HEAD OFFICE 9-7, 1-CHOME HATCHOBORI, CHUO-KU TOKYO 104-0032, JAPAN

TEL: 81-3-3552-1257 FAX: 81-3-3552-4673 URL http://www.nkkk.jp/

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**LABORATORIES** 

YOKOHAMA, OSAKA



INTERNATIONAL INSPECTION & SURVEYING INSPECTIONS REQUIRED BY REGULATIONS FOR DANGEROUS GOODS, SOLID BULK SUBSTANCES AND NOXIOUS LIQUID SUBSTANCES MARINE SURVEY AND CARGO INSPECTION MARINE CONSULTANT NON-MARINE ADJUSTING PETROLEUM AND CHEMICAL INSPECTION LIQUEFIED GAS INSPECTION CHEMICAL ANALYSIS TANK CALIBRATION

KAWASAKI

CARGO WEIGHING AND MEASURING

SAMPLING AND TESTING

Date: February 28, 2012

Certificate No. TKS 1130/11

ORIGINAL

(Ref. TKU)

Inspection Certificate

THIS IS TO CERTIFY THAT we, the undersigned, did witness the demonstration of measurement system for the stand pipe of radar type level gauge at Kongsberg Marine China Jiangsu Ltd., Zhenjiang, China on February 24, 2012, and hereby report as follows.

## Measurement system

Mechanical measuring equipments and calculation software consist the measurement system.

## 1.1. Mechanical measuring equipments

The followings are the components of the mechanical measuring system.

- -Lathe
- -Main carriage with linear encoder for X axis
- -Small carriage with linear encoder for Z axis
- -Digital indicator
- -Thermometers
- -Stand pipes with reference length

## 1.2. Calculation software

This is for determination of the length of stand pipes at 20 degrees Celsius.

## 2. **Findings**

The functioning of the above measurement system was successfully demonstrated in our presence.

We are of the opinion that the measurement system may determine the length of stand pipes for LPG/LNG application as was intended.

> NIPPON KAIJI KENTEI KYOKAI SECOND SURVEY SERVICE CENTER

M. KAWAI, GENERAL MANAGER

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