0		X
313	336.0	11.16	8.64	36.6	7.85	33.0	X	
280	324.9	11.30	8.86	37.6	7.65	31.8	X	
267	318.0	10.65	8.27	37.2	7.52	33.6	X	
264	320.0	10.50	8.10	37.5	7.56	34.9	X	
262	320.0	10.50	8.10	37.2	7.56	34.6	X	
260	325.3	10.05	7.61	35.2	7.65	35.4		X
255	329.2	10.00	7.53	35.4	7.72	36.3		X
253	330.7	9.45	6.97	32.3	7.75	36.1		X
252	330.7	9.82	7.34	35.6	7.75	37.8		X
250	329.2	10.20	7.73	36.3	7.72	36.3	X	
250	330.7	9.95	7.47	35.1	7.75	36.5		X
226	314.1	9.89	7.54	36.0	7.45	35.8	X	
217	313.1	10.40	8.05	40.5	7.43	37.2	X	
212	304.8	9.70	7.41	37.0	7.28	36.1	X	
209	310.0	10.69	8.36	42.0	7.37	36.9	X	
206	310.5	10.60	8.27	41.3	7.39	36.7	X	
191	304.8	9.35	7.06	36.1	7.28	37.3		X
115	253.0	7.75	5.85	37.5	6.35	40.8		X
95	248.4	8.27	6.41	39.6	6.27	38.7	X	
76	232.6	8.61	6.87	51.7	5.99	44.8	X	
70	232.6	7.55	5.81	43.1	5.99	44.9		X
70	231.6	7.83	6.09	43.6	5.96	42.5	X	
70	239.6	7.01	5.21	36.7	6.11	43.2		X
65	227.2	8.07	6.37	44.8	5.88	40.8	X	
58	220.0	7.70	6.05	47.2	5.76	45.2	X	
49	214.9	7.32	5.71	44.5	5.67	44.3	X	
21	160.9	5.72	4.51	45.8	4.70	47.2		X
20	152.1	6.60	5.46	51.1	4.54	41.2	X	
19	164.6	6.28	5.05	49.5	4.76	46.1	X	
							62.5%	37.5%

FIGURE 1

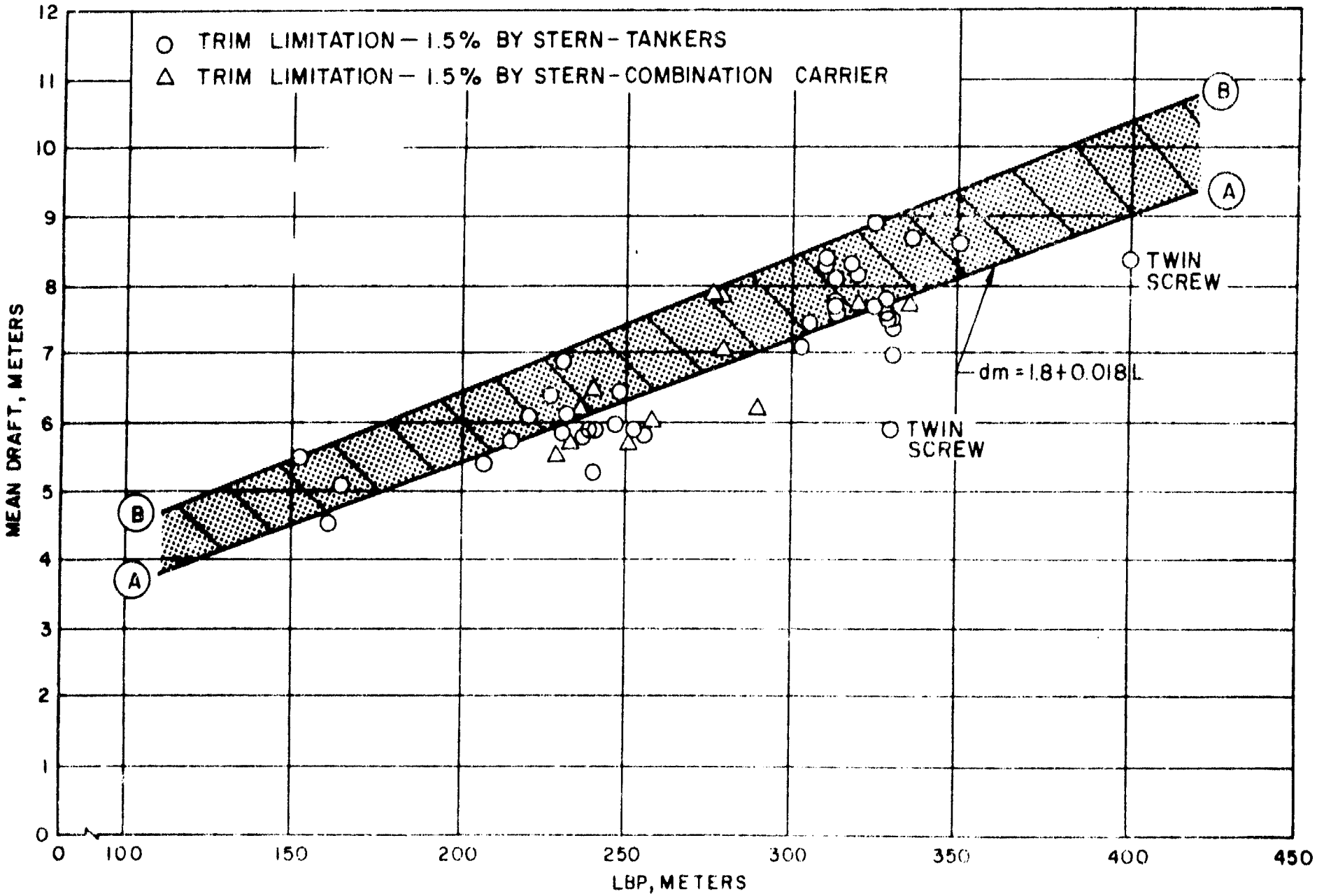

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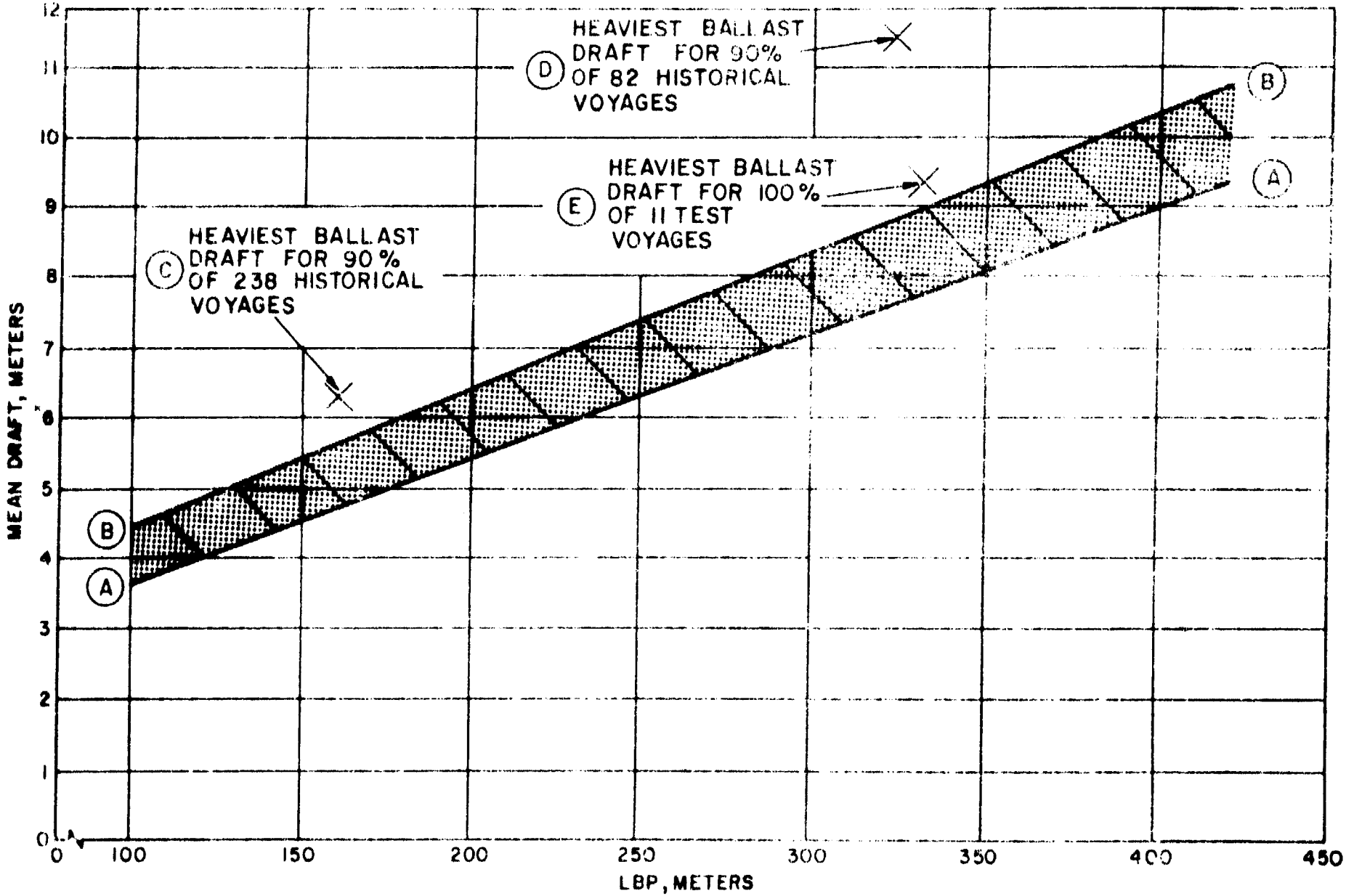
FIGURE 2



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