

February 27, 2011
For immediate release

Contact:
Corporate Communications Dept.
Phone: 81-3-5400-4531
Fax: 81-3-5400-4570

Yokohama Rubber Develops System to Support Offshore Ship-To-Ship Operation

Tokyo – The Yokohama Rubber Co., Ltd., announced today that it has developed a system to monitor offshore Ship-To-Ship (STS) operation. The system incorporates technology from the design of pneumatic fenders and the numerical simulation analysis of dynamic ship motion. This is a comprehensive monitoring system for offshore STS operation, such as when two tankers come alongside to transfer cargo such as crude oil or liquefied natural gas (LNG). The system can simultaneously monitor the state of pneumatic fenders used as shock absorber between the two ships and the behavior of both ships – a comprehensive system to monitor offshore STS operation. This will mark the first commercialization of a comprehensive, wireless fender-monitoring system anywhere in the world.

With wireless pressure sensors developed by Yokohama built inside the pneumatic fenders, the system enables remote monitoring of internal air pressure and compressive deformation of fenders, changing moment by moment as the two ships come alongside each other and carry out operations. With GPS technology, etc., it allows the system to monitor position of the two ships and their approaching velocity. Using the system, a captain and mooring master can monitor from the bridge the state of the pneumatic fenders and the behavior of the two ships. As a result, if circumstances become abnormal, including excessive compressive deformation or reduced internal air pressure of a fender, or excessive approaching velocity, this can be promptly detected to prevent minor collisions between the ships and consequent serious accidents such as leakages of crude oil, etc. The system is equipped with alarm and recording functions that not only facilitate safe loading operations, but establish operational standards as well as accurate analysis if an accident does occur. Field-testing using a crude oil tanker in the Gulf of Mexico has been completed. The system has also been used on a trial basis for cargo operations between two LNG tankers at the Tomakomai Port in Hokkaido Japan since November 2011.

(Photos provided by the Japan
Petroleum Exploration Co., Ltd.)



Monitoring screen of system to monitor maneuvering of two vessels in close cargo operations



Pneumatic fenders between two vessels



Cargo work between two LNG tankers

Yokohama Rubber has been marketing pneumatic fenders since 1958 and plays the major role in pneumatic fender market. With characteristic aeroelastic softness, pneumatic fenders can be utilized for cargo work at ports/harbors and offshore STS operation, even during severe sea condition. Hereafter, Yokohama will enhance its product range by this advanced monitoring system, endeavoring to further differentiate itself in the pneumatic fender market.