ON THE "FREEBOARD" CALCULUS

Phd. Alina Barbulescu*, Phd. Student Cristian - Stefan Dumitriu**
* "Ovidius" University, ** UNR Constanta, Romania
e-mail: abarbulescu@univ-ovidius.ro, cris_dumitriu@yahoo.com

February 14, 2004

According to the "International Convention of Load Line, 1966" rules, the "Freeboard" is one of the most important sizes that must be calculated, in order to limit the ship loading.

The aim of this paper is to optimize the freeboard calculation, in the following directions:

- To reduce the calculation time from few hours to few minutes;

- To avoid the computation errors, by automatic calculation and to restrict the input data only to those possible;

- To eliminate the human errors due to the international rules interpretation.

Our program is made in Visual Basic for applications having as support the Microsoft Excel. Its structure is the following:

- The input data block, that identifies the input data;

- The block of the initialization of the necessary data, which calculates the freeboard length and the standard freeboard value according to the rules based on the input data;

- The compiling block which contains all the calculation procedures of the final freeboard value? These procedures represent the freeboard corrections and they are optional.

- The superstructures correction for needs a special calculation and it is made in a new Excel sheet, using another input form, so another calculation block.

After the correction determination, the program comes back to the initial input form and waits to finish the calculation.

- Information and errors printing block.

According to the user option, the program displays which corrections were not made and which errors occurred during running time.

The output data is written in an Excel file, at each calculation time.

References

[1] ***, (1981), "International Convention on Load Lines, 1966", International Maritime Organization, IMO701E, London, 1 - 76

[2] ***, (1995), "International Convention on Load Lines, 1966 and the amendments adopted in 1971, 1975, 1979 and 1983 to this Convention", RNR, Bucharest, 12 - 169.