

# CLEAN WATERS HIT OIL PRICE SLICK

Gas scrubbers are a shipper's frontline 'green' defence at a time when violators of shipping emission control laws face increasing legal action. It's a speciality in which US based CR Ocean Engineering is delivering state-of-the-art equipment with a strong client-need focus. "Providing the best system to our clients is not only a mandate by management but also a personal imperative for each employee in our organisation," said CROE's President and Chief Operating Officer Nicholas Confuorto. Report from Colin Chinery.

With recent high-profile court cases returning convictions and heavy fines on maritime pollution-related charges, shipowners face two choices; burning low-sulphur fuel – usually a highly expensive proposition due to pricing and availability – or meet increasingly severe requirements with marine exhaust gas scrubber technology.

Prominent in this field and with roots dating back to 1917, is US based CR Ocean Engineering (CROE), a leading scrubber supplier

for the global marine industry, delivering top quality, reliable, highly efficient, state-of-the-art equipment and strong client-need focus.

"Our approach is to offer the shipping industry a fantastic system at a very reasonable price backed by one of the best guarantees in the industry," said CROE's President and Chief Operating Officer Nicholas Confuorto.

High reliability and uncompromised efficiency of CR Ocean equipment are hallmarks of CR Ocean equipment. "The CROE system is

designed to be highly reliable and highly efficient with minimal attention, and our reputation has been earned over many years of land-based and on-board operation."

The New Jersey company was long established in the land-based sector before entering the marine niche. "We had been monitoring the MARPOL developments and been in contact with many shipping companies and their established suppliers.

### Client Need Focus

"Our goal at the time was to understand what the maritime clients needed and wanted to see in a scrubbing system. Discussions covered preferred equipment configurations, sizing, backpressure, efficiency, maintenance and operational flexibility. We embarked on the 'marinisation' of our systems when we felt that our system was the optimal design for entering the marine market."

The CROE scrubbing system has a small diameter and short height, and rarely requires expansion of the funnel structure. Highly efficient in achieving fuel sulphur emissions of 0.1% m/m, and needing very little attention or maintenance, it replaces the silencer, does not require a bypass, and operates in hot conditions – when the ship is outside of ECA and not required to scrub SO<sub>2</sub>.

With a CR Ocean Engineering marine exhaust gas scrubber installed, shipowners can continue to burn the less expensive and

often more available high-sulphur fuel, knowing their emissions will be MARPOL compliant.

"Our system is automated and adjusts itself to meet the requirements of IMO, as the ship and other factors outside the scrubber change under normal operations," explained Mr Confuorto. "One of the features is our control system that modulates the various parameters to allow the ship to stay in compliance even if external parameters vary unexpectedly."

CROE's portfolio provides a complete choice of closed loop, hybrid and patented 'Caustic Assisted' open loop systems. "With the caustic assisted open loop system, our clients can operate even in the low alkalinity seas without concern and without having to fuel switch."

With shipyards looking for smaller, simpler and less expensive systems to be applied, the CROE scrubber is perfect for new builds. But CROE's biggest market is retrofits, with the smaller diameter, shorter height and simpler operation of the CROE system allowing installation in existing funnels with minimal impact to ship operations.

"It's hard enough for shipping companies to be successful in today's very competitive shipping arena, so we design our systems to allow clients to concentrate on optimising their shipping/cruise operation using the lowest cost fuel available and without having to worry about the scrubber becoming a roadblock to success," said Mr Confuorto. ▸







low sulphur fuel. This differential has also dropped in most markets but it is still significant.”

Low fuel pricing and poor economy have also slowed down the normal growth in equipment and fabrication costs, and it's expected that once the global economy and fuel costs return to normal, the cost of the systems is likely to increase to meet increased components and fabrication pricing.

Mr Confuorto notes a word of caution. “Once the fuel pricing comes back up and a commitment is made to install scrubbers, there will still be a need for an additional six to eight months for equipment deliveries.

“That means that the shipping company that chooses to wait will not be able to get a jump start on improving their profitability by saving on fuel costs but will need to wait.”

### Sustainable Strategies

The scrubbing industry is facing a slow period this coming year but Mr Confuorto believes this will allow all to regroup and develop more sustainable strategies.

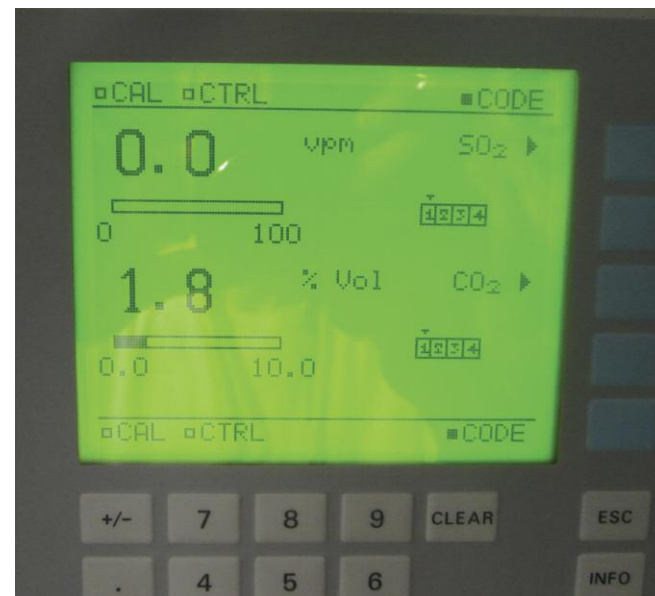
“In 2015, we saw many newcomers to the industry but I believe in the next few years we will see a reversal of that trend as the new companies see what is really involved in becoming successful in this market. The few that will survive will have to have a winning design- and we at CROE already have one.

“There are many scrubber choices out there; several are entities well-known for products other than scrubbers. But we are a scrubber company and that is all we do. And as long established specialists, we bring exceptional value added systems at a very competitive price.”

### New Developments

Recent changes to the CROE systems have seen the use of significantly advanced washwater treatment technology, with two options available; an advanced centrifuge based system utilising multiple centrifuges plus a filter (as opposed to the older style single centrifuge approach), and the use of a more advanced washwater cleaning system based on membrane and filtration components.

The CROE organisation, said Mr Confuorto, is structured to offer global expert support to all of its clients regardless of location, with high quality staff and commitment core attributes. “The CROE staff is highly qualified in the design and fabrication of scrubbing systems. Many have more than 30 years of scrubbing systems experience and have been with our company for most of their career.



“What makes us different is that we are not just another company. Most of our clients are repeat customers and we are committed to long term relationships and client satisfaction. We are totally dedicated to what we do and we take personal pride in the results. Providing the best system to our clients is not only a mandate by management but also a personal imperative for each employee in our organisation.”

The impact of the MARPOL Annex VI requirement is massive - to end the global shipping industry's sulphur emissions associated with the current use of heavy fuel oil, it mandates the use of 0.1 per cent sulphur in ECAs and in a few years it will expand the requirement to mandate a maximum 0.5 per cent sulphur fuel globally - not only in ECAs but anywhere at sea. “Luckily it allowed an equivalency by installing scrubbers,” said Mr Confuorto. “The installed CROE scrubbers will provide compliance with both requirements.”

According to Christopher Koch, Senior Advisor at the World Shipping Council, this will be the single most expensive environmental regulation the shipping industry has ever faced. “The estimated cost of switching from heavy fuel oil to a 0.5 per cent sulphur fuel on a global basis could be \$75-\$100 billion annually,” said Mr Koch.

But oil prices have thrown a crude spanner into the equations, and while last year saw many shipping companies move towards scrubbers - with more anticipated for 2016 - low fuel pricing has made uptake decisions harder.

“At the present fuel pricing, many can purchase the low sulphur fuel within the high sulphur fuel budget. This situation has allowed many to postpone capital improvements until the fuel prices increase, others however, have used the additional fuel savings to invest in scrubbers for the future,” said Mr Confuorto, author of numerous technical papers on pollutants reduction, and Chairman of the London based Exhaust Gas Cleaning Systems Association.

“Obviously what really counts in this equation is not the net fuel costs but the price differential between high sulphur fuel and

