Subject: Tech.inf 2017-17

Harmonic Distortion for Ship Electrical Distribution System including Harmonic Filters and Requirements

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موضوع:اطلاعیه فنی ۲۰۱۷-۲۰

اعوجاج هارمونیک، شامل فیلترهای هارمونیک، برای سیستم توزیع برق کشتی و الزامات آن

شماره: ۲۲/۹٦/۰۰۲

تاریخ: ۱۳۹٦/۰۷/۳۰



All respectful ICS' Customers/ Surveyors With Gratitude,

Accordingly, the requirement which has been introduced by IACS (UR E24) to monitor and record the harmonic distortion levels occurring within the ship's electrical power system has been sent as technical information.

The electronic file of this document could be found at the following address:

Department Publications Tech tech.inf 2017-17

Also this Electronic File will be sent via email to all respectful ICS Surveyors.

A.M.Rezvan Panah Manager of Convention & Legislation Department A. M. Rowan Parch

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تر**ک دعوی**: اگرچه در گردآوری کلیه ر اهنماهای فنی ارائه شده توسط م سرت نحوی، از چه در جرداوری خلیه راهنماهای فنی ار آنه ننده تو سط موسسه رده بندی ایر انیان ۱۶ حد ممکن تلاش در دقت و صحت محتو صورت گرفته است، این موسسه متحمل مسئولیتی در قبال هرگونه اشتباهات ،خسارت های احتمالی و جرانمی که ممکن است در ارتباط با بکار گیری مفاهیم و مطالب ارائه شده رخ دهد، نمییاشد.

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Harmonic Distortion for Ship Electrical Distribution

System including Harmonic Filters and Requirements

Number: 32/96/0066 Date: 21.10.2017 موضوع:اطلاعیه فنی ۱۷-۲۰۱۷

اعوجاج هارمونیک، شامل فیلترهای هارمونیک، برای سیستم توزیع برق کشتی و الزامات آن

شماره: ۲۲-۱۲۹۲/۳۳

تاریخ: ۱۳۹۲/۰۷/۲۹

- What is the use of harmonic filter?

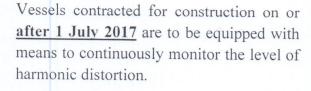
Three-phase harmonic filters are shunt elements that are used in power systems for decreasing voltage distortion and for power factor correction. Nonlinear elements such as power electronic converters generate harmonic currents or harmonic voltages, which are injected into power system.

- Purpose

In order to detect deterioration in the harmonic filters at an early stage, a new requirement has been introduced by IACS (UR E24) to monitor and record the harmonic distortion levels occurring within the ship's electrical power system. Early detection of any deterioration of harmonic filter components would minimize the risk of catastrophic failure occurring that could be dangerous both for persons (fatalities and injuries) and for the ship (blackout, fire or explosion). Therefore, it is essential to carry out regular harmonic distortion measurements, to detect an incipient failure and allow corrective actions to be taken.

For vessels where harmonic filters are fitted, the harmonic distortion level is to be measured annually under seagoing conditions and after any modification to the electrical distribution system or associated consumers.

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Vessels contracted for construction before 1 July 2017 that are not equipped with facilities to continuously monitor the level of harmonic distortion may temporarily installed measurement equipment. This equipment, used under seagoing conditions by suitably qualified and trained personnel, is to be able to monitor the harmonic distortion on the main bus bars when the greatest amount of distortion is occurring

