

Development of Database for Risk Assessment Applying to Ballast Water Managements

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Abstract : Billions of tones of ballast water including various aquatic organisms are being carried around the world by ships. When the ballast water is discharged into new environments, some aquatic organisms discharged with ballast water may become invasive and severely disrupt the native ecology. Thus, International Maritime Organization (IMO) adopted the Ballast Water Management Convention in 2004. Regulation A-4 of the convention states that a government in waters under their jurisdiction may grant exemptions to any requirements to ballast water management, but only when they are granted to a ship or ships on a voyage or voyages between specified ports or locations, or to a ship which operates exclusively between specified ports or locations. In order to grant exemptions, risk assessment should be conducted based on the guidelines for risk assessment developed by the IMO. For the risk assessment, it is essential to collect the relevant information and establish a database system. This paper studies the database system for ballast water risk assessment. This database consists of the shipping database, ballast water database, port environment database and species database. The shipping database has been established based on the data collected from the port management information system of Korea Government. For the ballast water database, ballast water discharge has only been estimated by the loading/unloading of the cargoes as the convention has not come into effect yet. The port environment database and species database are being established based on the reference documents, and existing and newly collected monitoring data. This database system has been approved to be a useful system, capable of appropriately analyzing the risk assessment in the all ports of Korea.

Keywords : ballast water, IMO, risk assessment, shipping, environment, species

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