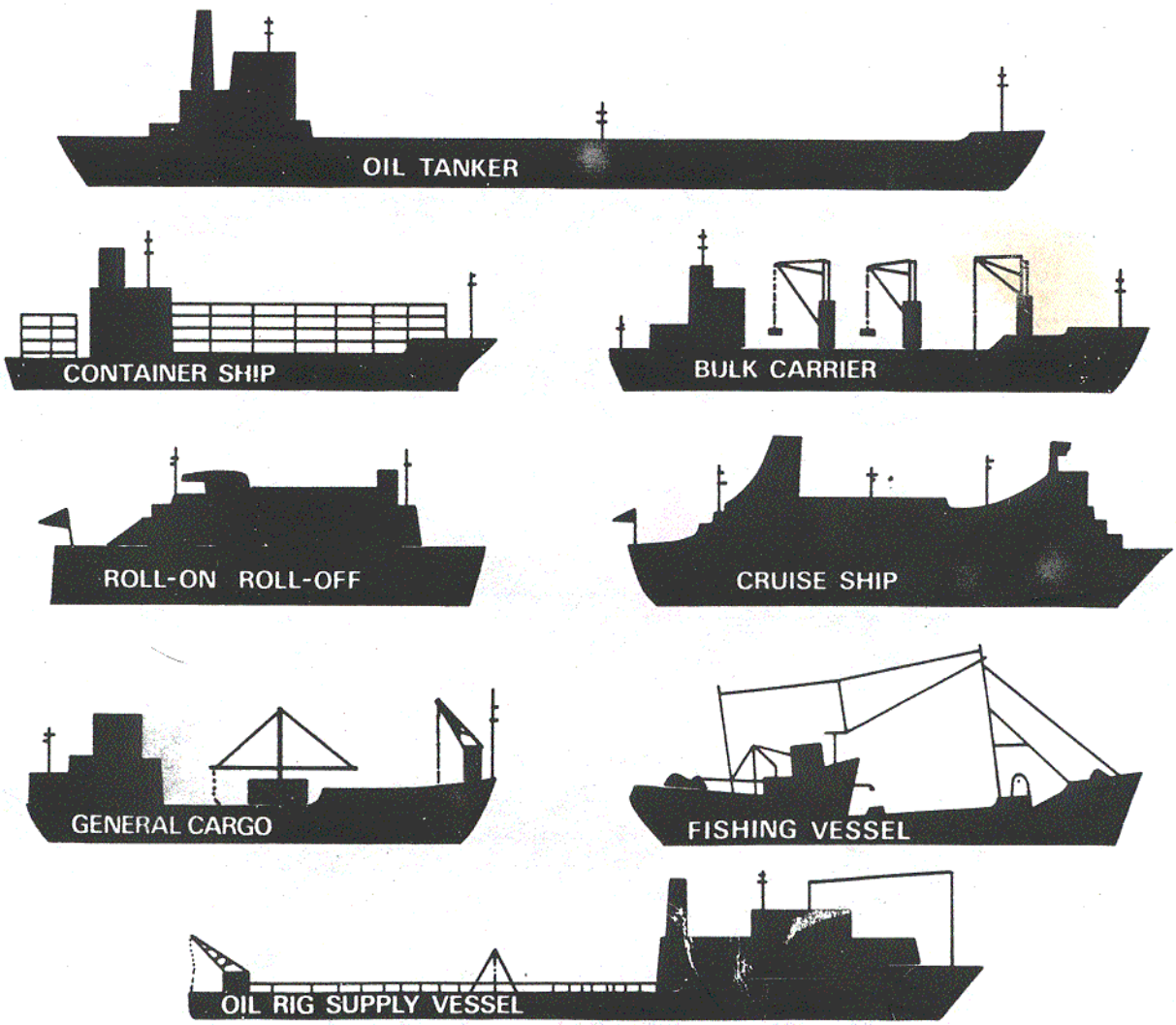
AN INTERNATIONAL CLASSIFICATION OF SHIPS BY TYPE (ICST 94)



JUNE 1994

AN INTERNATIONAL CLASSIFICATION OF SHIPS BY TYPE

REVISED 1994
(ICST(94))

JUNE 1994

THE DEPARTMENT
OF TRANSPORT

ROOM A208
ROMNEY HOUSE 43 MARSHAM STREET
LONDON SW1P 3PY
DIRECT LINE 071 276 8510
SWITCHBOARD 071 276 3000
GTN 276
FAX 071-276 8371

My Ref:

Your Ref:

IMAG Group Members

S-100 & S-101

25 May 1994

Dear Friend

You may recall that the International Advisory Group on Maritime Statistics has played a large part in the development of the *International Classification of Ships by Type*. A first revision of this classification (*ICST(94)*) has now been prepared and will be presented at the next IMAG meeting in New Orleans on 16 June. I have pleasure in enclosing a copy of *ICST(94)*.

Yours sincerely

HOWARD COLLINGS

Enc

AN INTERNATIONAL CLASSIFICATION OF SHIPS BY TYPE

REVISED 1994 (ICST(94))

Background

1 An ad hoc UNCTAD-EC meeting of the secretariats of national and international organisations interested in type of ship classifications held a meeting in Geneva in October 1987 where it was agreed that there was a need for a clear definition of ship types and a form of hierarchical type of ship classification which would be applicable both to sea-going and to inland waterway craft. A small group (which included Lloyd's Register representatives) was commissioned to prepare a report setting out a classification which was to take account of the views expressed at the meeting. The study group's report, *An International Classification of Ships by Type* (London, October 1988), was presented to a second, ad hoc UNCTAD-EC meeting in Luxembourg in October 1988. Following deliberations and contributions from those attending the meeting, a document was prepared, *An International Classification of Ships by Type* (London, February 1989), setting out a classification based on the construction characteristics of the marine structure, and not upon its particular use or cargo carried at a point in time.

2 When the *International Classification of Ships by Type (ICST)* was developed, it was recognised that further work would be required by those knowledgeable in certain fields. This development work has been reported regularly to the meetings of the International Maritime Statistics Forum (formerly the International Advisory Group on Maritime Statistics) and other international organisations - in the main, this has concentrated on the further disaggregation of different types of barges (taken forward by the US Army Corps of Engineers), types of dredger and proposals for the identification of tugs at level 3. Use of the *ICST* has indicated the need for consideration of moving some vessel type combinations with container carrying capability from level 5 to level 4 (eg, ro-ro/container vessels).

3 It now seems appropriate to revise the *ICST* to include this development work. This document sets out the revised *ICST* (1994).

Introduction

4 The term 'classification' in this document is used in its statistical sense of collating together items with similar attributes into groups and not in the sense associated with marine insurance. Prior to the introduction of the *ICST*, ship types had been classified in many ways in publications. There was a common underlying thread to many of the groupings used but it often was not possible to compare figures from different sources because of the way in which specific ship types had been grouped.

5 There appears to be general agreement amongst marine statisticians of the need of identify separately tankers, dry bulkers and other dry cargo vessels, since these are the vessels which engage in international trade. There remain other ships, of which the fishing fleet are probably the most numerous. Differences in most statistical groupings occurred where groups at the level of 'tankers', 'bulkers', etc, needed to be sub-divided. However, a classification of this nature should start at the top by covering all marine structures.

An international classification of ships by type (ICST)

6 All marine structures form level 0 of the *ICST* which at the next level (level 2) is divided into merchant ship structures, naval (military) craft, and non-ship structures. The 'merchant ships' group is divided into four basic groups at level 2: liquid, dry bulk, other dry cargo, and 'miscellaneous types' (for all other vessels). Annex A shows the hierarchical nature of the classification down to level 2. The groupings should be based according to the construction of the ship or non-ship marine structure, rather than its particular use at a point in time. No proposals are made at present for the further breakdown of non-ship structures below level 2, or naval vessels below level 1. No changes are made at these levels in the *ICST*.

7 The classification for merchant ships has been fully defined for levels 2 to 4; this is shown in Annex B in diagrammatic format. A further expansion to level 5 could be made at a subsequent revision of this classification if it was thought generally desirable. However, experience to date has indicated that, with the changes incorporated in *ICST(94)*, the level 4 breakdown should suffice for most uses. The 1989 *ICST* defined level 5 for 'miscellaneous types' and this has been retained and expanded for *ICST(94)* as it is in this group where there may be the most immediate requirement for more detailed groupings.

Liquid

8 The breakdown at level 3 for the level 2 'liquid' category is into five groups of oil, chemical, liquefied gas carriers, tank barges, and other tankers. It would be at variance with the philosophy of the classification to include at level 4 a cargo coding which was not specific by virtue of the ship's construction. At level 4, oil tankers separately identify crude oil tankers and oil products (ie, not built to carry crude). No changes are made between the original *ICST* and *ICST(94)* in the groups at level 3 but the titles of two groups have been altered slightly: the previous title 'liquid gas carrier' is now 'liquefied gas carrier' and that of 'tanker barge' is now 'tank barge'.

9 As indicated above, 'tank barges' remain a single group at level 3. Five groups at level 4 are designated for *ICST(94)*, namely:

Tank barge - single hull
Tank barge - double hull
Tank barge - double-sided only
Tank barge - double bottomed only
Other tank barge

10 Definitions of these level 4 groups are given at Annex C. Further division at level 5 into towed, pushed and push-towed barges could be made for each level 4 group, if required.

Dry bulk

11 At level 3, bulk carriers are divided into those constructed to carry oil and those not. The bulk/oil combination carriers are divided at level 4 into the three types of combination. Bulk carriers were further divided into ore and other bulk carriers. *ICST(94)* introduces to level 4, as a separate group, bulk/container carrier - defined as a bulk carrier with some holds equipped for the carriage of containers by means of container securing arrangements.

Other dry cargo

12 For other dry cargo vessels at level 3, no changes are made to the five *ICST* groups. The groups identified at this level are fully cellular container ships, passenger vessels, dry cargo barges, specialised carriers and general cargo vessels.

13 There are no changes to the level 4 groups for fully cellular container ships, passenger vessels or specialised carriers. Within the 'general cargo' group, the combination vessels 'ro-ro container' and 'general cargo/container' form level 4 groups in *ICST(94)*. In the original *ICST*, they were included within the level 4 group 'ro-ro cargo' and 'general cargo/multi-deck' respectively but separately identified at level 5.

14 Dry cargo barges remain as a single level 3 group. At level 4, the groups 'deck barge' and 'hopper barge' are retained but the original *ICST* group of 'other dry cargo barge' is divided into four separate level 4 groups under *ICST(94)*, namely:

Open dry cargo barge
Covered dry cargo barge
Lash/Seabee barge
Other dry cargo barge

15 Definitions of these level 4 groups are given at Annex C. As for tank barges, further division at level 5 into towed, pushed and push-towed barges could be made for each level 4 group, if required.

Miscellaneous types

16 Originally, the 'miscellaneous types' group was divided into three groups at level 3 - fish processing and catching; offshore production and support; and 'other types'. Experience has indicated that tugs should form a group at level 3, rather than level 4 and this has been incorporated in *ICST(94)*.

17 The standard definition of a tug is a self-propelled vessel designed for the towing and pushing of ships or other floating structures, but not for the carriage of goods. On inland waterways, as well as tugs, there are cargo carrying vessels which are self-propelled and also designed or fitted for the pushing/towing of barges. Two alternative proposals were made on the appropriate groups for these vessels. One proposal was that they should be

classified according to the appropriate merchant ship structure of the vessel. It was argued, however, that this would conceal an essential feature in that, as well as carrying cargo, these vessels are designed for towing (and pushing) of barges. The second alternative was that they should be termed 'push-boat' and classified with tugs under a generic heading of 'tow-boat'. Push-boats could be divided into tank and dry cargo, with further sub-divisions on the same lines as for barges. This second alternative has been adopted for *ICST(94)*.

18 Thus, the original *ICST* level 3 group 'other types' within the level 2 group 'miscellaneous types' is divided into two for *ICST(94)*: 'tow boats' and 'other types'. The 'tow boats' group comprises two level 4 groups: 'tugs' and 'push-boats' (definitions are given in Annex C). At level 5, 'tugs' are divided into three groups:

Salvage tug
Pusher tug
Other tug

and the 'push-boats' group into two groups:

Push-boat type A
Tank push-boat

19 Inlaandwaterway vessels which are self-propelled and designed to carry cargo, but not to tow or push barges, should be classified to the appropriate *ICST* group. If required, a sub-division could be made to indicate vessels which are designed only for inland waterways.

20 At level 4, the group 'fish catching' takes on board the classification set out in the Technical Paper 267 of the Food and Agriculture Organisation of the United Nations *Definition and Classification of Fishing Vessel Types* (1985). The major types of fishing vessel identified in that publication form the groups at level 5 of this classification. The further division of fishing vessel types in the FAO classification would logically fit into this classification at levels 6 and below. Fishing processing vessels (motherships, factory ships, etc, in the FAO classification) are not presently divided at level 5.

21 Drilling ships and offshore support vessels form two groups at level 4 within the level 3 'offshore production and support' group.. The groups separately identified at level 4 within the level 3 'other types' group are research ships, dredgers, and a residual 'other nei' (nei = not elsewhere identified).

22 For the level 4 group 'dredgers', further work has been carried out on a level 5 grouping and ICST(94) includes the following groups (which are defined in Annex C):

Trailing suction hopper dredger
Cutter suction hopper dredger
Grab hopper dredger
Bucket dredger
Grab dredger
Cutter dredger

23 In response to requests made when this classification was being prepared, a three-digit numerical coding system covering levels 2 to 4 of the merchant ship structures has been prepared. The codes proposed for the original *ICST* have been preserved in *ICST(94)* wherever possible; the new groups appearing in *ICST(94)* taking codes not used previously. If required, a further digit could be prefixed to indicate level 1 and an additional digit for level 5. As indicated in the document setting out the original *ICST*, the merit of using a numerical code is that it imposes a discipline on the classification by limiting the breakdown of any group at one level to no more than 10 divisions at the next lower level. In most hierarchical classifications, the need to have more than 10 sub-divisions of a class is questionable and is best avoided by the use of two or more sub-levels. Such extensive division arises more from the pressure of sectional interests than objective criteria. The codes at levels 2 to 4 of the classification are shown in Annex D which also lists the titles of the groups.

London
June 1994

CLASSIFICATION OF MARINE STRUCTURES BY TYPE

Level 0	Level 1	Level 2
Marine structures	Merchant ship structures	Liquid
		Dry bulk
		Other dry cargo
		Miscellaneous types
	Naval (military craft)	
	Non-ship structures	Submersibles
		Semi-submersibles
		Platform
		Diving system
		Floating dock
		Buoy
		Air Cushion vehicle
		Other structures

ANNEX B

THE INTERNATIONAL CLASSIFICATION OF SHIPS BY TYPE ICST(94)

Level 4	Level 3
Crude oil tanker Crude/products tanker Oil products tanker Oil/chemical tanker	Oil Tanker
Chemical tanker	Chemical tanker
LNG Carrier LPG carrier Other liquified gas carrier	Liquified gas carrier
Single hull Double hull Double-sided Double-bottomed Other tank barge	Tank barge
Asphalt, bitumen tanker Molasses tanker Vegetable oil tanker Other tanker nei	Other tanker
Ore/bulk/Oil Ore/Oil Bulk/Oil	Bulk/Oil carrier
Ore carrier Bulk/container carrier Other bulk carrier	Bulk carrier
Container (FC)	Container (FC)
Barge carrier Chemical carrie: Irradiated fuel carrier Livestock carrier Vehicle carrier Other specialised carrier	Specialised carrier
Reefer Ro-Ro passenger Ro-Ro container Other Ro-Ro cargo Gen. cargo/passenger Gen. cargo/container Gen. cargo/single deck Gen. cargo/other multi deck	General cargo
Deck barge Hopper barge Lash/seabee barge Open dry cargo barge Covered dry cargo barge Other dry cargo barge	Dry cargo barge
Cruise Other passenger	Passenger
Fish processing Fish catching	Fish processing and catching
Off-shore drilling Off-shore support	Offshore production and support
Tug Push-boat	Tow-boat
Research/survey Dredger Other nei	Other types

Level 2: LIQUID; DRY BULK; OTHER DRY CARGO; MISCELLANEOUS TYPES

Level 1: MERCHANT SHIP STRUCTURES; NAVAL (MILITARY CRAFT); NON-SHIP STRUCTURES

Level 0: MARINE STRUCTURES

DEFINITIONS FOR BARGES

Barge A category of ships designed as non self-propelled units for the carriage of cargo on the weather deck or in holds or in tanks. The units are towed/pushed by another ship (tug or pusher vessel).

The fact that a barge is fitted with an auxiliary engine does not make it self-propelled.

Tank barge A barge constructed and arranged for the carriage of liquid cargoes in tanks.

Pumping arrangements may be provided on board or left to shore equipment.

Tank barge - single hull A tank barge with sides and bottom being single hull.

Tank barge - double hull A tank barge with sides and bottom being double hull.

Tank barge - double sided only A tank barge with the sides of the barge being double skin.

Tank barge - double bottom only A tank barge with the bottom of the barge being double skin.

Tank barge - other Any tank barge other than above.

Note: A further sub-division of each of the groups of tank barges can be made into:

***Towed** - A barge designed to be towed.*
***Pushed** - A barge designed to be pushed.*
***Pushed-towed** - A barge designed to be either pushed or towed.*

Dry cargo barge A barge constructed and arranged for the carriage of all cargo other than liquid cargoes in tanks.

Open dry cargo barge A barge, usually flat-bottomed and rectangular in structure, with cargo space below deck which is not designed to be covered.

Covered dry cargo barge A barge, usually flat-bottomed and rectangular in structure, with cargo space below deck. Cargo space is designed to be covered by telescoping or lift covers.

Deck barge A barge, usually flat-bottomed and rectangular in structure, having an intact deck for the carriage of cargo.

Hopper barge A barge designed for the carriage of dredged spoil or other waste material in hoppers for subsequent discharge elsewhere through the bottom of the barge by means of doors/valves or by means of a split hull separation.

Lash/Seabee barge A barge, usually flat-bottomed and rectangular in structure, designed to be lightered aboard a mother ship.

Common sizes are (LASH 62 x 31) and (Seabee 98 x 35).

Dry cargo barge - other All dry cargo barges not included above.

Note: A further sub-division of barges can be made into:

***Towed** - A barge designed to be towed.*
***Pushed** - A barge designed to be pushed.*
***Pushed-towed** - A barge designed to be either pushed or towed.*

DEFINITIONS OF TOWBOATS

Towboat Self-propelled vessel designed for the towing (and pushing) of ships, barges or other floating structures.

Tug Self-propelled vessel with a V-shaped bow designed for the towing (and pushing) of ships or other floating structures but not for the carriage of goods.

Additional activities may include salvage, fire-fighting, ice-breaking, etc.

Pusher tug Tug developing not less than 37kW and designed or fitted for the towing or pushing of barges and pontoons.

Salvage tug Sea-going tug designed to assist ships to manoeuvre in ports and to tow ships at sea.

Tug - other Any tug not included above.

Push-boat Self-propelled vessel developing not less than 37kW and designed or fitted for the pushing of barges and pontoons.

A pair of knees of ample strength and height engage barges of various depths to assist manoeuvring.

Push-boat type A Push-boat with a cargo carrying capacity of not less than 20 tonnes designed or fitted to push barges on inland navigable waterways.

Tank push-boat A push-boat constructed for the carriage of liquid cargoes in tanks.

DEFINITION OF DREDGERS

Dredger Ship designed for the raising of spoil from the sea-bed and deposited into its cargo space or the cargo space of another ship alongside.

Bucket dredger Dredger designed to raise sand, mud, pebbles and small stones by means of a bucket chain adjustable ladder and discharging the raised materials by side chutes into hopper ships or barges moored alongside.

Usually a non-propelled pontoon but some bucket dredgers are self-propelled to enable them to operate in several distant locations.

Grab dredger Dredger fitted with a grab and discharging the raised materials into hopper ships or barges moored alongside.

Usually a non-propelled pontoon but some grab dredgers are self-propelled to enable them to operate in several distant locations.

Cutter dredger Dredger designed to cut hard soil either on the bottom or on a river or canal bank by various mechanical devices fitted on an articulated ladder. The cut materials are either discharged mechanically by belt conveyors and chutes into hopper ships or barges moored alongside or pumped ashore by means of a combination of suction pipes and floating pipeline.

Usually a non-propelled pontoon.

Hopper dredger Ship of similar function to a dredger but designed so that spoil is deposited into hoppers within the ship for subsequent discharge elsewhere through the bottom of the ship by means of doors/valves or by means of a split hull separation.

Trailing suction hopper dredger Hopper dredger designed for pumping mud, silt and sand from the sea bed by means of one or two side suction pipe(s) and depositing the pumped material into hoppers.

Cutter suction hopper dredger Trailing suction hopper dredger also fitted with a cutter on a forward ladder to disaggregate hard soils before proceeding with the suction process.

Grab hopper dredger Hopper dredger designed to raise sand, mud, pebbles and small stones by means of a crane fitted with a grab.

Various combinations of the above dredge types exist, the more frequent being the training suction/grab hopper dredger.

ANNEX D

CODES AND TITLES FOR CLASSIFICATION OF MERCHANT SHIP STRUCTURES BY TYPE - LEVEL 2 - LIQUID AND DRY BULK

Level 2	Code	Level 3	Code	Level 4	Code
Liquid	1..	Oil tanker	11.	Crude oil tanker	111
				Crude/product tanker	112
				Oil products tanker	113
				Oil/Chemical tanker	114
		Chemical tanker	12.	Chemical tanker	120
		Liquefied gas carrier	13.	LPG carrier	131
				LNG carrier	132
				Other liquefied gas carrier	139
		Tank barge	14.	Tank barge - single hull	141
				Tank barge - double hull	142
				Tank barge - double sided	143
				Tank barge - double bottomed	144
				Other tank barge	149
		Other tanker	15.	Asphalt, bitumen tanker	151
				Molasses tanker	152
				Vegetable oil tanker	153
				Other tanker nei	159
Dry bulk	2..	Bulk/oil carrier	21.	Ore/bulk/oil	211
				Ore/oil	212
				Bulk/oil	213
		Bulk carrier	22.	Ore carrier	221
				Bulk/container carrier	222
				Other bulk carrier	229

ANNEX D

CODES AND TITLES FOR CLASSIFICATION OF MERCHANT SHIP STRUCTURES BY TYPE - LEVEL 2 - MISCELLANEOUS TYPES

Level 3	Code	Level 4	Code	Level 5	Code
Fish processing and catching	41.	Fish processing	411		
		Fish catching	412	Trawler	
				Seiner	
				Dragger	
				Lift netter	
				Gill netter	
				Trap setter	
				Fishing liner	
				Fishing vessel using pumps	
				Multi-purpose fishing vessel	
				Other fishing vessel	
Offshore production and support	42.	Offshore drilling and exploration	421	Drilling ship	
		Offshore - support	422	Tug/supply	
				Supply	
				Tug - offshore support	
				Other support	
Tow boat	43.	Tug	431	Salvage tug	
				Pusher tug	
				Other tug	
		Push-boat	432	Push-boat type A	
				Tank push-boat	

ANNEX D

CODES AND TITLES FOR CLASSIFICATION OF MERCHANT SHIP STRUCTURES BY TYPE - LEVEL 2 - MISCELLANEOUS TYPES

Level 3	Code	Level 4	Code	Level 5	Code
Other types	49.	Research/survey	492	Fisheries research	
				Geophysical research	
				Oceanographic research	
				Seismographic research	
				Other research	
		Dredger	493	Trailing suction hopper dredger	
				Cutter suction hopper dredger	
				Grab hopper dredger	
				Bucket dredger	
				Cutter dredger	
				Grab dredger	
		Other nei	499	Icebreaker	
				Cable ship	
				Other support ships	
				Other nei	