Subject :

Provision with Loading/Unloading Sequences for Existing Bulk Carriers

NKTECHNICAL INFORMATION

No. : 250

Date : 15 April 1998

To Ship Owners and Shipyards Concerned

As informed by Technical Information No.234 dated 11 Nov. 1998, IACS UR S1A requires that single side skin bulk carriers of Lf 150 m and above, which are contracted for construction before 1st July 1998 are to be provided, before 1st July 1998 or their entry into service, whichever occurs later, with an approved loading manual with typical loading sequences where the ship is loaded from commencement of cargo loading to reaching full deadweight capacity, for homogenous loading condition, relevant part loading conditions and alternate loading conditions where applicable. Also typical unloading sequences for these conditions shall be included.

We have incorporated above-mentioned requirements into our Rules. In this connection, you are kindly requested to follow the instruction mentioned below for preparation of a loading manual with typical loading/unloading sequences to be approved by the Society.

1. There are a lot of variation of loading/unloading sequences which you have applied depending upon various loading/unloading pattern such as homogenous loading conditions, relevant part loading conditions and alternate loading conditions at different terminals.
   For approval, consequently, the following typical loading/unloading sequences based on the experienced loading/unloading by using an attached form or an ICS's (International Chamber of Shipping) form, are to be submitted for approval.
   (1) The sequence from the commencement of cargo loading (ballast arrival condition) to full loaded homogenous condition.
   (2) The unloading sequence from the full loaded homogenous condition to ballast departure condition.
   (3) The sequence from the commencement of cargo loading (ballast arrival condition) to full loaded alternate condition.
   (4) The unloading sequence from the full loaded alternate condition to ballast departure condition.
   (5) Where relevant, the part loading/unloading sequences such as two port loading/unloading condition.
2. We are of the opinion that your ship's master shall input an actual loading/unloading sequence into the blank sequence form in the case other than typical loading/unloading sequences approved by the Society for the purpose of ensuring the hull girder SF/BM within allowable limit.
   Therefore, in addition to 1 above, the following statements shall be indicated on the cover page of the

ClassNK NIPPON KAIJI KYOKAI
4-7, KIOI-CHO, CHIYODA-KU,
TOKYO 102-8567, JAPAN.
TELEX: J22975 CLASSNK
2324280 CLASNKJ
CABLE: CLASSNK TOKYO

sequences for approval.

"*In case where loading/unloading sequences not included in the approved ones is planned, the master shall prepare the sequence by using a blank form, taking into consideration the loaded cargo, loading/unloading rate as well as the ship's longitudinal shearing force and bending moment of hull girder.*"

Additionally a blank form shall be provided on board for the use of the master.

3. Procedure for approval:

(1) The prepared sequences to be submitted to our head office (Hull Dept.) with application by 1st July 1998 in principle.

And one set of the ship's loading instrument's printout of hull girder shearing force and bending moment by each step to be submitted for our reference.

(2) The approved sequences to be attached to the loading manual on board.

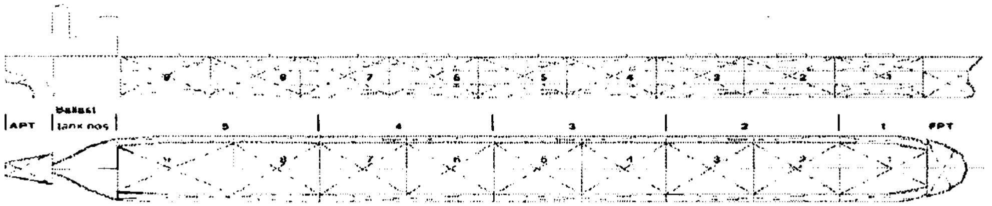
(3) At the first periodical survey after July 1998, our Surveyor will confirm the approved sequence attached to the loading manual on board.

Please feel free to contact Hull Department at the Head Office of the Society at Fax. +81 3 5226 2019 if you have any inquiry.

Attachment : Typical Loading/Unloading Sequence Form

GUIDANCE ON TYPICAL LOADING/UNLOADING SEQUENCE SUMMARY FORM

Vessel name :	Yard	ClassNK	Id. number :



Port (specific or typical) :	Condition at commencement of loading/discharging	
Total mass of cargo to be loaded/discharged :	Condition at end of loading/discharging	
Dock water density (t/m3) :	Maximum Loading/discharging rate :	Average Loading/discharging rate :
Number of loaders/dischargers :	Maximum Ballasting/Deballasting rate :	Average Ballasting/Deballasting rate :

Volume of Hold.Vh(m^3)									
Height of hold.h(m)									

Note : During each pour it has to be controlled that allowable limits for hull girder shear force, bending moments and mass in holds are not exceeded. Loading/discharging operations may have to be paused to allow for ballasting/deballasting in order to keep actual values within limits.

	Hold content at commencement of loading/discharging								
Cargo mass									
Density (t/m^3)									
Grade									

Ballasting contents at commencement of loading/discharging									
Wings or peaks	APT	Ball.no.5	Ball.no.4	Hold no.6	Ball.no.3	Hold no.4	Ball.no.2	Ball.no.1	FPT
Upper									
Lower/Peaks									

Commencement of loading/discharging (sea)				
Taft (m)	Trim (m)	Tfwd (m)	Maximum S.F.(%)	Maximum B.M.(%)

#NAME?

Pour.no./grade	CARGO OPERATIONS Hold 9	Hold 8	Hold 7	Hold 6	Hold 5	Hold 4	Hold 3	Hold 2	Hold 1
1									
2									
3									
4									
5									
6									
7									
8									
Draft Survey (for loading) :	Total cargo onboard (t) :				Remaining cargo to be loaded (t) :				
n-1									
n									

Pour	Wings or peaks	BALLASTING OPERATIONS APT	Ballast tank no.5	Ballast tank no.4	No.6 Ballast hold	Ballast tank no.3	No.4 Ballast hold	Ballast tank no.2	Ballast tank no.1	FPT	Values at end of pour (from harbour to sea) Taft (m)	Trim (m)	Tfwd (m)	Maximum S.F.(%)	Maximum B.M.(%)
1	Upper														
1	Lower/Peak														
2	Upper														
2	Lower/Peak														
3	Upper														
3	Lower/Peak														
4	Upper														
4	Lower/Peak														
5	Upper														
5	Lower/Peak														
6	Upper														
6	Lower/Peak														
7	Upper														
7	Lower/Peak														
8	Upper														
8	Lower/Peak														
	Upper														
	Lower/Peak														
Draft Survey	Total amount of bunkers onboard (t) :													X	X
n-1	Upper														
n-1	Lower/Peak														
n	Upper														
n	Lower/Peak														

Void

	Hold content at end of loading/discharging								
Cargo mass									

Ballasting contents at end of loading/discharging									
Wings or peaks	APT	Ball.no.5	Ball.no.4	Hold no.6	Ball.no.3	Hold no.4	Ball.no.2	Ball.no.1	FPT
Upper									
Lower/Peaks									

Values at end of loading/discharging (sea)				
Taft (m)	Trim (m)	Tfwd (m)	Maximum S.F.(%)	Maximum B.M.(%)

Total mass loaded /discharged (t)		

	Maximum occuring values among all conditions above									
Net load on Double Bottom										tons/m^2
Net load in two adjacent holds										tons

Net load on double bottom = $(Mh/V) * h-T$ (t/m^2)
where : Mh = Mass in hold + mass in DB (t)
V = Total volume of hold (m^3)
h = height of hold from inner bottom to top of coaming (m)
T = draught (m)

Approved by :

Place.date. stamp and sign