

## ***Royal Caribbean selects Emsys Emissions Monitoring System for the 'Independence of the Seas'***



W R Systems, Ltd (Norfolk Va.) has been awarded the right to supply its Emsys, Emissions Monitoring System (EMS) to the Royal Caribbean International (RCI) vessel 'Independence of the Seas'.

The system will be installed to monitor performance and provide emissions compliance data for an EcoSpec Exhaust Gas Cleaning System. The technologies will be installed during mid-2011 as part of a pilot test aimed at reducing RCI's environmental footprint.

The Emsys system is based on solid-state Laser technology and has been awarded full Type Approval from the American Bureau of Shipping (ABS) in line with the International Maritime Organization's (IMO) MARPOL Annex VI NO<sub>x</sub> Regulations, and the IMO Exhaust Gas Cleaning System Guidelines. The system also carries the MED wheelmark.

Launched in September 2010, the Emsys System has been specifically developed to introduce new sensing technology into marine exhaust emissions measurement. The system is designed to be virtually maintenance free, and is inherently stable requiring only regulatory 'calibrations'. Mounted in the funnel space, Emsys can monitor up to 10 engines or boilers from a single sensor, allowing very compact and rapid installation for retrofit applications.

The Emsys system also includes the first sensor to measure Particulate Matter (PM) 'outside the stack'. This significant benefit reduces capital cost and eliminates installation of sensitive measurement equipment in each of the monitored exhaust stacks. The integral PM sensor has been developed to meet the requirements of the forthcoming US 'Emissions Control Area' (ECA) regulations, where PM has been included in the regulatory language.

Royal Caribbean has chosen Emsys Technology from the systems currently available because of its low maintenance and high accuracy capabilities. "It is important for RCL to demonstrate, with the highest accuracy and traceability, the emissions reduction performance of the EcoSpec emissions abatement system. As part of our on-going environmental commitment to reduce our air emissions, the Emsys system can provide the necessary data for both compliance purposes and our own internal technology evaluation criteria" stated Capt. William S. Wright, Senior Vice President of Marine Operations for Royal Caribbean International

Following receipt of the contract award, Mr. Dave Edwards, Senior VP of WRSystems commented; 'We are delighted that Emsys has been selected for this highly important project. Our team has spent over 2 years testing and refining the Emsys System to be the most advanced technology available. The Laser sensor is fantastic, no moving parts and maintenance-free operation provides our users with a highly reliable and highly accurate compliance management tool. This latest contract success comes on the back of some further exciting news which we plan to release to the industry shortly!'

Royal Caribbean Cruises Ltd. is a global cruise vacation company that operates Royal Caribbean International, Celebrity Cruises, Pullmantur, Azamara Club Cruises and CDF Croisieres de France. The company has a combined total of 40 ships in service and two under construction. It also offers unique land-tour vacations in Alaska, Asia, Australia/New Zealand, Canada, Dubai, Europe and South America. Additional information can be found on [www.royalcaribbean.com](http://www.royalcaribbean.com), [www.celebritycruises.com](http://www.celebritycruises.com), [www.pullmantur.es](http://www.pullmantur.es), [www.azamaraclubcruises.com](http://www.azamaraclubcruises.com), [www.cdfcroisieresdefrance.com](http://www.cdfcroisieresdefrance.com) or [www.rclinvestor.com](http://www.rclinvestor.com).