Intermediate stage of flooding (9.3.x.13.3)

Transmitted by the Recommended ADN Classification Societies

Introduction

1. Since the 2013 version of ADN, it is no longer explicitly mentioned in 9.3.x.13.3 that the intermediate stage of flooding must be verified.

2. In the 2011 version of ADN, 9.3.1.13.3/9.3.2.12.3 read as follows:

"9.3.x.13.3 Proof of sufficient intact stability shall be furnished for all stages of loading and unloading and for the final loading condition. Floatability after damage shall be proved for the most unfavourable loading condition. For this purpose, calculated proof of sufficient stability shall be established for critical intermediate stages of flooding and for the final stage of flooding. Negative values of stability in intermediate stages of flooding may be accepted only if the continued range of curve of righting lever in damaged condition indicates adequate positive values of stability."

3. In the 2015 edition of ADN, 9.3.x.13.3 reads as follows:

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1 Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/WP.15/AC.2/2015/24.
“9.3.x.13.3 Proof of sufficient intact stability shall be furnished for all stages of loading and unloading and for the final loading condition for all the relative densities of the substances transported contained in the vessel substance list according to 1.16.1.2.5

For every loading operation, taking account of the actual fillings and floating position of cargo tanks, ballast tanks and compartments, drinking water and sewage tanks and tanks containing products for the operation of the vessel, the vessel shall comply with the intact and damage stability requirements.

Intermediate stages during operations shall also be taken into consideration.

The proof of sufficient stability shall be shown for every operating, loading and ballast condition in the stability booklet, to be approved by the relevant classification society, which classes the vessel. If it is unpractical to pre-calculate the operating, loading and ballast conditions, a loading instrument approved by the recognised classification society which classes the vessel shall be installed and used which contains the contents of the stability booklet.”

**Question**

4. The second paragraph of 9.3.1.13.3/9.3.2.12.3 in the 2011 version of ADN on the calculation in the damaged condition and, in particular, the intermediate stage of flooding was removed in the 2013 version. Nevertheless, it has been ascertained that the intermediate stage of flooding could be critical.

**Proposal**

5. Reinsert in 9.3.x.13 the requirement relating to the calculation of the intermediate and final stages of flooding as follows:

“9.3.x.13.4 Floatability after damage shall be proved for the most unfavourable loading condition. For this purpose, calculated proof of sufficient stability shall be established for critical intermediate stages of flooding and for the final stage of flooding.”

6. Add a new first paragraph in 9.3.x.15.2 giving the criteria for the intermediate stage of flooding to read as follows:

“For the intermediate stage of flooding the following criteria have to be fulfilled:

GZ \geq 0.03m

Range of positive GZ: 5°.”