MAN Diesel has been awarded a major order from the French energy company Electricité de France PEI SAS for the construction of three diesel power stations in its overseas Départements Réunion, Guadeloupe and Martinique, as well as one in French Guyana and two power plants on Corsica.

The contract means that all French Départements that are not on the European mainland will be supplied with electricity from MAN Diesel engines. The total order volume is around EUR 1.3 billion, with MAN Diesel supplying a share worth more than EUR 750 million.

The order includes the delivery of no fewer than 54 large, 18V48/60 diesel engines with a total power output of 1,025 MW. This is enough energy to provide electricity to the equivalent of 1 million households.

All of the power stations are designed as baseload power plants, which means that they are the primary source of electrical energy to the local power grid.

“At the heart of the power plants are their efficient and reliable MAN Diesel type 48/60 engines, each with 18 cylinders in vee configuration,” says Dr. Stefan Spindler, who is in charge of the power plant business within the Executive Board of MAN Diesel SE in addition to other responsibilities.

The 54 engines will be assembled in Saint-Nazaire by which MAN Diesel’s French production facility will be sustainably strengthened. One of the key factors in the awarding of the order was the Augsburg company’s ability to use its state-of-the-art engine and outsourcing.

Continued on page 2
Accordingly, STX Enpaco is now able to use the latest turbocharger technology for heavy-oil radial turbochargers. Already holder of a TCA licence, the company now covers the whole range from the smallest TCR model to the largest TCA. It can thus offer turbochargers equipped with the latest technology for all MAN Diesel engines. STX Enpaco has constructed over 9,000 turbochargers in the NR and TCA series since 1995.

The 18V48/60 diesel engine central to the historic order

STX Enpaco

Acquires TCR Turbocharger Licence

STX Enpaco is now able to use the latest turbocharger technology for heavy-oil radial turbochargers. Already holder of a TCA licence, the company now covers the whole range from the smallest TCR model to the largest TCA. It can thus offer turbochargers equipped with the latest technology for all MAN Diesel engines. STX Enpaco has constructed over 9,000 turbochargers in the NR and TCA series since 1995. Pictured at the signing during Hamburg’s SMM show are (left to right) Dirk Balthasar, W.Y. Song (STX Enpaco), K.K. Lee (MD-Korea), Ralf Großhauser, S.D. Lee (STX Enpaco).

Successful S35ME-B Type Approval Test

MAN Diesel has performed a main engine Type Approval Test (TAT) for the smallest member of its electronically controlled ME-B family.

The test programme for the MAN B&W S35ME-B ran over three days at MAN Diesel’s Frederikshavn facility in Denmark, and was completed on November 21st last after a comprehensive range of test runs. All international Classification Society members of IACS were present for a presentation of the engine, test-bed trials, tests of safety devices, survey of performance data and thorough inspection of engine internal components and dismantled key components.

The conclusion of the TAT was marked by a small ceremony that summarised all results, before the general document was duly signed by the test attendees.

The successful engine is the second S35ME-B unit produced in Denmark, and develops 6,960 kW at 167 r/min in an 8-cylinder execution. Like its predecessor, it will be delivered to Soli Trading & Shipbuilding Industry S.A., Turkey. Powering a newbuilding, the 8S35ME-B engine will be fitted to drive an MAN Diesel 4.4-metre Alpha CP Propeller type VBS 1280 and, from the front-end, a 1,200-kW step-up gear and alternator.

MAN Diesel Releases Service Letter Covering Lay-Ups

On account of the current, tough, economic climate and the resultant downturn in world trade, large numbers of vessels are being temporarily laid up. MAN Diesel has received requests from shipowners for detailed lay-up instructions, and has accordingly issued a service letter to this effect that covers the laying-up of all MAN B&W-branded, low-speed MC/ME-C, ME/ME-C and ME-B engine types.

The contents of the letter’s contents cover the scope and field of application, actions prior to the event, engine and control rooms, main-engine preservation, preservation maintenance, protection of electronic equipment, turbocharger preservation, and starting the engine again after the lay-up period. The service letter (SL09-502/SEU) is already available and can be downloaded by registered customers from the MAN Diesel extranet, or is available from the company upon request.
Frontline

Continued from front page

It’s a model that has proven sturdy and profitable. Frontline is a world leader in a business (crude-oil transport) that combines extremely stiff competition with zero tolerance for accidents.

Among the activities Frontline Management handles directly, for its own vessels and sister company’s vessels, are projects and newbuilding supervision, including contact with shipyards and equipment makers. That this entire newbuilding orderbook includes MAN Diesel engines is by no means an accident. “We are honoured to be owner-designated equipment on Frontline’s tanker newbuildings,” says MAN Diesel Norway Managing Director Harald Fondenær. “What is gratifying for us is that we’re involved in the entire engine selection process as a partner, not merely as a supplier.”

Choice of main engine

In any given newbuilding project, Frontline Management chooses two-stroke diesel engines based on a number of factors, including service level, reliability, durability, specific fuel consumption and, of course, price.

“Certain things are non-negotiable. We have a preference for some things. We have engines from different makers, but for a number of years we have had a very strong preference for MAN Diesel engines. We’ve had a close relationship for many years, and that’s how the specification ends up,” said Eikrem.

Fondenær describes how MAN Diesel Norway’s work on a newbuilding begins over a year before the maker is chosen. “I work with them on the early specification work. This takes place between 12 and 14 months in advance of the order at the yard. During this process, which may stretch over several months, I advise on engine selection.” He believes that MAN Diesel succeeds because the overall economy of its engines is far better than the competitors, and cites particularly the efficient licensee network.

Both Eikrem and Fondenær draw attention to one particular series of retrofits for Frontline, which sought to convert four Szczecin tankers to heavylift vessels at COSCO Nantong. “We re-engineered all the auxiliary engines on these heavylift vessels. We got them from MAN Diesel. We wanted bigger and more reliable engines, more power and a new bow thruster,” says Eikrem.

Fondenær describes that particular delivery as a win-win experience. Frontline sought early delivery of the engines in a tight market. “We scanned our whole license network for a solution. We tied up the early delivery with a builder in Poland, Cegielski, which had precisely the engine slots we were looking for at the right time.”

Question of service

When asked what he expects of MAN Diesel, Eikrem answers good service and competitive prices. “We need 24-hour service. They provide it in Copenhagen and that’s absolutely a must. One of the biggest benefits with MAN Diesel, compared to other engine makers, is that there is always someone to pick up the phone when you have a problem.”

“MAN Diesel provides an excellent service. We rely on the fact that they have people available who can answer questions and give very good recommendations. We had a problem with a crankpin bearing failing on an engine a few months back. This required us to disable one of the seven pistons. When you take out one piston, you have to do vibration calculations, to determine what kind of rpm’s you can run on the engine. They handled this very quickly. We can be sure that MAN Diesel will be there for us. And time is money for us,” concludes Eikrem.

Extended Fleet Management

Frontline Management in Oslo has overall technical responsibility for a massive fleet and dozens of newbuildings, owned by Frontline and associated companies.

- Frontline: 48 tankers, 8 bulk vessels and 18 tanker newbuildings*
- Golden Ocean: 7 bulk vessels and 39 bulk vessel newbuildings*
- Knightsbridge Tankers: 4 tankers and 2 bulk vessel newbuildings*
- Seatankers: 2 bulk vessel newbuildings* and 2 tanker newbuildings*
- TITCL: 10 tankers *specified with MAN Diesel engines

The Front Shanghai is one of the oil tankers in the Frontline stable. Built in 2006, it is powered by an MAN B&W 7S80MC engine.
51/60DF Engines Pass Factory Acceptance Tests

MAN Diesel’s type 51/60DF four-stroke, medium-speed dual-fuel gas engine has passed the final landmark on its way to its first commercial applications in the marine sector.

Having gained type approval in autumn 2007 on the seven-cylinder prototype engine in the presence of eight major classification societies, the first production versions of the 51/60DF recently completed their factory acceptance tests (FAT) at MAN Diesel’s Augsburg works.

The FATs were witnessed by representatives from shipyard STX of Korea, shipowner EN-Eciano of Spain and classification society Bureau Veritas. These first 51/60DF engines for marine application will power the world’s largest liquefied natural gas (LNG) carrier with electric propulsion based on dual-fuel engines. The new vessel will have an LNG capacity of 174,000 cubic metres and its propulsion and onboard electrical power system follows MAN Diesel’s versatile diesel-electric concept, which stresses a high degree of fuel flexibility, redundancy and maintainability at any time during a voyage.

This overall flexibility is based on five equally rated inline 51/60DF dual-fuel engines – in this case inline, eight-cylinder type 51/60DF engines each producing 8,000 kW at 514 rpm. Compared to configurations consisting of vee and inline engines, the all-inline concept maximises load-sharing potential and allows any engine to be serviced at any time without adversely affecting the LNG carrier’s sailing schedule or the engines’ level of redundancy and maintainability at a high degree of fuel flexibility, says Jens Ring-Nielsen, Senior Manager for MAN Diesel Propellers, Gears and Aft-Ship Systems.

According to Jens Ring-Nielsen, the 51/60DF dual-fuel engine is based on the well-proven 48/60B heavy fuel engine and offers a market-leading 1,000 kW/cylinder output in both gaseous and liquid fuel operating modes. For marine applications, it is offered in in-line versions with 6, 7, 8 and 9 cylinders and vee-configuration versions with 12, 14, 16, and 18 cylinders.

The 51/60DF dual-fuel gas engine can be run on either gaseous fuel or liquid fuel and can switch between fuels at any engine load. In its gaseous fuel mode, the engine burns natural boil-off gas (NBOG) evaporating from the LNG cargo, ignited by a distillate fuel micro-pilot. The distillate fuel micro-pilot amounts to less than 1% of the energy required by the 51/60 DF engine and is injected via a common rail system which allows flexible setting of injection timing, duration and pressure for each cylinder.

In the back-up liquid fuel mode, the 51/60DF engine operates as a normal diesel engine injecting either marine diesel oil (MDO) or heavy fuel oil (HFO) through a separate, normally dimensioned injector in a camshaft actuated pump-line-nozzle system. At 1.5 g/kWh NOx emission (IMO cycle E2), in gaseous fuel mode the 51/60DF already complies with IMO Tier III limits for emissions of oxides of nitrogen.

About Vickers Oils

Vickers Oils manufactures niche, biodegradable, non-toxic hydraulic fluids. The HYDROX BIO range of eco-friendly sterntube lubricants has enjoyed rapid uptake since their introduction in 2003. More than 10,000 vessels worldwide now use HYDROX BIO as their sterntube oil. In addition to being Readily Biodegradable, the HYDROX BIO grades are also Non-Toxic to marine life throughout the food chain.

In 2006 Vickers launched the ECOSURE HSE biodegradable, non-toxic hydraulic fluids. The ECOSURE HSE fluids have been developed specifically for environmentally sensitive marine applications and provide an outstanding operational performance and excellent ecological credentials.

Green Lubes For Environmentally Friendly CP Propellers

After comprehensive testing, MAN Diesel has given general approval for the use of Vickers Oils bio-oils with its CP propellers.

Accordingly, Vickers biodegradable and non-toxic oils are now accepted by MAN Diesel for use within complete oil systems in the VB and VBS propeller range. As such, Vickers bio-oils can be used both for the general gravity lubrication of sterntube bearings, and the lubrication of propeller hubs’ moving internal parts.

Jens Ring-Nielsen, Senior Manager for MAN Diesel Propellers, Gears & Aft-Ship Systems, says: “We are very pleased with the test results experienced with Vickers bio-oils. Today, we are the first company able to offer our customers the opportunity of using environmentally friendly, biodegradable oils in their CP-propeller systems”.

The oils, which have undergone extensive testing, have the Vickers trade names HYDROX BIO 68 and HYDROX BIO 100. Additionally, another Vickers bio-oil is presently being tested for use with MAN Diesel’s AMG-range of reduction gearboxes, and as hydraulic servo-oil for propeller pitch-setting.

The ‘bio-lubricated’ VB and VBS propeller range covers the power range from 1,000 to 30,000 kW – and hub series from 480 to 1,940 mm in size. This corresponds with propeller diameters in the range of 1.8 to 8 metres.

About Vickers Oils

Vickers Oils manufactures specialised marine lubricants which are available in stock points worldwide. The HYDROX range offers an insurance against water ingress, which can occur in ships’ sterntubes, stabilisers and thrusters. In the presence of water the HYDROX products maintain lubrication and continue to protect against corrosion.

The HYDROX BIO range of eco-friendly sterntube lubricants have enjoyed rapid uptake since their introduction in 2003. More than 10,000 vessels worldwide now use HYDROX BIO as their sterntube oil. In addition to being Readily Biodegradable the HYDROX BIO grades are also Non-Toxic to marine life throughout the food chain.
At a ceremony in Bergen on September 26th last, Odfjell, the Norwegian shipping group, signed an agreement with MAN Diesel to rebuild the main engine aboard the M/T 'Bow Cecil'. The agreement covers the rebuilding of the Bow Cecil’s engine from type L60ME-C to type L60ME-B, a process which is expected to proceed in two stages. The first of these was during a scheduled docking in the ASRY shipyard in Bahrain, encompassing most of October 2008, with the second taking place when a suitable gap in the Bow Cecil’s schedule arises. MAN Diesel PrimeServ, MAN Diesel’s after-sales arm, will provide technical back-up for both stages of the project.

The Bow Cecil is a chemical tanker and has played a central role in the development of MAN Diesel’s ME-concept. In the wake of an agreement between MAN Diesel and Odfjell, prototypes of the ME engine’s components and systems have been thoroughly tested on its main engine since November 2000. With the rebuild, the world’s first ME-B retrofit, the Bow Cecil will be equipped with a cutting-edge, electronically controlled prime-mover that will provide MAN Diesel with a host of invaluable, in-service experience.

MAN Diesel’s ME-B concept
The economical ME-B design utilises a camshaft-operated exhaust valve and an electronically controlled fuel-injection system. In addition, the physical dimensions of the S46ME-B and S60ME-B bed-plates in particular are identical to those of their MC-C equivalents, greatly facilitating retrofit installation of the new technology on such engines with the same footprint if so required. Electronic fuel injection makes the new ME-B engines well-equipped to meet Tier-II emission requirements, and is an efficient way of managing current environmental, emission requirements. As with the larger MAN B&W ME-engines, the Alpha Lubricator comes as standard with all ME-B engines, ensuring a very low cylinder lubricating-oil consumption.

In summary, the ME-B series offers optimal engine performance in powerful, economic and future-oriented diesel engines, ensuring that they will remain market leaders for decades to come. Based on well-proven diesel technology, the ME-B series provides engines geared to market requirements for:
- electronic fuel-injection
- control reliability
- longer time between overhauls
- better vessel manoeuvrability
- very low life-cycle costs

The ME-B range of MAN B&W diesel engines now offers 35-, 40-, 46-, 50- and 60-cm models in the smaller-bore range, while the ME-C covers the market’s medium- to large-bore segment.

Odfjell and MAN Diesel
Further ME-B Development
Tanker pivotal to development of MAN B&W ME-engine concept

MAN Diesel concluded another major contract at SMM 2008. Concordia Maritime and French energy company Total decided to install MAN Diesel turbochargers with VTA variable turbine area technology aboard a new tanker, the ‘Stena Progress’, powered by MAN B&W 6S46MC-C low-speed engines. The VTA system was tested on the turbocharger of one of the 6S46MC-C engines powering the P-MAX, ice class shallow-draught tanker, that goes by the moniker ‘Stena President’.
MAN Diesel is increasingly offering its medium-speed engines for the propulsion of destroyers, frigates, corvettes and aircraft carriers.

“With our high power-density 28/33D engine, we are well equipped to respond to the demand for power on patrol vessels and destroyers, frigates, corvettes and aircraft carriers, including combined prime-mover propulsion systems like CODIG or CODAG,” notes Ralf Losch, head of sales for naval and governmental marine applications at MAN Diesel, Augsburg. “However, on the larger fighting vessels, we are increasingly responding to enquiries for our medium-speed engines.”

Since the end of the Cold War, the role of many navies has changed. “Where specifications used to revolve around the defence of well-defined ideological blocs and involved patrols and sorties of limited duration from a homeland base, naval forces are now much more likely to be engaged in missions of longer range,” Losch continues. “These centre on tasks like trade-route protection, economic or military blockades, e.g., economic exclusion-zones, the prevention of smuggling and illegal migration, humanitarian aid following natural catastrophes, anti-terrorist measures and peacekeeping.”

“Under these long-endurance operating conditions, the virtues of medium-speed engines from MAN Diesel, like robustness, high availability, and excellent operating economy and emissions levels, replace speed and acceleration as prime operating requirements,” Losch states.

In typical, medium-speed, naval or merchant-marine applications, the effective life of engines is likely to be counted in decades rather than years,” he continues. “As a result of this, MAN Diesel builds considerable development potential into all its new engines and retrofit capability into new technologies like common-rail fuel injection and advanced turbocharging technology.”

The needs of extended missions far from home bases include operating profiles with long-term running at low load, a doubling of annual operating hours to as many as 5,000, a quadrupling of availability in the area of operation, radii of operation up to 4,000 nautical miles and operating intervals of two years without docking for maintenance or refit. “These needs translate into the extended service intervals and long times between overhaul typical of medium-speed engines like our 32/44CR,” Losch concludes.

The 32/44CR engine is the first medium-speed engine to be offered exclusively with common-rail fuel injection and MAN Diesel’s first all-electronic, four-stroke engine. It features a class-leading output of 560 kW per cylinder and is offered in inline 6-, 7-, 8-, 9- and 10-cylinder versions in a power range from 3,360 to 5,600 kW or 12V-, 14V-, 16V-, 18V- and 20V-versions in a power range from 2,200 to 11,200 kW. Its electronic control system is MAN Diesel’s in-house-developed SaCoS1, which is capable of managing the engine, the complete propulsion train and all peripheral equipment.

Highly flexible, the 32/44CR is suitable for both fighting ships and logistic support ships like amphibious force carriers, replenishment freighters and tankers. “Its benefits can be applied equally in both propulsion and power-generation contexts,” Losch says. “Significantly, like all MAN Diesel engines, it is designed for operation on heavy fuel and thus allows considerable fuel flexibility – in fact it can operate on any commonly used diesel engine fuel.”

Another major emphasis at MAN Diesel is diesel engines for submarines. With some 120 submarines equipped and 230 engines equating to 160 MW sold, the compact PA4 engine and generator-set package is a power source of choice for conventional submarines. A recent application highlight is the supply of generator sets for 25 Daphné and 13 Agosta class submarines to the French, Pakistanis, Portuguese, South African and Spanish navies.

With its flanged-on generator, the MAN Diesel PA4 diesel is supplied as a fully-integrated, load-bearing, frameless generator-set for battery charging and onboard power supply aboard submarines. It displaces 6.6 litres per cylinder (bore 200 x stroke 210 mm) and is offered in 8- and 12-cylinder vee-configuration versions. In an over-all output range of 700 to 1,300 kW, the 8PA4-200 SM and 12PA4-200 cover the power bracket 700 to 1,550 kW at 1,300 rpm, while the 12PA4-200 SMDS offers an output of 1,300 kW, likewise at 1,300 rpm.

Estimated to be the highest powered 1,000 rpm engine worldwide is the 28/33D, whose production recently started up in Augsburg. It is offered in 12V-, 16V- and 20V-versions in a power range from 5,400 to 9,000 kW.

To enhance its field of application, the sequentially turbocharged 28/33D STC will be available in the near future. In combination with the 28/33D’s existing electronic fuel injection technology, the STC system substantially extends the 28/33D’s torque envelope in its mid-speed and load ranges. Benefits include excellent engine response and vessel acceleration, improved reliability due to reduced thermal stresses and enhanced manoeuvrability due to faster load acceptance. Furthermore, economical operating modes are possible, like the use of a single engine at very high torques in systems with twin input / single output gears or combined prime mover propulsion systems like CODAD, CODAG or CODIG.
The British energy company, Blue-NG, has placed an order for a series of MAN B&W 10L35MC-S engines.

The first four engines will be installed at sites in Beckton and Southall, Greater London, and are intended to supply green, low-CO2 power to the capital by 2010. The two-stroke, low-speed engines will run on bio-liquids and will be built by MAN Diesel’s Polish licensee, H. Cegielski – Poznan S.A. Each engine develops 6,450 kW at 214.3 rpm and has an ISO 3046 efficiency of 48.9%. Indeed, this high thermal efficiency is one of the main contributory reasons for Blue-NG choosing MAN Diesel power. The MAN B&W engines’ performance is unrivalled in the 6MW diesel-power segment where efficiencies are usually in the range of 42-47%.

Highly efficient application

The innovative plant, known as CHP (Combined Heat and Intelligent Power) will be the first of its kind in the world. The engines’ high-temperature waste heat will drive an organic Rankine cycle (ORC) turbine, while low-temperature waste heat will be used in a natural-gas, pressure-reduction station where the heat will drive turbo expanders. The plant’s total, net electrical efficiency will therefore peak at above 82%.

The client, Blue-NG, is a joint venture between the National Grid, the UK’s gas and power-distribution company, and 2OC Ltd., a company well known in geothermal energy and natural-gas pressure-reduction station projects. The first MAN B&W 10L35MC-S engine is due for ex-works delivery in December 2009, with the remaining engines due to follow thereafter at three-month intervals.

P&O Ferries Order IMO Tier-II Compatible Common-Rail Engine

MAN Diesel has concluded a major order with P&O Ferries for the first IMO Tier II version of its new 48/60CR four-stroke engine with common-rail fuel injection. Worth over EUR 35 million, MAN Diesel will supply four in-line, seven-cylinder type 7L48/60CR main engines for two large ROPAX ferries being built by Aker Yards for P&O. Each engine is rated 7,600 kW at 500 rpm, and four gensets based on in-line, seven-cylinder type 7L21/31 engines, each rated 1,463 kWe at 1,000 rpm. Pictured here, Jari Kujala, Purchasing Manager, Aker Yards Oy, Rauma, Finland (right) seals the deal with Prof. Dr. Wolfram Lausch, Senior Vice President of MAN Diesel’s Marine, Medium-speed business unit at Hamburg’s SMM 2008.

MAN Diesel Licensee Family Grows Further

MAN Diesel has recently added another two members to its family of two-stroke licensees with the signing of contracts with Zhejiang Yunggu Heavy Machinery Co., Ltd. and Hefei RongAn Power Machinery Co., Ltd.

RongAn is currently constructing a new diesel-engine factory in Hefei, Anhui Province, and is a sister company to RongSheng Heavy Industries, a new, major shipbuilder in China. RongAn signed a contract at MAN Diesel headquarters in Copenhagen on September 29th, and will concentrate on the building of low-speed, two-stroke diesel engines of 50 to 90-cm bore.

Zhejiang Yunggu is to establish an engine factory near the major economic hub of Ningbo, Zhejiang Province, on the coast of the East China Sea and due south of Shanghai. The contract was signed at MAN Diesel headquarters in Copenhagen on September 29th. The new licensee will concentrate on the building of low-speed, two-stroke engines of 26 to 50-cm bore, with the primary aim of supplying the large number of local shipyards.
The Alpha Lubricator displays very low feed-rates with commensurate, large savings of lubricating oil. The technology existed back in 2004 but was still establishing its reputation, which is why the Seascout has waited until now to reap its benefit.

PrimeServ has sent two Danish engineers to Greece to carry out the job. Superintendent Engineer Steen Møller Hansen is 40 years of age and an 11-year PrimeServ veteran. Educated as a marine engineer, he sailed for several years before joining MAN Diesel and has completed Alpha Lubricator jobs recently in both Portugal and Spain. He says that “every ship is different and there are always new challenges.”

On this job, Møller Hansen is accompanied by 27-year-old trainee Kasper Munk Jacobsen, another marine engineer who worked for a district-heating plant before joining PrimeServ in February 2008. As part of his training, he has already spent a month in PrimeServ’s spare-parts department, an experience he says was: “Invaluable for getting to know the company,” such is that department’s central role and contact with staff from all over MAN Diesel’s global network. He has already travelled to Singapore and Dubai where PrimeServ recently opened a new spare-parts warehouse and service centre, respectively.

The third man
The two engineers are enjoying a well-deserved coffee and some good-natured banter when Dieselfacts shows up with another colleague. The third man is Jan Jensen (41), a Project Engineer from Copenhagen with significant Alpha Lubricator installation experience. Jensen got his sea legs early as a 16-year-old cabin boy, later studying to become a marine engineer. He subsequently worked for a bio-mass development company before joining PrimeServ five years ago. He’s abroad the Seascout today to have a look at how the job is going and to speak to Petros Katsavis, the Thenamaris Superintendent Engineer. Katsavis is the driving force behind his company’s investment in the Alpha Lubricator and any retrofitted to the Thanamaris fleet come under his remit. Jensen thinks the creation of such a role is “genius because it means that all the knowledge gained from one installation isn’t just lost when the next such job comes along.”

Katsavis has done his homework. If the Alpha Lubricator is as effective as he believes (and its retrofitting to over 500 ships strongly suggests he is right), then his company stands to slash its ship’s lubricating-oil consumption. In fact, his figures are very conservative compared to PrimeServ’s in terms of how quickly the new equipment can pay for itself. In that respect, the Seascout installation is a sort of test-run with the possibility of the experiment being extended to the rest of the Thanamaris fleet, a development Jensen would be very happy to see.

MAN Diesel has also supplied the Seascout’s three Hyundai-built 6L2360 auxiliary engines. This leads to a discussion in the engine-control room later when Steen Møller Hansen assures Dieselfacts that the background noise they make “is nothing compared to the racket when the main engine and turbocharger are going and, worst of all, when the tanker’s oil pumps are going!” Jacobsen adds that when the noise is at its worst, that they sometimes have to resort to sign language to get a point across, and that it can take a couple of days to get used to the quiet when returning home after such a job.

The installation
The PrimeServ team has already been aboard a week, during which time they have:
- checked all Alpha Lubricator components and that the pre-installation is OK
- set up most of the system hardware
- examined the system wiring
- flushed the system pipes to filter out impurities
- gone through the system software and begun its final configuration.

Right now, they’re trying to solve a problem with an angle encoder, which tells the Alpha Lub. exactly when to inject oil, and hold one of many little chats to discuss solutions. When Møller Hansen clammers to the bottom of the engine to work on the device, Petros Katsavis takes multiple pictures and writes copious notes. In this way, he logs every step of the job for his company where progress of the Alpha Lubricator installation is keenly followed.

In the meantime, Jacobsen is on the other side of the engine, fine-tuning a pick-up which is used as a back-up for the angle encoder. Both devices send signals to the Alpha Lubricator Control Unit (ALCU) where proprietary software controls the lubricating system and its settings.

Around 19:00, the ship’s agent shows up to drive us to our hotel, about 20 minutes to the south. In the gloom, we flash by apartment blocks, small factories and the occasional road-side bar before the growing number of berthed ferries tells us that Piraeus is close at hand. Athen’s port for much of its history, Piraeus serves a massive 19 million passengers a year, many bound for the expansive Greek ar-

The Seascout in dry dock. Its hull also received a new coat of paint during Dieselfacts’ visit

Steen Møller Hansen at work. Despite appearances, the blue “baseball cap” is actually a hardhat provided by Thenamaris
chipelago. It is also the commercial hub of Greek shipping with most of Greece’s shipowners based there.

Pretzel logic

The following morning is akin to a summer’s day in Scandinavia but our Greek driver wears a woollen jumper. On the drive over to Skaramangas, traffic predictably grinds to a halt, offering opportunity to a man selling giant pretzels and another on the outside lane selling electrical gadgets.

Back aboard the Seascout, Steen and Kasper’s main task today is to sort out hardware bugs and, time allowing, to begin setting up the system software that tells the ALCU what engine-type it is working with. To that end, they have already carried out a timing check on an injector, part of the process of manually checking the engine components to ensure the system software-configuration is in good shape.

Kasper Jacobsen likes working for PrimeServ: “There’s always something new to learn on the job, different courses you can go on. No day at work is the same; every job is different. You might have an old ship, a crew who can’t speak English, a lousy workshop, you might need to supervise a crew or troubleshoot an engine.”

Lingua franca

While PrimeServ’s knowledge base is excellent, the point Jacobsen makes about fluency in English is vital. Aboard the Seascout alone, you can hear Danish, Tagalog, Greek and Bulgarian but, without doubt, English is the lingua franca of the international shipping community. In a competitive after-sales business, having employees that can effectively communicate in English is a significant advantage for PrimeServ. All three Danes switch easily into English to talk to Petros Katsavis who himself studied in Liverpool and Newcastle. Jacobsen notes that while not all engine-room personnel may have English, that usually someone has at least a smattering and then translates for his workmates.

Money also talks. During a break in proceedings, Katsavis looks forward to the savings that the Alpha Lubricator will bring the Seascout and says that he hopes to introduce it to other ships in the Thenamaris fleet. However, as with everything else, costs have to be controlled and PrimeServ has to remain competitive to win any such contract, a point that Jan Jensen is well aware of.

An alarming development

The population of the engine control room ebbs and flows during the day as people come to smoke, confer, discuss, discourse and depart. An external contractor arrives to ensure that all alarm systems function, and that the Alpha Lubricator integrates seamlessly into the whole. The intense noise the alarm testing makes is in stark contrast to the contractor’s slight frame and directly proportional to the general relief DieselFacts feels when his task ends later in the day.

Mid-afternoon, Jacobsen starts setting up an index indicator, a small device that monitors how much load the engine is under. Katsavis whips out his camera and reveals that he has taken a staggering 2,000 pictures since the job started.

As Jacobsen works away, Møller Hansen checks a newly welded pipe-connection but finds that it is filthy. This means that the entire Alpha Lubricator system has to be flushed again as any dirt can compromise the system’s effectiveness. He communicates this immediately to Katsavis and, during the rest of the afternoon, the Greek and the three Danes discuss the logistics of sourcing lubricating oil for the flushing, and recycling it to fill the Alpha Lubricator’s system tank. And then another day ends and all too soon it’s time to find another taxi to begin the return to Copenhagen.

Epilogue

A week or two later, amid the first snow of the Danish winter, Kasper Jacobsen confirms that the retrofit ended successfully despite some heavy weather during the sea-trial. In a rapidly freezing Copenhagen, he has only one regret: the leaving behind of the Greek sun.
PrimeServ To Service Norway’s New Oil Hub

Harald Fondenær, Managing Director, MAN Diesel Norway, reports on FPSO market developments locally.

The demand for subsea oil and gas production is rapidly expanding, as is the market for so-called FPSOs (Floating Production Stor- age Off-loading).

Consequently, the market for FPSOs has correspondingly been increasing and MAN Diesel PrimeServ has plans to grow with it. To this end, a milestone kick-off meeting took place recently between MAN Diesel and Maersk Offshore Contractors, Norge AS in Stavanger, the Norwegian capital for offshore oil-exploration and production in the North Sea.

**Milestone**

“This is a milestone project for MAN Diesel PrimeServ in the offshore market in the North Sea. We take pride in having reached a framework service agreement with the field operator, Maersk Drilling Norge AS, responsible for the FPSO 'Alvheim',” says Rudolf Zeltner, Vice President of Service Contracts, MAN Diesel PrimeServ, Augsburg.

The Alvheim is located 224 kilometres (140 miles) west of Stavanger in waters approximately 125 metres (400 feet) deep. The vessel, originally built by Statoil as an oil-wells locally as the FPSO has ample capacity for all: the process plant aboard the vessel can handle about 19 MSm/d (670 scf/d) of gas and 13,500 Sm 3/d of oil (85,000 bbl/d). An 80-km gas ex- port pipe will link up with a major pipeline system on shore.

Aker Solutions (formerly Aker Kvaerner) developed the front-end design for the new, floating production facility. The hull is an Aker Solutions ‘Tentech 975’ design, based on BP’s particular field requirements. BP also selected Aker Solutions to perform the detail engi- neering, procurement and con- struction management assistance (EPCma) for the development of the Skarv field.

**EPcma**

The EPcma contract covered de- tail engineering and procurement work for the FPSO topsides, as well as construction-management assistance for BP, including hull and topside facilities. The produc- tion start for the field is scheduled for August 2011. BP awarded the contract for manufacture of the Skarv FPSO hull to Samsung Heavy Industries in South Korea, and the engine contract to MAN Diesel licensee STX for two 16V32/40 and two 8L27/38 engines as essential gen- erators. The Skarv FPSO meas- ures 292 x 50.6 x 29 m and can accommodate 100 people in single cabins. The hull is due for deliv- ery in January 2010.

**Generic builds**

Another pair of FPSOs will also be built by Samsung Heavy Industries with two 12V32/40 and two 8L27/38 essential and emergency MAN Diesel gensets, again built by STX. These are so-called generic FPSOs, ordered by Norwegian owners, Nexus Floating Produc- tion Ltd., without a particular oil- field designated for the vessels. Nevertheless, those orders signify a new era for the diesel engines in the context of offshore oil-produc- tion and MAN Diesel PrimeServ is there, ready and able to serve the offshore oil industry!

**The Alvheim has a capacity of 120,000 barrels of oil equivalents per day with storage capacity for up to 560,000 barrels of oil**
10.9-MWe generator sets, each station will be based on two existing power-generation capacity. The Government-owned corporation’s PWC is a Northern Territory Australian public utility. The Territory’s PWC is a Northern Territory Government-owned corporation and services more than 80,000 customers and has 360 MW of existing power-generation capacity. The new Owen Springs Power Station will be based on two 10.9-MW generator sets, each powered by a twelve-cylinder, vee-configuration 12V51/60DF engine. The generator sets will supply baseload power to the local grid in their gaseous fuel mode, i.e., burning natural gas ignited by a distillate fuel “micropilot”. As well as the supply, installation and commissioning of the generator sets, the scope of supply comprises: all engineering work, including civil and structural works; supply and installation of all electrical equipment and the plant control and monitoring system; all auxiliary systems, including cooling radiators and supplementary cooling towers to cope with the design ambient-temperature of 40°C; project management; and the necessary logistical arrangements. Construction is due to start in the near future and completion of the first stage of the project is scheduled for April 2009, with final completion in 2010.

"MAN Diesel Australia is an experienced company in power-plant construction and its parent company in Germany specialises in dual-fuel engines in the size range required for this project," notes John Linton, PWC’s General Manager, Generation. “The contract specifications were technically complex as Power and Water was seeking world’s best practice in fuel efficiency and the lowest emissions of carbon dioxide per unit of electricity generated.”

**Stationary Success for MAN Diesel’s 51/60DF**

New, medium-speed, dual-fuel gas engine passes another milestone

The new 51/60DF dual-fuel gas engine from MAN Diesel has now passed its second major milestone in the area of electrical power-generation applications.

Following closely on the handover of a heavy fuel engine retrofitted to full 51/60DF specification at an existing cogeneration installation in Portugal, MAN Diesel Australia has booked the first order for new 51/60DF engines in a power-plant application.

The turnkey contract has a value of 60 million Australian dollars and covers the design and construction of a new 22-MW power station at Owen Springs, 25 km south of Alice Springs, for Power and Water Corporation (PWC), a major Australian public utility. The Territory’s PWC is a Northern Territory Government-owned corporation and services more than 80,000 customers and has 360 MW of existing power-generation capacity.

The new Owen Springs Power Station will be based on two 10.9-MW generator sets, each powered by a twelve-cylinder, vee-configuration 12V51/60DF engine. The generator sets will supply baseload power to the local grid in their gaseous fuel mode, i.e., burning natural gas ignited by a distillate fuel “micropilot”. As well as the supply, installation and commissioning of the generator sets, the scope of supply comprises: all engineering work, including civil and structural works; supply and installation of all electrical equipment and the plant control and monitoring system; all auxiliary systems, including cooling radiators and supplementary cooling towers to cope with the design ambient-temperature of 40°C; project management; and the necessary logistical arrangements. Construction is due to start in the near future and completion of the first stage of the project is scheduled for April 2009, with final completion in 2010.

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**MAN Diesel 51/60DF Engines**

For power-generation applications, the 51/60DF is available in a nine-cylinder, inline version and also in vee-configuration versions with options of 12, 14, and 18 cylinders. The engines have mechanical ratings of 1,600 kW per cylinder for 60-Hz power generation (514 rpm) and 975 kW for 50-Hz applications (500 rpm). These give an overall generator-set rating range of 8,560 to 17,550 kW.

With its fuel flexibility and low emissions, the 51/60DF targets applications where operation on a back-up fuel is either essential or desirable. The engine’s fuel flexibility centres on the capability to operate on either gaseous or liquid fuels, and to switch between them seamlessly at full-rated output. In the gaseous fuel-mode, an air-gas mixture is ignited by injection of distillate fuel. On the 51/60DF, the liquid-fuel micropilot amounts to 1% of the quantity of liquid fuel needed to achieve full-rated output. It is injected via a common-rail system which allows flexible setting of injection timing, duration and pressure for each cylinder. This flexibility allows the engine to achieve low emissions and to respond rapidly to combustion knock signals on a cylinder-by-cylinder basis.

In the back-up, liquid-fuel mode, the 51/60DF engine operates just like a normal diesel engine. In this way, it injects distillate or heavy fuel oil (HFO) through a separate, normally dimensioned injector in a camshaft actuated, pump-line-nozzle system.

At 500 mg/m³ at 5% O₂ on gaseous fuel, the 51/60DF readily achieves emissions of oxides of nitrogen (NOₓ) in compliance with both Germany’s TA Luft clean-air regulations and the World Bank Pollution Prevention and Abatement Handbook. The new Owen Springs Power Station will be based on two 10.9-MW generator sets, each powered by a twelve-cylinder, vee-configuration 12V51/60DF engine. The generator sets will supply baseload power to the local grid in their gaseous fuel mode, i.e., burning natural gas ignited by a distillate fuel “micropilot”.

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‘Green Ship’ Project Exploits Existing Technology

Auto-tuning benefits both engines and environment

The ‘Green Ship of the Future’ is an untraditional project whose vision is to develop environmentally friendly and energy effective technologies to reduce both CO₂- emissions and air pollution arising from the activities of the shipping industry.

The project is aimed at both existing ships and newbuildings and, to this end, MAN Diesel and A.P. Møller-Mærsk have joined forces and formed a partnership with other Danish companies. The project’s goals will be achieved through a combination of solid research and innovative projects, while the results of the collaboration will form an important part of the Danish contribution to the United Nations Climate Change Conference, due to be held in Copenhagen in late 2009.

The Green Ship of the Future comprises a host of different sub-projects, of which the “Optimisation of engine settings by automated monitoring and information system”, also known as MC Auto-tuning, is one.

The purpose of MC auto-tuning is to introduce an automated control system for MAN B&W MC-engines that monitors engine operating parameters and adjusts Variable Injection Timing (VIT) appropriately to deliver continuous, optimal fuel-consumption. MC auto-tuning offers a low-risk system development, with a short development horizon, by using and combining existing, well-proven technologies into a new product. This product offers significant benefits for MAN Diesel engines as well as, importantly, general benefits for the environment.

MC auto-tuning

The MC auto-tuning system is an adaptation of the ME auto-tuning system, an integrated part of the ME-engine control system. However, the MC auto-tuning system has been modified and converted into a stand-alone system with an interface that enables actuation of the existing VIT system.

MC auto-tuning system adjusts the mean and individual cylinder maximum pressures, while ME auto-tuning can auto-adjust cylinder maximum pressures, compression pressures and mean indicated pressures.

Auto-tuning development

The ME-engine auto-tuning system, developed by MAN Diesel’s Electronics & Software department, has been tested successfully on a 4T50ME-K test engine at MAN Diesel’s test centre in Copenhagen and, since February 2008, has been field-tested onboard a car carrier equipped with an MAN B&W 6S90ME-C engine.

During 2009, a series of vessels already in service with MAN B&W 12K98ME-C prime movers will be upgraded with ME auto-tuning. The upgrade requires software modifications only as the vessels have already been equipped with PMI online.

The MC auto-tuning system is set for development over the next 12 months. The target is to perform a full-scale, prototype test before December 2009 aboard an A.P. Møller-Mærsk vessel on an MAN B&W K90MC main engine.

Auto-tuning benefits

Fuel-oil consumption. It is generally accepted that increasing the maximum pressure level by an average of 1 bar decreases fuel-oil consumption by approximately 0.20-0.25 g/kWh. This gives a potential reduction in fuel-oil consumption of up to 3 g/kWh. Similarly, there is an expected reduction of 0.5-1.0 g/kWh for engines already in operation that have been adjusted (manually) to within the MAN Diesel-recommended operation limits.

Emissions. The benefit here is a potential reduction in CO₂ emissions of 2%. Using PMI online/auto-tuning offers the potential for continuous engine operation in compliance with (future) emission regulations.

Operation costs. A better adjusted engine (in balance and load) leads to potential savings in maintenance costs and/or the increased availability/reliability of the engine. In this case, potential savings are not calculable, but must be verified from a number of vessels in service over time.

The simplified operability offered by auto-tuning eases a crew’s workload, which, along with the benefits mentioned above, increases the likelihood of an engine being regularly adjusted.

Business potential

Engines operated within MAN Diesel limits, in respect to cylinder maximum-pressure deviation from average, retain the potential to reduce fuel-oil consumption through better balancing, enabling running at an average Pmax that approaches the optimal value.

For example, for a 12K98 engine operated 70% of the time, the most conservative estimate of fuel saved (based on a ship with its engine set up according to MAN Diesel recommendations) amounts to approximately 150 tons/year. Thus, the payback time for installing PMI and auto-tuning can be calculated in months rather than years.

For older engines, or those not set up correctly or operating on the outer limits of MAN Diesel’s recommended setup parameters, potential fuel savings are much greater, with a potential payback period of just a few months for the largest engines.
MAN Diesel PrimeServ Pursues Strategy of Strong Growth

MAN Diesel has expanded its global service network further with the opening of new hubs in Argentina, Brazil and Pakistan.

The opening of the three South American centres continues PrimeServ’s growth strategy.

**Buenos Aires, Argentina**

Over 100 guests celebrated the opening of PrimeServ Buenos Aires on October 28th last, including Dr. Stephan Timmermann, Executive Board Member of MAN Diesel with responsibility, among other things, for the After-Sales business unit, and Carsten Schrick, General Manager of MAN Diesel Argentina. The plan locally is to move onto the factory floor of the largest shipyard in Buenos Aires at the beginning of the New Year, after which MAN Diesel PrimeServ Argentina will be able to offer a complete range of services. Since August, the Argentinean team of six employees had already carried out 19 orders on different ships both in Argentinean waters and throughout Latin America. In his speech, Dr. Timmermann referred to the company’s plan to expand its network of service centres in South America in the near future to include, among others, Chile and Peru. He was particularly proud that MAN Diesel PrimeServ now also had activities in the country of his birth.

**Manaus, Brazil**

MAN Diesel PrimeServ has based 26 employees in Manaus since October 30th. The new team takes care of service issues for customers from the power-plant and marine sectors in Northern Brazil and contiguous countries. The most important of these include the operators of private and public power plants in Manaus, namely Trombeta, Monte Dourado and Ampapari, as well as shipping lines such as Bertolini and Oliveira Navegacao that drive large fleets on the Amazon. Nor is service confined to products from MAN Diesel – the Manaus service centre also maintains, repairs and overhauls engines from other manufacturers.

**Lahore, Pakistan**

In the Pakistan market, MAN Diesel PrimeServ is predominantly concentrating on the power-plant and railway sectors and, initially, PrimeServ Lahore will specialise in the repair and overhaul of turbochargers. With the approach of 2010, this service will be expanded to encompass diesel engines as this coincides with the start-up of two large diesel power plants that MAN Diesel has won the contract to supply, with respective start-ups in 2009 and 2010. In tandem, the new power plants will supply the Pakistani power grid with a total of 450 MW.

Together with his Pakistani colleagues, Dr. Timmermann planted a tree in front of Lahore’s new service centre on November 4th.

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**Paxman Valenta Engines from Colchester to Power Cyclone**

MAN Diesel has been awarded a USD7,500,000 firm-fixed-price, definitive-delivery/definite-quantity contract by the US Navy for four Paxman 16-cylinder Valenta engines for use aboard its 52-metre, Cyclone-class coastal patrol ships.

The contract includes one base period and one option for further engines that, if exercised, would bring the total estimated value of the contract to USD15,000,000. The work will be performed at MAN Diesel’s works in Colchester, England, and is expected to be completed by September 2011.

The new deal stems from initial discussions held by PrimeServ UK in late 2006 with representatives of the US Navy. Between then and the confirmation of the contract, PrimeServ held many further meetings with the customer and devised a proposal that could keep its existing Paxman engines in operation and provide the necessary confidence to ensure high availability. The customer’s purchase of four replacement 16-RP200 engines allows the US Navy to rotate engines to ensure its overhaul schedules are met without adversely affecting vessel availability.

The US Naval Inventory Control Point (NAVICP), based in Mechanicsburg, Pennsylvania, is the contracting entity. NAVICP provides program and supply support for US Navy weapon systems, and MAN Diesel PrimeServ Houston has supported a total of 158 Paxman Valenta engines used aboard US Navy and US Coast Guard patrol craft in North America and the Persian Gulf since 1994. The Cyclone program originally consisted of 14 vessels introduced by the US Navy with the primary missions of coastal patrol, interdiction surveillance, and to support Naval Special Warfare missions as an important aspect of littoral operations. Each ship is powered by four Valenta engines rated at 3,350 horsepower each. Following the September 11th, 2001 terrorist attacks, the vessels were transferred to the US Coast Guard for Homeland Security assignments. Two ships will return to the Navy in 2008 followed by the rest in 2011. The first in class ship PC-1 was transferred to the Philippine Navy back in 2004. The Cyclone class remains very popular with the Navy as they have proved themselves very effective operating in shallow waters where they are able to manoeuvre quickly unlike cruisers and destroyers that cannot safely operate in similar conditions. This makes them a great asset for protecting of terminals and overseas port security.

The contract is very significant in that it demonstrates the US Navy’s commitment to the continued operation of the Cyclone class of vessels through the year 2020. Beginning in 2009, the ships will undergo a sustainment program to update the ships’ communication, engineering and support systems. As such, MAN Diesel PrimeServ Houston is well positioned to win further contract awards associated with these upgrades.

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**Cyclone-class coastal patrol ships**

The Cyclone-class coastal patrol ships are at the heart of a contract that potentially can break the 15-million-dollar barrier.
MAN Diesel recently took over the Danish service-specialist Metalock Denmark, which specialises in ‘mobile machining’, the technique of machining engine components in situ.

The move underlines MAN Diesel’s strategy of propelling its growth in the service sector by acquiring highly engine-specific, service-orientated companies. Metalock Denmark has 27 employees, including 22 skilled engineers that travel worldwide applying in-situ machining services, mainly on board ships. Prior to the takeover, MAN Diesel was one of the Copenhagen service specialist’s most important customers, accounting for about half of its sales. The company boasts expertise in both two-stroke and four-stroke marine diesel engines, and was previously owned by Kenneth Christensen.

The deal adds to MAN Diesel’s expertise in mobile machining, where engine components are machined and repaired/maintained within the confines of the engine room, dispelling with the need for full dismantling. Metalock Denmark specialises in the machining of crankshafts and bedplates, key engine components in the maritime world. The company also lists line-boring, laser alignment, metallocking of cast iron, flat machining, milling, metal spraying, NDT testing, re-casting of bearings among its broad catalogue of capabilities.

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The takeover enhances Metalock Denmark’s ability to drive its business forward and to grow as part of the MAN Diesel Group, where, for operational purposes, it will be affiliated with MAN Diesel Hamburg. Hamburg is MAN Diesel PrimeServ’s biggest service centre with wide-ranging experience in crankshaft repairs. The joining of forces and good fit of mutual expertise, efficiency and competitiveness can only result in added benefit for PrimeServ customers. Metalock Denmark is based in the Copenhagen suburb of Ishøj with workshop premises of some 1,000 square metres that host a full machining workshop, offices, tool warehouse and overhaul space. It marked its entry into the MAN Diesel PrimeServ fold on October 8th last with a well-attended reception.

Former owner, Kenneth Christensen, introduced Dr. Stephan Timmermann, Executive Board member with responsibility for MAN Diesel PrimeServ, who said that it was an honour for MAN Diesel to take over Metalock Denmark. He continued: “MAN Diesel has a turnover of EUR2.5 billion, of which over half comes from after-sales, which is also a very important field because of the customer contact it brings us. After buying a MAN Diesel engine, customers have 30+ years of contact with MAN Diesel. We have to be where our customers are, which is why we are currently opening over 10 new service hubs a year globally.”

Dr. Timmermann also said: “MAN Diesel doesn’t usually buy businesses, but when we do, we first look at them for a long time to see if they are a good fit. Metalock Denmark is only the second company that MAN Diesel PrimeServ has ever bought. It has a great reputation and MAN Diesel has always been one of its biggest customers – this was all taken into account when we considered buying the company. Kenneth Christensen and his people are key assets and I’m convinced that this will be a great success story.”

Indeed, Christensen will retain an active interest in the company he founded 21 years ago, moving to a role as Sales and Marketing Director.

Peter Guldmann, representing the Metalock Denmark staff, then took the podium to make a presentation marking the change in management from Kenneth Christensen to Niels Nøjgaard, the new Managing Director. He then handed over to Nøjgaard who spoke in glowing terms of the company: “The future is bright for Metalock Denmark with MAN Diesel as I see it. Thank you very much for coming, and thank you for what is about to come!”

Dr. Timmermann then handed over to Kenneth Christensen whose speech addressed both the achievements of the past and the opportunities for the future, giving thanks to his former crew and expressing his total confidence in the new setup within the MAN Diesel group.

A view of the Metalock Denmark facility in the Copenhagen suburb of Ishøj and (main picture) Kenneth Christensen (second left), founder of Metalock Denmark, shakes hands with Dr. Stephan Timmermann, Executive Board Member, MAN Diesel, flanked by (left) Niels Nøjgaard, Managing Director Metalock Denmark, and (right) Dr. Tilmann Greiner, Head of MAN Diesel PrimeServ Hamburg.
Hit the bull’s eye with MAN Diesel spare-part kits

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E.R. Bounty Christened in Korea

Container carrier is latest addition to E.R. Schiffahrt fleet

Shipping companies frequently invite their various contractors and business partners to naming ceremonies, typically representatives from their bankers and insurance agents, as well as any number from a multitude of sub-suppliers, etc.

Events of this type are a frequent occurrence in Korea on account of its prodigious production of new-buildings. MAN Diesel’s Thomas S. Knudsen, Senior Vice President – Marine Low-Speed, and Ole Grøne, Senior Vice President – Two-Stroke Promotion and Sales, along with the Managing Director of MAN Diesel’s local office, K.K. Lee, recently had the honour of being invited to Ulsan, South Korea to attend the naming ceremony of the “E.R. Bounty”. The container ship is the latest addition to the Hamburg-based, E.R. Schiffahrt fleet.

The E.R. Bounty is a 4,300-TEU class container carrier and the last in a series of five identical ships. It was built in the Hyundai Mipo dockyard in Ulsan and is powered by an MAN B&W 8K90MC-C prime mover. Sujin Stubkjær, wife of E.R. Schiffahrt CEO, Knud Stubkjær, and the newbuilding’s Godmother, christened the vessel.

In common with its sister ships, the E.R. Bounty was designed by the Hyundai Mipo dockyard to E.R. Schiffahrt specifications and, accordingly, is among the most modern units in its market segment. It has already been chartered to the Italian shipping line, Italia Marittima, a division of Evergreen, Taiwan, that operates the fourth-largest container fleet in the world. For an initial period of five to ten years, it will work the route between the Far East and Mediterranean under the name M/V Ital Moderna.

E.R. Schiffahrt is one of the largest-charter companies worldwide with activities in container, bulk and offshore segments, among others, and is a significant customer with 48 of its ships now boasting of MAN Diesel engines. The company’s founder and chairman, Erick Rickmers, established E.R. Schiffahrt as a ship-management company in 1998 and he represents the fifth generation of the Rickmers family to be active in the shipping business.

The E.R. Bounty expands E.R. Schiffahrt’s fleet of container vessels that already includes some of the world’s largest ships, to 81 ships in service or under construction, amounting to some 440,000 TEU in aggregate.

Technical Data E.R. Bounty

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<td>Output</td>
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<tr>
<td>Container Capacity (TEU)</td>
<td>2,753 on deck / 1,610 in hold / 4,363 in total</td>
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</tbody>
</table>

E.R. Bounty Christened in Korea

See DieselFacts online with video clips at:
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