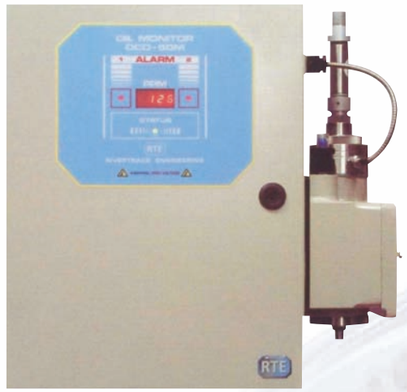
SMARTSAFE
BILGE OVERBOARD SECURITY SYSTEM

SMART CELL 15ppm OCM MEPC 107 (49)

Rivertrace Engineering is a market leader with over 25 years experience of Oil in Water Monitoring. RTE manufacture oil content monitors for the marine, offshore and industrial markets with up to date engineering solutions incorporating PFM technology. Our client list includes most of the worlds' separator OEMs, shipyards and vessel operators. We have IMO type approvals for both Bilge and Ballast monitors. Our global network of agents ensures local service at most ports.

SMART ODME - MEPC 108 (49)



OCD 50M - Boiler Condensate/Cooling water monitor

SPECIALIST IN WATER QUALITY

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- Demonstrate Marpol Compliance
- Cost Effective Prevention of illegal discharge
- Easy installation 'plug n play', low maintenance
- Capable of recording other miscellaneous ships data
- Compatible with all IMO Resolutions
  - MEPC 107 (49)
  - MEPC 60 (33)
  - A393X
- Bridge override control available
- Shore based event reports

Smartsafe Bilge Overboard Security System

The SmartSafe Bilge Overboard Security System has been developed out of repeated industry requests to provide a failsafe method of prevention against illegal oil discharge to sea. Illegal discharges involving "Magic Pipes" and 'Empty' Oily Water Separators are seen as a major contributor to pollution of the seas and vessels are under increasing scrutiny by Port State Control (PSC) Surveyors globally.

The system is primarily designed to prevent illegal oily water discharge to sea and will record if an attempt is made.

Equipment supplied under MEPC 107(49) has a degree of inbuilt increased assurance in that separator status is recorded along with time and date and it should not be possible for clean water to be used when in the discharge cycle, but even this record and control cannot prevent the "Magic Pipe" type of discharge.

For a system to be effective, all aspects of the discharge process should be monitored and recorded. The SmartSafe achieves this utilizing the separator control, oil content output, flow rate and cumulative flow through the discharge pipe and in addition records the ships GPS position, speed and track.

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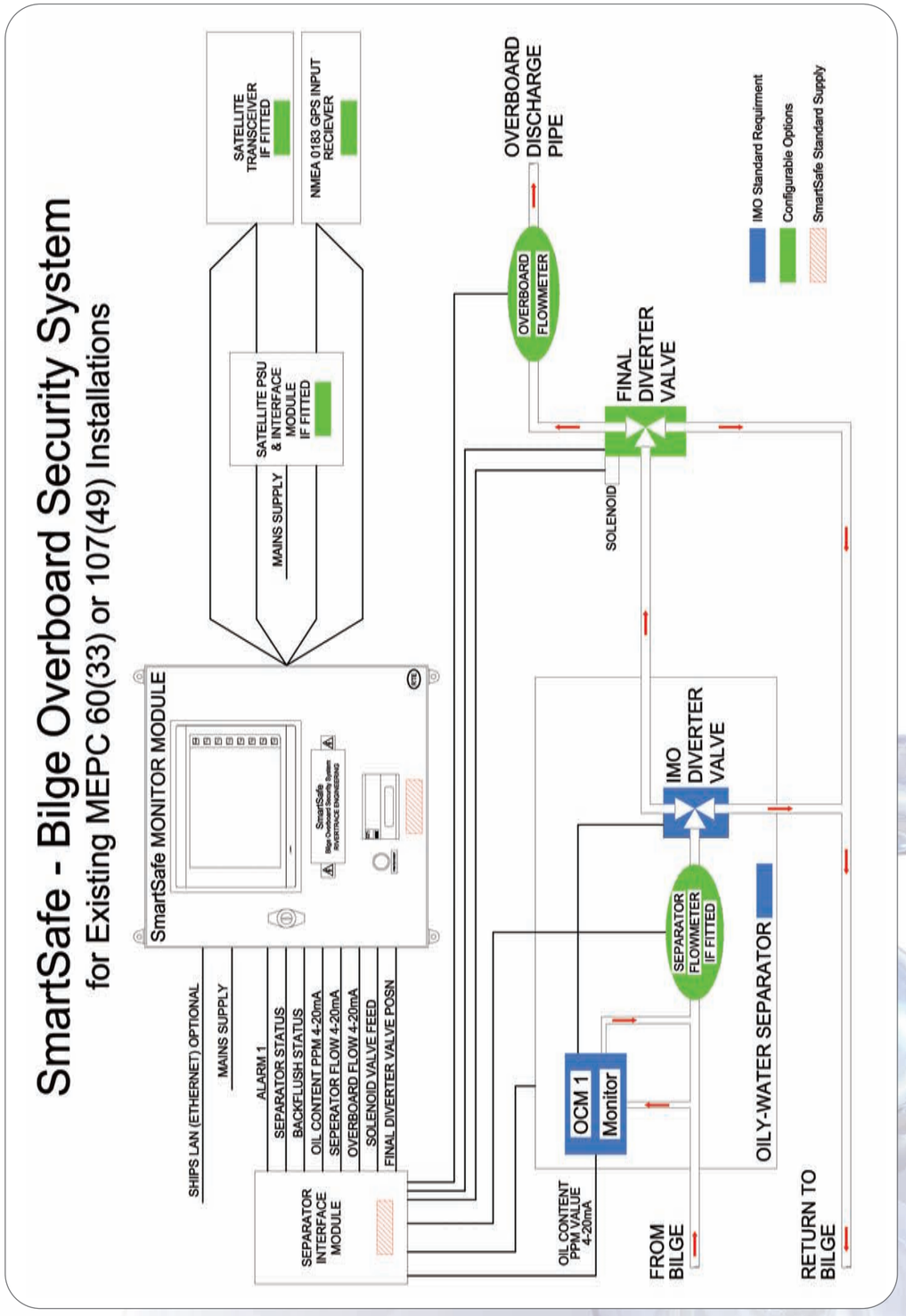

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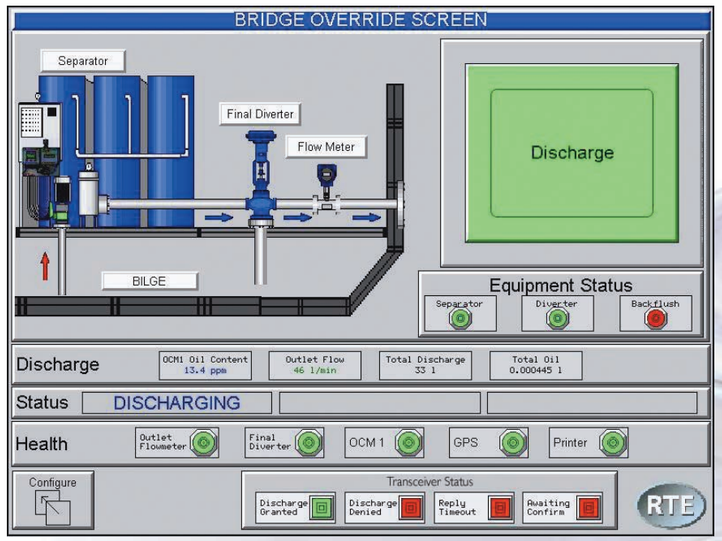
The system is adaptable to a users own definition of increased assurance whether this be secondary oil content monitoring or additional diverter valves for added assurance.

At the end of the discharge process a batch record is printed containing all aspects of the discharge and any errors or event triggers that occurred during this process. The printout can be attached to the manual Oil Record Book for presentation to PSC surveyors. In addition the data is stored within the system and can be played back graphically on the in-built screen, sent for storage to the ships Local Area Network (LAN), printed remotely or downloaded to a standard Personal Computer. Each start and stop of the oil discharge process creates a new unique file that cannot be tampered with.

Routine reports and significant event alarms can be sent to shore via the communications package.

Vessels currently fitted with a separator and monitor to the old MEPC 60(33) regulation, this increased assurance solution works to bring the recording capabilities of older devices up to and past that required within MEPC 107 (49) and at the same time providing failsafes to ensure illegal discharges cannot take place. This can result in an expensive ship wide upgrade to 107(49) being avoided.

Optionally, a variety of ships data can also be displayed and recorded in parallel which could include dirty ballast discharge, level gauging, or data from any other critical monitoring process. Please contact us with your additional requirements so we may tailor a system for your specific needs.



Bridge override screen

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