Scope

Kawasaki Heavy Industries Quarterly Newsletter

April 2009
NO.79

Kawasaki

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About the Cover
Kawasaki wheel loaders provide unparalled performance at the famed marble quarries in Carrara, Italy.

KAWASAKI HEAVY INDUSTRIES, LTD.

Scope

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Kawasaki Wheel Loaders: The Driving Force at World's Top White Marble Quarry

Proven Performance at Famed Italian Site

Kawasaki wheel loaders can be found at construction sites around the world, where they have earned high marks for their powerful performance, agility and durability. This issue of *Frontline* takes you to a historic marble quarry situated in the breathtaking Italian Alps, where Kawasaki wheel loaders are hard at work.

Kawasaki's construction machinery business, the driving force behind these amazing wheel loaders, was recently separated as a wholly-owned subsidiary and made a new start under the name of KCM Corporation in April. Read the sidebar by KCM President Tadashi Mikawauchi to find out how the new company plans to stay at the forefront of the marketplace.

Carrara, World Marble Capital

Florence, the capital of Italy's Tuscany region located on the western coast of the Italian peninsula is famed for being the birthplace of the Renaissance. Travel about 130 km northwest of Florence Airport and you will find the city of Carrara, the world capital of white marble. This treasure on the Ligurian Sea, surrounded by lush olive groves and bordered by the Apuan Alps, is about an hour's drive from Pisa, the city renowned for its famous leaning tower.

The metamorphic rock we call marble has been prized by architects and sculptors for centuries. The ancient Greek Parthenon and Roman Coliseum are two of the most well-known examples of marble architecture. The annals of the Carrara marble quarries parallel the evolution of these architectural wonders, with a history that dates back over 2,000 years. Michelangelo frequented the quarries of Carrara in search of the perfect sculpture material and many of his works were indeed carved from Carrara marble.

Marble typically has distinct color variations ranging from emerald green to aurora pink. White Carrara marble is renowned for its pure, flawless qualities and is used for the finest architectural interiors.

Quarries Load Up on Kawasakis

Upon reaching Carrara visitors are often astounded to learn that the brilliant white snowcapped mountains they spied from the distance are actually the sun-drenched marble quarries. These mountains are not only a source for marble but also for a steady stream of tourists. Busloads of tourists arrive daily at the base of these mountains where they shop for souvenirs in the shadow of the gleaming white quarries.


Looking over the Mediterranean Sea from a mountaintop quarry.


Mountain road leading to the quarry.
Only skilled local drivers can make it to the top.

The mighty Kawasaki wheel loader hauls a white marble block against a clear blue Mediterranean sky.

The wheel loader's ability to make tight turns is a big plus for operators working in small quarry sites.

A wheel loader loads a marble block onto a dump truck, which will transport it to workshops in and around Carrara to be processed into high-grade interior building materials.

The roads that lead to the quarries are narrow and rugged. One wrong move and you and your vehicle are sure to end up in a ravine. Only the most experienced drivers can navigate this difficult terrain. Silvano Luciani, the president of Carrara-based Kawasaki distributor Luciani Kawasaki Italia, skillfully maneuvers through the mountain roads with a practiced hand. He is coincidentally an Italian road rally champion driver.

Silvano Luciani

The mountains of Carrara fall entirely under the administration of the Italian government, which licenses the right to quarry its vast treasure trove of fine marble to various private operators. Kawasaki has supplied some 30 wheel loaders to 10 different quarry operators over the last decade.

Powerful, Agile and Efficient

A variety of machines are hard at work at the quarrying site. Diamond wire saws cut the marble, breakers slice the big marble blocks into slabs and Kawasaki wheel loaders carry the marble blocks every step of the way.

At this quarry, marble is quarried following the bench-cutting method, which creates step-like "benches" in the mountains. The unique method offers clear advantages since it allows the operation of heavy equipment such as wheel loaders at the site. Holes are first drilled vertically into the marble, and a diamond wire saw is inserted to cut the sides of the bench. The bottom of the bench is then cut with a giant disc saw.

The quarried marble is then transported to a stockyard by Kawasaki wheel loaders, like the 95ZV-2 and 115ZV-2. The mighty 115ZV-2 can easily pick up and move a marble block weighing over 30 tons. Kawasaki wheel loaders also load marble that has been cut into slabs in the stockyard onto dump trucks. The wheel loaders perform all this heavy work with superior agility and efficiency.

"Kawasaki wheel loaders are super powerful," explains Luciani. "They make light work of lifting heavy marble blocks and that's what makes Kawasaki wheel loaders so great."

The excavated marble blocks are transported to various workshops in and around Carrara, where they are sliced into 2 cm thick plates and polished for use in architectural interiors and furnishings.

Enhanced Productivity and Fuel Efficiency

The Kawasaki 95ZV-2 and 115ZV-2 wheel loaders, launched in the summer of 2007, are equipped with a state-of-the-art high-performance, environmentally friendly engine. The engine dramatically cuts emissions of nitrogen oxides (NOx) and particulate matter (PM) that cause air pollution, and complies with strict Japanese and European emissions standards.

The new wheel loaders feature the ELS (Efficient Loading System), which reduces fuel consumption by enhancing productivity, the DBK (Dual Boom Kickout), which increases efficiency by allowing the operator to control the raising and lowering of the boom from inside the cab, as well as an MODM (Machine Operation Diagnostic Module) that makes maintenance and troubleshooting more efficient than ever. They also deliver enhanced operability, durability and reliability.

Built Tough but User Friendly

Luciani pauses to watch the Kawasaki wheel loaders make child's play of hauling off the giant blocks of excavated white marble. He says, "Another great thing about the 115ZV-2 is that it can turn on a dime. It's an important feature since work space is limited in a quarry like this one where marble is excavated in steps. Durability is also important. Kawasaki wheel loaders are built tough. We've had to change only the 115ZV-2's oil and filters since it arrived on site. The 115ZIV, which is being used at a granite quarry on Sardinia, has been operating for 10,000 hours without any problem. I can tell from my daily conversations with the operators that they prize Kawasaki wheel loaders for their superior reliability."

The area stretching from Southern Europe and Turkey to India holds vast reserves of marble. Kawasaki wheel loaders are hard at work throughout the region in the marble quarries of Turkey, Spain and Portugal.

Excavated marble is cut into slabs with a wire saw.

The quarry face is cut in steps (benches).

New Subsidiary to Take the Lead

Tadashi Mikawauchi, President
KCM Corporation

The Kawasaki Construction Machinery Division officially branched off from Kawasaki Heavy Industries to make a fresh start as KCM Corporation on April 1, 2009.

The Division worked hard to realize the vision of Kawasaki's *Global K* medium-term business plan, which was to establish a leading position as a specialized wheel loader manufacturer, by making inroads into the global market. We have taken various strategic measures to increase our global market share, strengthen product development and expand related businesses while keeping all alliance options on the table. Spinning off the Construction Machinery Division into KCM provides us with a vehicle for moving forward and reaching the goals of *Global K*. Under the alliance agreement (see below), Hitachi Construction Machinery will become a joint venture partner in KCM by the end of this fiscal year. This business partnership will enable KCM to maximize its management resources related to large wheel loaders and carve out a bigger slice of the global market pie.

KCM plans to leverage its superior technological capabilities, the knowledge of its skilled staff of professionals and the vast network it has developed over the years, as well as a host of new management resources gained through the joint venture, to provide products and services that will be better than ever. Everyone is committed to making KCM a name you can trust and a company we can all be proud to be part of.

The KCM logo design is taken from a wheel loader tire tread. It's simple yet powerful, exactly what our customers think of our loaders themselves. The logo also demonstrates KCM's commitment to move forward and take the lead in the global wheel loader industry.

About KCM

On October 31, 2008 Kawasaki Heavy Industries, Hitachi Construction Machinery and TCM Corporation formed a wheel loader business alliance for joint research and development, as part of which Kawasaki agreed to spin off its wheel loader operations into a separate company known as KCM Corporation. Under the alliance agreement, Hitachi will make a capital investment in the new Kawasaki subsidiary.

The three companies will work together to leverage their combined technologies and expertise in developing new wheel loaders designed to meet the tough new emission control regulations (Tier 4) to take effect in Japan in 2011. The alliance partners have divided manufacturing responsibilities between them and will supply one another with jointly-developed products. This partnership will give the three companies a competitive edge in the global wheel loader market.

Kawasaki officially established KCM as a wholly-owned subsidiary on April 1, 2009. Hitachi will acquire newly issued shares in KCM during fiscal 2009 to give it a 34% stake in the new company and will have the option to acquire a majority interest after a three-year waiting period.

Overview of KCM

Name	KCM Corporation
Business operations	Design, production, sale and repair of construction machinery
Head office	Inami-cho, Kako-gun, Hyogo Prefecture, Japan
Capital	3 billion yen
Sales	Approximately 20 billion yen (estimated for FY2009)
Employees	Approximately 400

Kawasaki R Series Robots Go to New Lengths

Faster and Stronger Than Ever

A natural evolution of the Kawasaki F Series, the new R Series of industrial robots achieves even greater speeds, flexibility and space-saving features than its predecessors, making it applicable to a wider variety of working environments.

The most remarkable feature of the series is its high-speed operation. The RS20N, shown here, achieves a maximum speed that is 20% faster than its F Series equivalent, making it the fastest industrial robot in Japan. Its adjustable speeds have also been given a 40% boost over its predecessor, so it can make rapid, short-pitch movements.

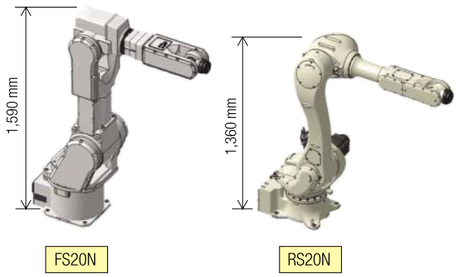
The RS20N's stronger wrist and longer working reach add up to a payload capacity that is 20% greater than before.

Models for 5 to 80 kg Payloads

The maximum reach of the RS20N has been increased by 4%, the longest in its class, while its weight has been cut by approximately 18%. The R Series robots' compact bodies and rounded contours make them a perfect fit for any production site. The arms have also been downsized and given a sleek new design to minimize the footprint. Wiring harnesses have been neatly mounted inside the arms to avoid any interference with peripherals.

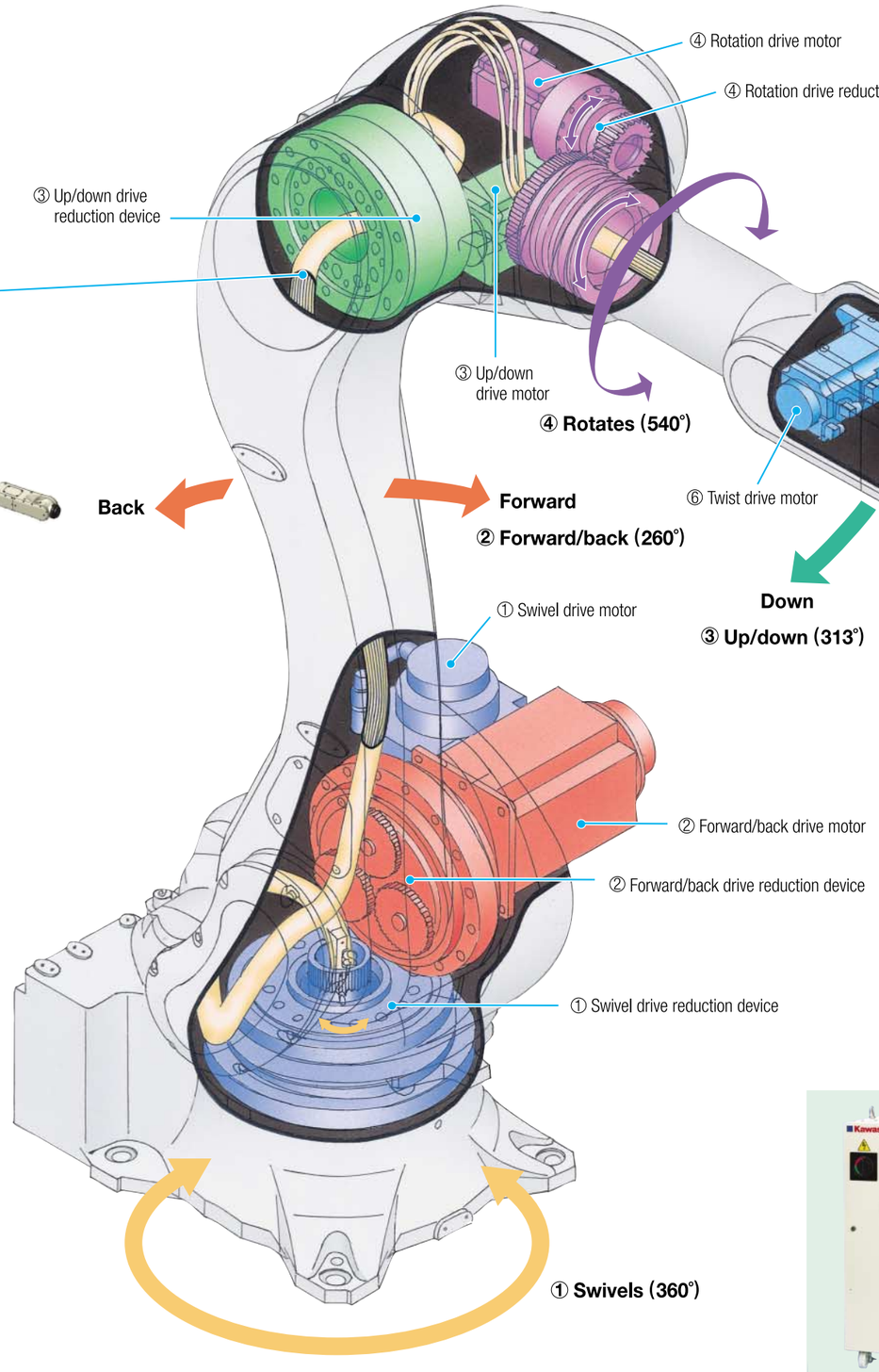
In addition to superior adaptability (see box) the R Series offers great extendability with optional built-in pneumatic devices and signal wires. Additional R Series models are being introduced with maximum payload capacities ranging from 5 to 80 kg for an extensive range of applications including various types of handling, assembling and arc welding.

● RS20N Specifications
Arm type: vertical articulated robot
Degrees of freedom: 6
Maximum reach: 1,725 mm
Maximum payload: 20 kg
Repeatability: ±0.05 mm
Maximum speed: 11,500 mm/sec



● Compact design

● Superior adaptability
Wrist: IP67
Axis: IP65*
The IP (International Protection) code is an International Electrotechnical Commission (IEC) standard that indicates the protective degree of seals and enclosures.
IP6X indicates that the robot is dust tight.
IPX7 indicates that the robot is protected against the effects of temporary immersion in water under specified conditions of pressure and time (1 m for 30 minutes).
IPX5 indicates that the robot is protected against water jets projecting on it from any direction.
These high ratings demonstrate the R Series' sophisticated features and its improved adaptability, such as the double-sealing structure employed on each joint as well as waterproof connectors.
(*Can be upgraded to IP67 via optional modification)

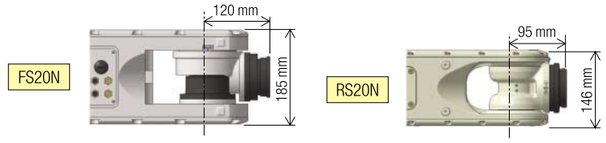


* The model shown in the illustration is the first R Series model, RS20N.
* Descriptions 1- 6 show the movement of the six axes.

● High speeds
Lighter arms plus high-powered, fast-rotating, compact motors all add up to higher speeds.

● Extended working range
The R Series working range has been expanded so that it can reach downward in closer proximity to the robot. Extending the maximum reach as well the strokes of each axis has increased the possible installation layouts.

● Increased wrist payload capacity
The R Series' high-powered, fast-rotating, compact motors and increased arm rigidity deliver optimal wrist torque.



● Compact wrist

● E Series Robot Controller
User feedback has led to enhancements in the design of the new E Series robot controllers, developed especially for the R Series robots. Designed to be totally compact, the E Series' footprint as well as cubic contents have been dramatically downsized to enable high-density layouts that make optimum use of production site space. The E Series outperforms its D Series forerunners with increased processing capabilities that achieve maximum operability and high performance. With its latest CPU, the E Series is able to provide more precise track control, faster program execution and save/load operations.

NYCT Orders Additional Subway Cars

Kawasaki recently received an additional order for 140 R160 subway cars from MTA New York City Transit (NYCT*). The order, worth approximately 275 million dollars (27 billion yen), is scheduled for delivery by March 2010.

Kawasaki and France's Alstom Transportation Inc. were jointly awarded an order for 660 subway cars from NYCT in October 2002. Kawasaki has manufactured and delivered 260 of those cars. The contract included two options, one that has already been exercised for an additional 620 cars and a second option for another 382 cars. NYCT has now decided to exercise the second option and Kawasaki will manufacture 140 out of the total 382 cars. Combined with the additional order for 260 cars under the first option, Kawasaki has received a total of 660 R160 subway cars from NYCT. Under the R160 contract Kawasaki is responsible for designing and manufacturing all 660 cars as well as supplying bogies for the total 1,662 R160 cars, including those manufactured by Alstom.

The R160 subway cars have a stainless steel body and are equipped with highly reliable controls and HVAC, as well as door operating and public address systems that guarantee optimum safety and passenger comfort. The carbodies are manufactured at Kawasaki's railcar plant in Lincoln, Nebraska. Equipment installation, final assembly and testing are performed at its plant in Yonkers, New York prior to delivery to NYCT. More than 400 R160 cars manufactured by Kawasaki are currently used in NYCT subway operations. They have clocked three times as much mileage without the need for repair than required under the contract and have earned high marks for excellent reliability from NYCT as well as passengers.

Since receiving the first order for 325 R62 subway cars from NYCT in 1985, Kawasaki has been given orders for a total of 2,079 cars. Once all of its R160 cars are delivered, Kawasaki will have manufactured the lion's share of NYCT's entire subway car fleet.

* NYCT is a public railway company affiliated with the Metropolitan Transportation Authority (MTA). Other MTA-affiliated transit services include the Long Island Rail Road and Metro-North Railroad.

Kawasaki to Participate in Rolls-Royce Trent XWB Program

Satoshi Hasegawa, Senior Executive Vice President shakes hands with Mark King, President of Civil Aerospace, Rolls-Royce.

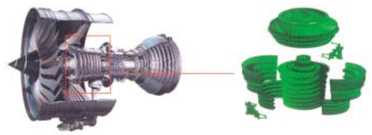
Kawasaki recently reached a formal agreement with Rolls-Royce plc. to participate in the development and production of the Trent XWB engine as a risk and revenue-sharing partner. The Trent XWB, the latest installment in the Trent aircraft engine series, will be used to power the new Airbus 350. The Airbus 350 is a midsize aircraft designed to seat 250 to 350 passengers, and is currently under development by Airbus S.A.S.

Kawasaki will participate in the design and be responsible for the production and assembly of the intermediate pressure compressor (IPC) module for the Trent XWB. As one of the eight main modules that constitute the engine, the IPC module has a diameter of about 1.5 m, a length of about 1.5 m and is comprised of approximately 4,000 components. The Trent XWB is the second engine model following the Trent 1000, for which Kawasaki participated in the design and continues to be responsible for the production and assembly of the entire module.

Kawasaki's engineers have already been sent to Rolls-Royce to work on the joint development of the IPC module. Kawasaki's share of the workload accounts for about 7% of the entire Trent XWB program.

The 74,000 to 92,000 pound thrust Trent XWB is the newest addition to the five aircraft engine models currently on the market under the Trent brand. The Trent family is Rolls-Royce's core line of aircraft engines, boasting a track record of 2,500 units ordered.

Kawasaki's participation in the Trent XWB development and production program is sure to strengthen the enduring bond it has forged with Rolls-Royce over the years.



Trent XWB image.

IPC module image.

* Courtesy of Rolls-Royce plc.

Kawasaki to Lead Bioethanol Project

Kawasaki Plant Systems, Ltd. was recently named as the contractor for a model bioethanol-generation project to be conducted jointly with Akita Agriculture Public Corporation as part of an initiative of Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF).

The project aims to develop technology for the production of bioethanol from untapped soft cellulose biomass, such as rice straw and husk, that will not compete with food production. It entails a comprehensive process that includes the collection and transportation of soft cellulose biomass, the production of soft cellulose-derived bioethanol, and biomass fuel vehicle test driving. Kawasaki will conduct the biofuel production and driving tests with the support of the Akita Prefectural Government. Akita Agriculture Public Corporation will take charge of the collection and transportation tests using rice straw produced in the Oogata area of Akita Prefecture. The model project will run from 2008 through 2012.

Kawasaki's biofuel production system consists of preprocessing, saccharification, fermentation and distillation processes. The saccharification process will employ advanced bioethanol production technology along with a thermal system that Kawasaki is now jointly developing with the New Energy and Industrial Technology Development Organization (NEDO). This new system utilizes heated water instead of sulfuric acid for the saccharification of cellulose.

Since this new technology does not require the separation, recovery and fixing processes employed in conventional sulfuric acid systems, it reduces costs by eliminating the need for reactor anticorrosion treatments and a sulfuric acid recovery system.

New ZRX1200 DAEG Sportbike Unveiled in Japan

Kawasaki released a new large-displacement onroad sportbike, the ZRX1200 DAEG*, in Japan in February.

The ZRX1200 DAEG follows in the tracks of the wildly popular ZRX1200R, which has earned high marks for its unique styling and superior onroad performance. The new sportbike, Kawasaki's flagship model designed exclusively for the Japanese market, has been engineered to meet the demands of Japanese riders as well as a variety of terrains, from winding country roads to urban streets. It delivers the ultimate road experience with a smooth-running powerhouse and ideal rider environment, and features new styling with a classic Kawasaki ZRX image.

The sportbike boasts an enhanced 1,164 cm^3, liquid-cooled, four-stroke, in-line four-cylinder DOHC engine with improved power characteristics in the low- to mid-rpm ranges for improved controllability, an optimized fuel injection system for improved fuel economy, and superior environmental performance in compliance with the new Japanese exhaust emissions regulations as well as better fuel economy.

* The DAEG symbol, ⋈, displayed on the side cover is an ancient rune that often appears on amulets. Our word for "day" is derived from DAEG, which means "steady growth," "progress," "new development," or "the beginning and end."

Standby Gas Turbine Generators Delivered to China

In March, Kawasaki delivered two GPS4000 standby gas turbine generator sets to Nanjing Hefei High-tech Industrial Co., Ltd. in China. The GPS4000 employs Kawasaki's M1T-23 gas turbine and has an output of 3,200 kW.

The generator sets were installed in Shanghai to supply backup power to the Internet Data Center (IDC) operated by China Mobile, the largest mobile network operator in the country. The rising demand for high-power standby generators in China has been buoyed by rapidly increasing mobile network data transactions that require much larger servers. The GPS4000 generator will boost China Mobile's standby power generation capacity in the event of a power outage.

China Mobile is China's largest and the world's leading mobile network operator, with some 400 million mobile phone users out of a total of 620 million users. This latest order demonstrates the superior standby performance of Kawasaki gas turbine systems, as well as Kawasaki's outstanding technological capabilities and proven track record in delivering gas turbine generators for use in state-of-the-art data centers all over the world.

Order Received for World's Largest Diesel Generator Set

Kawasaki recently received an order for the construction of the world's largest diesel generator set from the Okinawa Electric Power Company, Inc. It entails a single generator, driven by a four-stroke medium-speed engine, that will provide 18 MW of power. This will surpass the current domestic record of 10 MW, as well as being the world's largest.

The project is designed to enhance the No.5 generator set in the Ishigaki No.2 Power Plant, located in Okinawa. Adopting the full turnkey delivery system, the contract covers the design of the generator set, the supply and installation of the engine, generator, power distribution switchgears and control units, as well as engineering and building construction work. The final delivery, designated to be carried out after performing a trial run on the site, is scheduled for June 2011.

On Ishigaki Island, Kawasaki has previously supplied three large diesel generator sets with a single generator power of 10 MW. The highly rated performance of this equipment has resulted in Kawasaki receiving the new order.

LNG Barka Carrier Delivered

Kawasaki Shipbuilding Corporation delivered the LNG Carrier *LNG Barka* carrier to Lloyds TSB General Leasing (No.3) Limited on December 29, 2008.

The vessel, identified as Kawasaki Hull No. 1591, is the first in Kawasaki's new line of 153,000 m^3 LNG carriers. While its capacity has been increased by about 8,000 m^3 by installing a 2 m tall cylindrical extension at the midsections of three of the four aft tanks, the size of the hull is the same as a 145,000 m^3 LNG carrier, enabling it to enter most major LNG terminals around the world.

The vessel features excellent thermal insulation performance with the Kawasaki Panel System, which achieves a boil-off rate of 0.15 percent per day. The cargo tanks are protected against direct damage by double hulls and bottoms.

Other features of this 289.5 m long ship include a computer-controlled navigation system in the wheelhouse to improve operability as well as a 360° view window that enables one-man navigation. The cargo control room is also equipped with an Integrated Automation System (IAS), which monitors and controls the cargo system. The engine control room is also equipped with an IAS to monitor engine conditions.

Vietnam's Largest Cement Plant Delivered

Kawasaki Plant Systems, Ltd. recently delivered a cement plant to the Vietnam Construction and Import-Export Corporation (Vinaconex), to be installed at its Cam Pha complext. The plant boasts Vietnam's largest production capacity, with an output of 6,000 tons per day. Vinaconex is a Hanoi-based company operating under Vietnam's Ministry of Construction.

This was Vietnam's first-ever packaged project (five total packages) and Kawasaki was awarded package No. 2 for the Cam Pha Cement Plant's major processing equipment, including the delivery of the cement mill and kiln as well as engineering, training and performance testing. As the main contractor, Kawasaki fine-tuned the overall plant operations and made sure all major equipment was up and running at peak performance.

Equipped with a high-performance dust collector and low-noise, low-vibration systems, the plant is a state-of-the-art facility that will not only respond to Vietnam's increasing demand for cement but will also contribute to the environmental conservation of Ha Long Bay, a UNESCO World Heritage site. The cement plant features a kiln that uses only anthracite coal produced in northern Vietnam, and Vietnam's largest vertical raw material grinding mill, with a grinding capacity of 500 tons per hour.

The construction of the Cam Pha Cement Plant marks Vinaconex's full-scale launch into the cement business. The company plans to add a second production line to the plant, giving it an additional 6,000 tons of daily production capacity.

Unryu Submarine Launched

Kawasaki Shipbuilding Corporation held a ceremony marking the launch of the submarine *Unryu*, which was built for the Ministry of Defense (MOD) at the No. 1 Building Berth of Kobe Shipyard on October 15, 2008. The ceremony was attended by a delegation of top MOD officials.

The 84 m long submarine is the second *Soryu* class submarine, and the 24th built by Kawasaki Shipbuilding after World War II. It has superior submerged operations and propulsion performance. Other features include high tensile steel on the hull, a Stirling engine for increased underwater endurance, a variety of automated systems, improved surveillance capabilities using high-performance sonar, increased stealth capabilities and enhanced safety measures.

First Rexpeller Order for Drillships Received

Kawasaki recently received an order for eighteen Rexpeller units for three drillships to be used in an oilfield development project being conducted by Petroleo Brasileiro S.A. (Petrobras), Brazil's state-owned oil company. This is the first Rexpeller order for drillships to be used in exploratory drilling of new oil and gas wells. It was placed by Samsung Heavy Industries Co., Ltd. in Korea, which will build the drillships for the project. The Rexpeller units will be delivered to Samsung in 2010 and 2011.

The Rexpeller is a fully azimuth-steerable thruster that can generate thrust in any horizontal direction and be utilized as a propulsor, rudder and side thruster. Its excellent maneuverability has made it the perfect propulsion solution for tugboats and supply boats. Kawasaki has supplied more than 500 Rexpeller units since the product was released in 1983.

All eighteen Rexpeller units are Kawasaki's top-of-the-line KST-320LF/AU (4,500 kW) model. The units on each drillship will operate concurrently to ensure the optimal positioning of the ship, which needs to maintain the exact same location during drilling operations.

Brazil boasts extensive oil and natural gas resources, including the mammoth Tupi oil field discovered two years ago off the coast of São Paulo State. Petrobras' active pursuit of mining activities in Brazil has yielded an increasing amount of oil and natural gas.

Kawasaki First in Japan to Float-Charge a Large-Capacity NiMH Battery

Kawasaki recently succeeded in float-charging its large-capacity nickel metal-hydride battery, the Gigacell.* This remarkable achievement is a first for Japan. Float-charging involves charging the battery at a constant voltage so that it is always kept fully charged. The battery can provide electricity instantly in the event of power failure, ensuring uninterrupted operation of facilities, servers and load equipment.

Working jointly with KDDI Corporation, Kawasaki conducted two months of test runs on the charge-discharge characteristics of the Gigacell that was installed at KDDI's test base station. The results showed no problems with the Gigacell's performance in terms of float charge, discharge, pressure and temperature, proving that the Gigacell is a viable new alternative backup power supply that is 50% smaller and 30% lighter than conventional lead-acid batteries. The Gigacell can be used not only in telecommunication facilities like KDDI's but also in a diverse range of fields, including the IT as well as financial and healthcare sectors.

Kawasaki's Gigacell battery is tailored to large-scale applications, with quick charge/discharge capabilities. Since it contains no hazardous materials, such as lead and cadmium, and uses a nonflammable solution as its electrolyte, it is safe, environmentally friendly and easily disassembled and recycled.

* Gigacell is a registered trademark of Kawasaki Heavy Industries.

Kawasaki Plant Systems(K Plant) develops cutting-edge technologies for industrial and environmental plants, equipment and infrastructure.
As a core member of the Kawasaki Group, K Plant contributes to the future by helping to conserve energy and reduce the environmental burden.

Kawasaki Plant Systems, Ltd.

www.khi.co.jp/kplant/

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