



FLIR infrared cameras help to ensure safety at sea

In the opinion of VT (formerly Vosper Thornycroft) Integrated Services (VTIS), thermal imaging excels in the real-time identification of static and dynamic mechanical, electrical and electronic faults. It also plays a key role in ensuring the working environment of the ship's crew is as safe as it can be, especially when at sea.

The company has recently won several through-life support contracts to provide ship- and shore-based services for Royal Naval ships. Implicit in these contracts is the maintenance of an agreed level of ship availability. Thermal imaging, together with other condition-based maintenance techniques, is seen as being vital to achieving this aim and accordingly, VTIS chose to invest in its own FLIR infrared camera.

The VT Group is an international government services provider whose activities are

divided into two businesses. VT Shipbuilding designs and builds a wide range of vessels for the Royal Navy and indeed navies throughout the world. It also builds smaller boats for the commercial market and supplies specialist marine equipment.

VT Support Services serves both military and commercial sectors, activities that account for over two thirds of group turnover.

VT (formerly Vosper Thornycroft) Integrated Services specialises in providing cost-efficient support programmes and services to customers from both VT business divisions. Responsible for developing this organisation's capabilities for both land-based and marine projects is Head of Maintenance Engineering, David Houghton. He led the team that put various makes of thermal imaging cameras through their paces.



Visual and infrared image of a diesel generator.

Detector resolution, image update rate, accuracy, thermal sensitivity, instantaneous field of view, image storage and whether the unit had a built-in digital camera, were all assessed. The quality of support for both camera and software, the duration of that service and associated costs were also key components in the final decision in favour of a FLIR infrared camera.

VTIS also chose FLIR Reporter software packages to complement the FLIR infrared camera, all of which are reported by David Houghton to be quick and easy to use.

"One of the first applications for our FLIR infrared camera was to help to support the Echo Class and River Class ships operated by the Royal Navy under a Contractor Logistic Support contract," David Houghton explained. "On these ships, the camera is used to detect and diagnose faults in a wide range of systems and equipment."

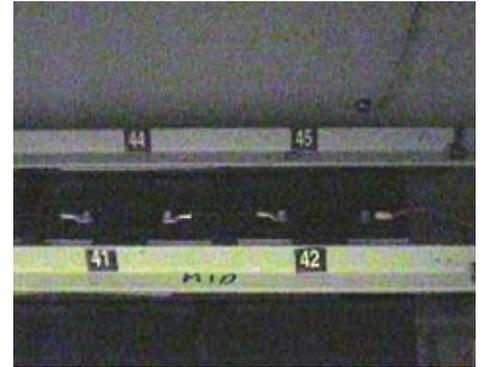
These include the propulsion system - comprising main engines, gearboxes and propeller; the diesel generators, switchboards and distribution panels that make up the power generation and distribution system; fuel oil, lubricating oil, heating, ventilation and air conditioning systems; fresh, salt, black and grey water systems; fridge and freezing plant; fire, bilge and ballast systems; radar, navigation and communication equipment and emergency power generators.

The regular testing of these systems is required to ensure compliance with the rules and regulations for Classification Societies, the Maritime and Coastguard Agency and the newly introduced SOLAS Regulations. The latter requires areas of a ship whose surface temperature may exceed 220°C to be subject to regular thermal imaging surveys. Machinery, associated flammable fluid systems and adjacent hot surfaces are the obvious candidates.

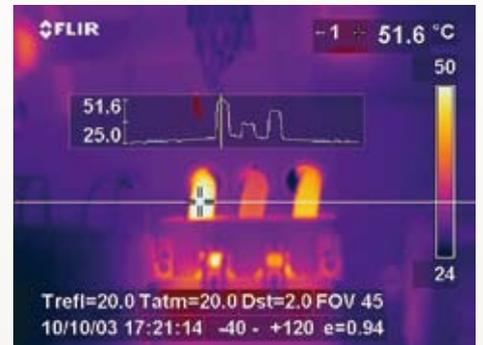
During a VTIS survey an exhaust sensing line of a diesel generator showed a temperature in excess of that permitted under SOLAS Regulations. Subsequent investigation found the insulation around the line had perished. Left undetected, the line would have undoubtedly ruptured, causing fuel to spray onto the diesel generator exhaust sensor. If this had in turn ignited, a major fire in the engine room would have resulted. Aside from the safety issues, a high capital cost would also have been incurred in replacing the affected plant and associated engine room equipment.

"Already, the camera has well and truly proved its worth," David Houghton concludes.

For more information visit www.flir.com or contact your local FLIR dealer.



Visual and infrared image of a trip and supply panel.



Infrared image of an isolator inspection

VT shipbuilding facility.



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