

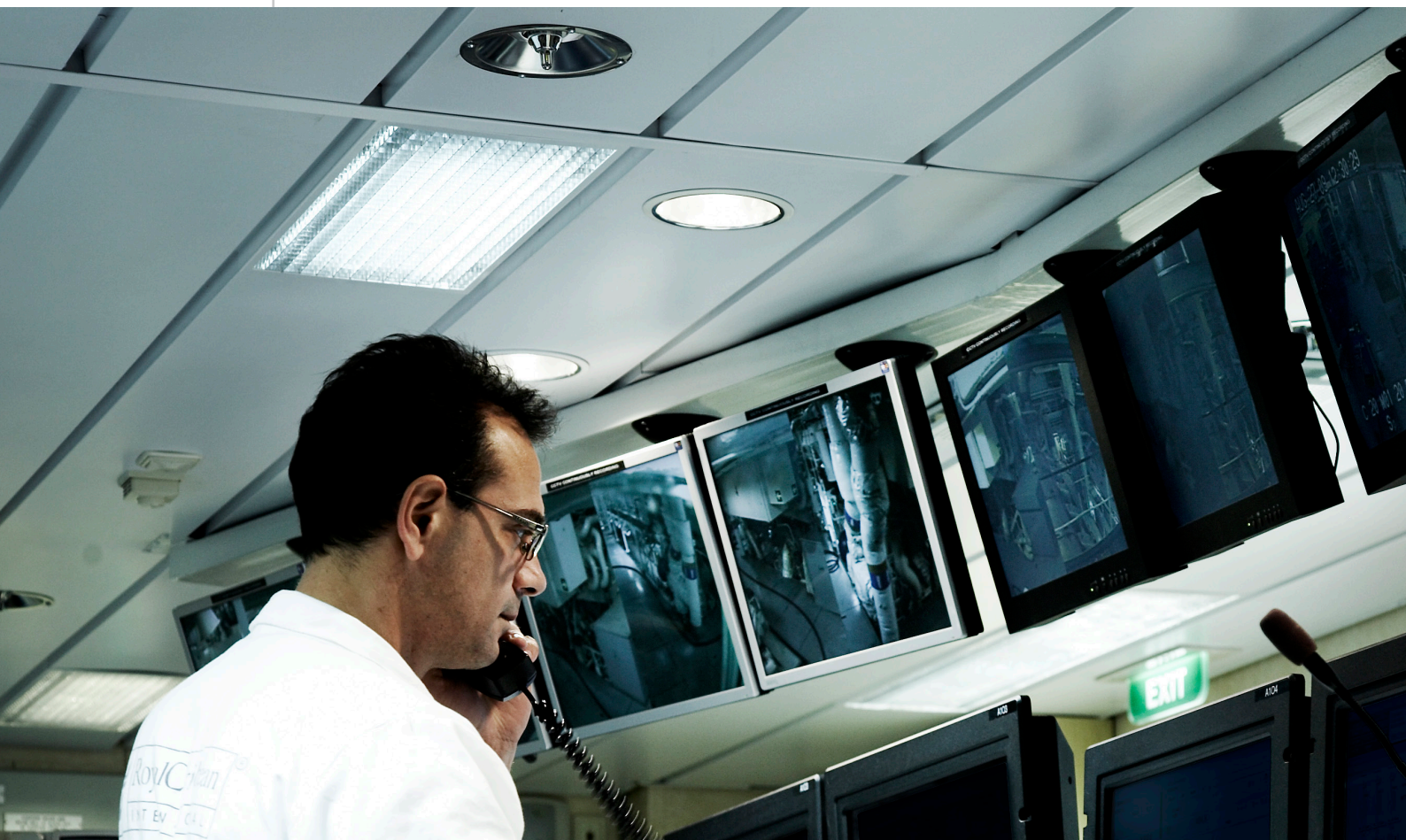
System Overhaul and Onboard System Check

Maximise profitability and efficiency



ROSEMOUNT™


EMERSON™



To maximise profits and drive efficiency, it is essential that your Rosemount TankRadar system from Emerson is kept in peak condition at all times. Our regular Onboard System Checks are the perfect way to predict and prevent any potential system failures and maintain full system functionality in between System Overhauls.

Engine Control Room/Cargo Control Room & Bridge G3 TankRadar

- ▶ Control room units check
- ▶ Check and correction of any communication lines errors
- ▶ Minor workstation database adjustment
- ▶ Update SCC computer software
- ▶ Backup for all databases, SCC and workstations
- ▶ System function check
- ▶ Crew training and FAQ
- ▶ “Equipment in good condition” certificate

Engine Control Room/Cargo Control Room & Bridge STaR/CMS

- ▶ Control room units check, including air filters and dust cleaning, verify power supply units
- ▶ Check and correction of any communication lines errors
- ▶ Minor workstation database adjustment
- ▶ Database backup
- ▶ Engine Control Room/Cargo Control Room equipment inspection
- ▶ System function check
- ▶ Grounding (checking equipment to be within requirements for connection to earth)
- ▶ Crew training and FAQ
- ▶ “Equipment in good condition” certificate

Delivering peace of mind

Any tank-related function. Any vessel. Any challenge. Emerson offers a wide variety of marine solutions that broaden your opportunities for success. Our expertise covers integrated tank management systems, valve remote control, cargo monitoring systems, ballast, fuel oil and service tank level gauging and draft measurement for all types of ships and offshore units.

A comprehensive suite of services and solutions are designed to provide you with unprecedented value and cost savings throughout the life span of all tank-related functions on board

- ▶ *Aftermarket parts and services*
- ▶ *Repair and maintenance*
- ▶ *Replacement parts and components*
- ▶ *Upgrades and retrofit*
- ▶ *Installation and start up*
- ▶ *Education and training*

Backed by our worldwide network of highly skilled engineers and technicians we provide you with the experience and resources required to keep your ship sailing and giving you ultimately, total peace of mind.

Onboard System Check

Prolong the lifetime of your equipment

Essential fine tuning

Our regular Onboard System Checks are an important way to ensure the ongoing reliability and performance of your cargo monitoring system from Emerson. They are conducted by qualified Emerson engineers who have a complete understanding of your system plus full access to our knowledge database.

All minor issues and reported errors found during the inspection are taken care of quickly, efficiently and with minimal system downtime. Upon completion, our engineers will issue a Check List Report that summarises any issues in need of action to

ensure your Cargo Monitoring System remains at optimal capacity and availability.

All Onboard System Checks are preferably performed when the vessel is in port, with empty tanks. As with our System Overhaul, it is also recommended that one or more of your crew are present to assist with monitoring workstation readings when checking ullage, temperature and pressure readings.



Onboard System Check services

Emerson provides a comprehensive range of services to ensure your Rosemount TankRadar system remain in optimal condition.

On deck equipment

- ▶ *General inspection of deck equipment, including tightness of sealings and deck units are checked and cleaned for any water ingress*
- ▶ *Renewal of o-rings*
- ▶ *Ullage measurement check, echo strength quality and tank scan (empty tanks are required for tank scan)*
- ▶ *Vapour pressure measurement check, alarm limits and zero adjustment (empty tank with minimum tank pressure is preferred)**
- ▶ *Temperature measurement function check**
- ▶ *Check and correct ground failures on connected equipment*

ECR/CCR** & Bridge

- ▶ *Control room units check, air filters and dust cleaning, verify power supply units*
- ▶ *Database backups which are left onboard and stored in main office database*
- ▶ *Engine Control Room/Cargo Control Room equipment inspection*
- ▶ *System function check*
- ▶ *Crew training and FAQ*
- ▶ *Onboard Report with suggested remedial action*

*Assistance by a crew member is helpful

**Engine Control Room/Cargo Control Room

System Overhaul

Prolong the lifetime of your equipment

At Emerson, your system's performance and reliability is our prime concern. All our equipment undergoes stringent testing procedures to ensure they can withstand hazardous materials, extreme temperatures and harsh ocean environments. However, from time to time, overhauls are necessary to verify and restore functionality and replace any parts affected by time and usage to minimize errors and prolong the system's life time.

Efficiency and performance

Designed for all types of vessels with a cargo monitoring system from Emerson, including the StaR, G3 and CMS, our System Overhaul service is the best way to keep

your system operating at full capacity and availability. It is most efficiently executed in dry dock, which allows our engineers to carry out a thorough check of your system and equipment with minimal disruption to your operations.

During the System Overhaul, it is important that the tanks are empty, gas-free and clean, as many of the checking procedures require access to tank interiors. In order to gain accurate verification of processes such as Ullage measurements, it is also important that the tanks are clean with no residue or sludge on the bottom.

Certificate of Good Condition

Following the overhaul, we also provide a Certificate of Good Condition that can be used as documentation during on board vetting inspections. The certificate is not mandatory but if it is done prior to vetting, it acts as a guarantee that any errors found will be fixed. Many customers use this to maintain their on board safety measures and for their charter, which can be lost unless equipment is maintained to a high standard.

System Overhaul Check services

Emerson provides a comprehensive range of on board services to get your vessel underway in the shortest time possible. These include:

On deck equipment,

G3/StaR/CMS

- ▶ General inspection of deck equipment, including sealings of gaskets and o-rings. Deck units are checked and cleaned for any water ingress
- ▶ Verification of ullage measurement, echo strength quality, tank scan*
- ▶ Verification of vapour pressure measurement, alarm limits and zero adjustment*
- ▶ Check of temperature measurement and alarm limits*
- ▶ Check and correction of any ground failures (equipment on deck to be within requirements for good connection to earth)

Recommended Replacements

- ▶ Replacement and installation of workstation(s)
(Life time: 5-7 years. Importance: high)
- ▶ Replacement of SCH battery charger and SCY batteries in SCU cabinet
(Life Time: 5-7 years. Importance: recommended)
- ▶ Replacement of SCC computer
(Life time: 7 years. Importance: high)
- ▶ Replacement of SCD service display
(Life time: 5-7 years. Importance: recommended)

*Assistance by a crew member is helpful

Expertise within Marine Solutions

Emerson Automation Solutions (emerson.com), an Emerson business, is a leader in helping businesses automate their production, processing and distribution in the chemical, oil and gas, refining, pulp and paper, power, water and wastewater treatment, mining and metals, food and beverage, life sciences and other industries. The company combines superior products and technology with industry-specific engineering, consulting, project management and maintenance services.

Emerson's Marine Solutions business unit is part of Emerson Automation Solutions. Our expertise covers: marine automation systems developed to integrate control and monitoring functions of any type of application; alarm management systems; valve remote

control; cargo monitoring systems; tank level gauging and draft measurement for all types of ships and offshore units.

Our brands include Damcos for Valve Remote Control, LevelDatic and MAS2600 for Ballast & Service Tank Level Gauging and Rosemount Marine for Cargo Monitoring. We have served marine customers for more than 50 years with leading innovation and engineering within marine tank management solutions. What really sets Emerson Marine Solutions apart from other companies is the dedication to the marine sector and engineering excellence. This is reflected in all aspects of the offering, from design and production, through to application know-how and global service support.

For contact information, addresses and facts about our global sales and service network, please visit:

www.emerson.com/marine

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