BALLAST WATER MANGEMENT “A NEW METHOD”

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Abstract

Ships’ ballast water is probably the most important mechanism transporting exotic marine and freshwater organisms around the world today. This paper reviews the problem caused by ballast water, and the impacts of an introduced organisms which have threatening effects to environment, human health and economy. It includes some of various laws, regulations, guidelines, administrative orders and other directives issued by international, national and sub-national governing bodies have attempted to address the problem of exotic organisms carried in ships’ ballast water, with most of these directives arising since 1989. Finally the paper discusses the solutions of the ballast water problem, the various technologies that could be used for treating ballast water onboard ship and on-shore during ballasting, deballasting or en-rout and summarizes the studies which used the heat to treat ballast water. The paper include two methods, the first one is a proposed method for ballast water treatment on board ship and the second one is a proposed system for ballast water management may be applied in ports.

Key word: Ships’ ballast water, Ballast water management, Heat treatment

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REFERENCES

DEVELOPMENT STRATEGY OF PORT SAID PORT AND CONTAINER TERMINAL
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Abstract
Since 1960 until now, there is a growing trend for utilizing containers in marine shipping due to growing in global trade, safety of containers, faster handling in ports and door to door services. This trend leads to a development of container ships from 1000 TEU to 12000 TEU capacities. Consequently there is a continuous development in all related parties to container shipping such as port authorities, container terminals, cargo handling equipments manufacturers, management of container terminals and information technology. The system of containerization made a revolution at the entire pattern of trade and ports around the world, gearing up to meet trade growing and its requirements. Although there is a development in most of container terminals globally, our Egyptian container terminals still suffering from low performance which leads to losing the competitive capability. The paper discusses the problems of public sector container terminals in Egypt pointing particularly to "Port Said Container Terminal" and suggests solutions for seeking for improving these problems performance and productivity of this container terminal to enable it to compete and face the challenges due to growing in container shipping market.

Key Words: Container Ships, Container Terminal, Global Trade, Performance and Development of Container Terminals, Egyptian Container Terminals.


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STABILITY ANALYSIS FOR RIVER NILE FLOATING HOTELS

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Abstract
A study of the Egyptian River Nile waterway and its characteristics is made to define the constraints on the dimensions of Nile floating hotels. Factors causing heeling moments or influencing the position of the ship’s center of gravity, thus affecting the righting moment curve, are discussed in this paper to attain a better stability analysis for Nile floating hotels. Stability of Nile floating hotels can be easily and quickly checked by use of the proposed formula for the critical metacentric height. A mathematical model, for a specially designed computer program, calculates the maximum sunshade area, is presented. Another proposal, for the calculation of maximum lateral projected area of Nile floating hotels, is presented. River Nile weather condition also investigated, to establish a specified wind speed to be used in connection with stability calculation of Nile floating hotels.

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Techno- Economical Optimization for River Nile Container Ships

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Abstract:

This work introduces a procedure for the preliminary design of self propelled container ship working between Cairo and Aswan through the River Nile. The characteristics of the navigation route from Cairo to Aswan are investigated to define the constraints on dimensions and speed of the River Nile container ships. Also, the dimensions of some existing inland ships are collected and investigated to set limits on the dimensional ratios of such ships. Two empirical formulae, for the determination of ship steel weight and power prediction in the preliminary design stage of conventional self propelled inland container ships, are proposed. This problem is handled as a single objective constrained optimization problem using a specially developed computer program (CACSO). As the required freight rate reflects the major goal of any commercial ship, it is considered as the objective function for this optimization process. A sensitivity study is carried out to indicate the relative dependence of the objective function to a variety of factors to which the objective function may be sensitive.

Key words: Optimization, Inland container ship, River Nile.

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