

# GPA REPORT

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GUIDO PERLA & ASSOCIATES, INC. - New Contracts, Deliveries, Employee News and other Milestones

## FIRST GPA 462-10 OSRV LAUNCHED IN BRAZIL



**ASTRO TUPI** The first GPA-designed OSRV launched in Brazil

## ASTRO TUPI

**These vessels, the first OSRVs GPA has designed for the offshore market, will be under an 8-year contract for Petrobras, operating in the Campos Basin fields in Brasil.**

**ON JULY 29, 2011**, the AstroTupi, the first of two GPA 462-10 OSRVs, was launched at the Brazilian shipyard Estaleiro Ilha S.A. (EISA) for Brazilian offshore operator Astromaritima Navegacao S/A. In 2010, GPA signed a contract with EISA for one GPA 462-10 OSRV, designed specifically to Petrobras requirements (OSRV 750-10). Later on, an order for an additional OSRV followed. The AstroTupi is expected to be delivered in March 2012, while the second vessel is expected to be launched in January and delivered in the second half of 2012.

**THE 64-METER** vessels are outfitted with a diesel-electric propulsion system comprised of Caterpillar and Berg Propulsion equipment. The system consists of two azimuthing drives, each rated for 1,700kW, and two bow thrusters, each rated for 448kW on the first vessel and approximately 600kW on the second vessel. The propulsors and bow thrusters will run on three Caterpillar generator sets each rated for 1,700kW. The

electrical components of the propulsion system will be provided by WEG.

The use of a diesel-electric propulsion system creates valuable flexibility, allowing for the maximization of cargo carrying capacities below deck, as the engine room is located above the main deck. This concept, pioneered by GPA several years ago, has been implemented on over 100 GPA-designed offshore vessels. Besides fresh water tanks (315 m<sup>3</sup>) permanent fuel oil tanks (489 m<sup>3</sup>) and day oil tanks (33.3 m<sup>3</sup>), these OSRVs will be capable of transporting a maximum of 800 m<sup>3</sup> of recovered oil.

**GPA'S DESIGNS** are based on well-proven single-curvature hullforms and other construction methods simplifying the building process, such as flanged plate framing and transverse framing, which allowed GPA to offer a cost-effective solution to the highly competitive Brazilian market.

"Well-designed hard-chined, single-curvature hulls can result in efficient operations and fuel savings. All of our offshore vessel designs, by now over 140 vessels in service or under construction, are based on these methods and have been extremely Paulina Alvarez, General Manager of GPA Latin America.

The GPA 462-10 OSRV, providing accommodations for 16 crew members and 6 passengers, will bear the class notation ABS +A1 Oil Recovery Vessel Class 1, +AMS, +DPS-1, FiFi 1, Enviro, Circle E.

As is the standard for vessels built under the Brazilian state order, the design strictly follows high levels of safety and quality, including explosion proof deck equipment and oil tank separation.

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**Two of five split hopper barges designed by GPA in service for Panama Canal**



**5 Barges for Panama Canal**

**GPA delivered design and engineering services to the Panama Canal Authority.**

In August 2011, the first of five hopper barges, developed by GPA, was launched at Servicios Industriales de la Marina (SIMA) PERU S.A. Currently, two of the five barges are already in services. In 2010, GPA was awarded a project to deliver design and engineering services for five barges owned by the Panama Canal Authority (ACP) as a result of a contract signed between ACP and SIMA. The barges will support the enlargement project of the Panama Canal, allowing for a greater number of transits and the ability to handle larger ships.

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## First GPA 696 IMR Delivered

**The first of ten multi-purpose IMR vessels was recently delivered for BOURBON.**

GPA delivered the concept design, regulatory package and final design for these vessels. The highly maneuverable DP-3 and FiFi-1 certified GPA 696 IMR vessels are equipped with three 1,686W azimuthing drives, two 843kW tunnel

» continued, **PAGE 5**

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engineered  
into Reality!**

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# T-AGOR-27 RESEARCH VESSEL

## GPA WINS A CONTRACT TO DELIVER DESIGN

**IN OCTOBER 2011, GPA was awarded a contract to deliver the Regulatory Design and Detail/Production Design for the T-AGOR-27 Ocean Class Research Vessel.**

**THE BASIC** design was developed by GPA during a NAVSEA sponsored design competition while under contract with Dakota Creek Industries (DCI) and partnered with leading marine industry equipment vendors. The Navy-owned vessel will be operated by the Woods Hole Oceanographic Institution of Massachusetts. A second vessel may be awarded at a later date.

GPA will support DCI, a shipyard in Anacortes, WA, near Seattle, throughout the construction and delivery of the vessel. GPA and DCI share a history of successful projects, granting a solid foundation for the development and construction of the T-AGOR-27.

"The combination of competence, practicality, understanding of government contracts and procedures but also thinking outside the box gave GPA the essential advantage in the lengthy competition process. We are not only extremely excited for GPA to be an essential part of this prestigious project but also for DCI and the local community as the AGOR project secures employment for many workers and suppliers in the area during these tough economic times. Since 2009, we have invested a lot of time and effort into this proposal and competition in very close collaboration with DCI, a shipyard we have an excellent personal and professional relationship with and a long track record of working together. We believe this relationship definitely enhanced the result of the design and will guarantee a continuation of the project to a successful completion. Being awarded the contract reinforced our belief in our capabilities and hard work and the importance of relationships and dedication," says Guido Perla, Chairman of GPA.

**TO WIN** this award, GPA was hired by Dakota Creek Industries to provide a basic design during the Phase I NAVSEA design competition. This phase required development of an original design of the vessel including hull form, structure, arrangements and systems, and integration of equipment from vendors throughout the marine industry to meet a demanding government specification and limited budget. GPA's unique hull form was optimized for sonar operations and fuel efficiency and was model tested during this phase to verify conformation with Navy requirements. This year long process involved multiple design reviews to U.S. Navy and other government organizations and some ABS regulatory review.

**GPA ALSO** worked closely with DCI to ensure that production methods were taken into account early in the design process. GPA maintains a successful track record providing engineering expertise to complex design projects, both commercial and private, matching the needs and vision of the operator with the engineering realities of the industry.

As in any maritime sector, the demands in the field of marine research are becoming more challenging, calling for more sophisticated, larger and safer vessels. The T-AGOR-27 is the third complex research vessel in GPA's diverse

portfolio and will follow in the footsteps of the RV Kilo Moana (T-AGOR-26), the first GPA-developed research vessel, in replacing aging Intermediate Class ships. These newer vessels offer unprecedented opportunities for larger, interdisciplinary science teams of up to 25 members, utilizing highly developed research equipment. Earlier this year, GPA received a contract for design validation of the cold-climate, oceanographic research ship RV SIKULIAQ. All three vessels contribute to the university research vessel fleet in the US becoming one of the most advanced fleet worldwide.



T-AGOR-27 Oceanographic Research Vessel

**THE T-AGOR-27**, an advanced oceanographic research vessel, will have the capability of carrying sufficient supplies and support systems to stay at sea for up to 40 days, covering up to 10,000 nautical miles and withstanding high sea and wind condi-



tions. These capabilities, combined with the ability to operate 75% of the time during the Pacific Northwest and North Atlantic's winter months and powerful ocean exploration equipment and instrumentation, will provide for superior operations. The highly developed equipment includes:

- A **MULTIBEAM** seafloor mapping system for deep and shallow water
- A **SUB-BOTTOM** profiler to map sediments below the seafloor
- An **ACOUSTIC** doppler current profiler to map currents throughout the water column
- Precise **NAVIGATION** tools for tracking instruments in the water beneath the ship
- An **ARRAY** of networked sensors to measure atmospheric and ocean properties.

The total variable science load, in part stored in up to 2,000 ft<sup>2</sup> of internal labs and facilities, is 100-200 long tons. These facilities will include a wide variety of lab types with reconfigurable benches, cabinetry and special electrical requirements, storage for hazardous materials, repair facilities for equipment and systems providing uncon-

taminated seawater. Besides the indoor facilities, the scientists require a 2,000 ft<sup>2</sup> working area in the stern up top that can handle a range of temporary equipment, 80 ft<sup>2</sup> of clear deck area alongside one rail, as well as a range of recovery equipment, including winches, wires, cranes, frames, booms and others. Other deck areas will be used to handle incubators, vans, workboats and other temporary equipment.

Acoustic characteristics of the vessel are another important factor in this project due to sensitive instrumentation and experiments, as well as modern crew comfort requirements.

The vessel was designed to meet all Navy noise and vibration requirements through a careful analysis of equipment selection and location, as well as noise insulation treatments.

Emphasis was also placed on the vessel's ability to operate in rough weather for extended periods of time in a safe and efficient manner.

This required GPA to integrate many different systems for remote and automated controls. Major

systems include:

- Integrated **DIESEL-ELECTRIC** Plant Design with ABS ACCU notation
- DYNAMIC POSITIONING** capabilities and precise vessel maneuvering requirements
- State **OF** the art deck handling systems with high levels of remote operation capability.

**COUPLED WITH** leading experts in the field for these various systems mentioned above, GPA was able to ensure that operational requirements were met or exceeded using minimum personnel and high factors of safety for the crew.

**GPA BRINGS** a high level of knowledge and experience to the implementation of all of these systems due to the

company's accomplishments across multiple sectors of the marine industry, combining the complex needs of the oceanographic research industry with some of the more practical solutions used in such applications as offshore oil, fishing and towing operations. Approximately 200 GPA-designed vessels, equipped with such systems, have been delivered or are currently under construction throughout the world.

"**WE ARE** very satisfied with the fact that the vessels we design comply with the highest safety standards and we are looking forward to creating yet another safe work environment for the people aboard this research vessel. This project definitely reinforced our company motto Ideas Engineered Into Reality," concludes Mr. Perla.

**THE T-AGOR-27** is scheduled for delivery in late 2014. ●

## GPA HIRES ERIC ENGELBRECHT AND JOE PAYNE

**Eric Engelbrecht has joined GPA as a Project Manager**

Mr. Engelbrecht will manage a wide array of GPA projects, incorporating team members across all of the international offices with a dedicated focus on meeting each client's unique requirements.

Mr. Engelbrecht will also be a part of the GPA management team developing new business.

A former Nuclear Submarine Officer with a high level of expertise in shipyard production and construction methods, he holds a B.S. Degree from the United States Naval Academy and has over a decade of experience working in the marine industry for both commercial and government organizations. ●



**GPA hires Joe Payne as the Electrical Dept. Manager and Chief Electrical Engineer.**

At GPA, Mr. Payne is responsible for the complete design and systems integration of all main and emergency power, lighting, HVAC controls, hazardous area classification, interior communications & alarm systems.

This includes engineering oversight, detailed design work, specification development and resolution of regulatory body issues.

With over 25 years of electrical system design and project management experience, Mr. Payne holds an Electrical Engineering degree (B.S.) from the University of Missouri. A former U.S. Navy nuclear submarine officer, Captain Payne is a Naval War College graduate and a retired Engineering Duty Officer.

He gained his extensive commercial ship design experience working for various shipyard and naval architecture firms as Senior Electrical Engineer, Project Manager/Engineer and educator/mentor. In addition to being a registered Professional Engineer (Electrical) in Washington and Louisiana, Mr. Payne is a LEED (Leadership in Energy & Environmental Design) Accredited Profes-



# GPA PROVIDES VARIOUS OFFSHORE DESIGNS FOR PETROBRAS



**GPA has been awarded three design contracts for offshore support vessels to the specific requirements of Petrobras of Brazil, all for ships to be built in Brazilian yards.**

The first contract is with Brazilian shipyard Detroit Brasil, a subsidiary of Detroit Chile, to deliver the basic/class design and detailed / construction engineering for four PSVs of type 4500, to be operated for Petrobras by Starnav.

To meet the Petrobras specification, GPA has developed a new variation of its design, known as the GPA 688SC PSV, with a special deckhouse arrangement. This design has the capability to be transformed into the PSV 3000 (GPA 675 PSV), another vessel specified by Petrobras, by changing the mid-body section. This characteristic is said to be extremely valuable for the shipyard as it offers a high degree of flexibility and gives the opportunity to build in series.

The GPA 688 SC PSV is 90m length oa, and capacity of 4500dwt. The vessels will employ a diesel-electric propulsion system, consist-



ing of MTU engines, Schottel propulsors and an integrated engine control room (ECR) by EPD. Four main MTU gensets of 1,845kW rating and one MTU emergency generator of 176kW have been chosen, along with two Schottel 2,500kW azimuthing combi drives and two 900kW tunnel thrusters.

The ECR will be delivered pre-tested in a container, and is designed to be an integral part of the ship's structure. This approach, first brought to market in 2009 on the GPA-designed Bourbon Liberties offshore vessel, is said to minimize the risk of equipment damage in the shipyard.

The GPA 688 PSVs, providing accommodations for 30 crew members, will bear the class notation ABS, +DPS-2, +A1, Offshore Support

Vessel, Circle E, +AMS and +ACCU. Delivery of the first GPA 688 PSV is expected in October 2012 while the series is expected to be completed in October 2013.

The second contract is with Brazilian shipyard EISA Estaleiro Ilha for two GPA 675 PSVs, again designed specifically to Petrobras requirements (PSV 3000). Both are currently under construction at EISA for the Brazilian offshore operator Astromaritima Navegacao.

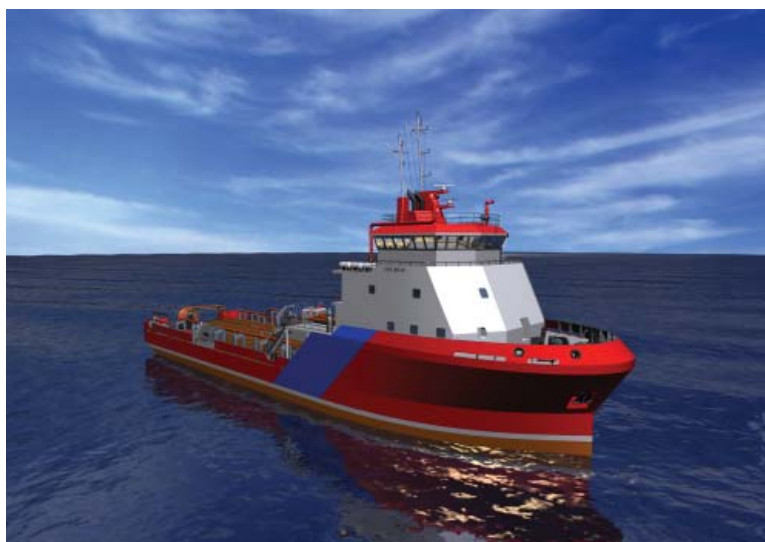
The vessels too are outfitted with a diesel-electric propulsion system, comprising equipment by Berg Propulsion and Caterpillar. Each system consists of two azimuthing drives, each rated for 2,500kW and two bow thrusters, each rated for 750kW. The propulsors, bow thrusters and other electrical consumers will run on four Caterpillar generators each rated for 1,825kW and an emergency generator rated for 190kW. The electrical components of the propulsion system will be provided by WEG.

The GPA 675 PSV has an overall length of 76.8m, beam of 19m, and maximum draught of 6m. The use of a diesel-electric propulsion system is said to maximize cargo carrying capacities, as the engine room is located above the main deck, a concept which GPA says it pioneered. The ships will provide accommodation for 22 crew members and passengers, will bear the class notation ABS, +A1, Offshore Support Vessel, +AMS, +DPS-2, Circle E and +ES.

Under the third contract, again with Estaleiro Ilha, GPA was contracted to design one GPA 462-10 OSRV, designed specifically to Petrobras requirements, and designated OSRV 750-10. This has subsequently been followed by an order for a second ship, and both are currently under construction for operator Astromaritima Navegacao.

The 64m vessels also have a diesel-electric propulsion system from Caterpillar and Berg. In this case, it consists of two azimuthing drives, each rated for 1,700kW, and two bow thrusters, each rated for 448kW on the first vessel and approximately 600kW on the second vessel.

The propulsors and bow thrusters will run from three Caterpillar generator sets each rated for 1,700kW.



Besides fresh water tanks (315m<sup>3</sup>) permanent fuel oil tanks (489m<sup>3</sup>) and day oil tanks (33.3m<sup>3</sup>), these OSRVs will be capable of transporting a maximum of 800m<sup>3</sup> of recovered oil. The GPA 462-10 OSRV, providing accommodations for 16 crew members and 6 passengers, will be classed ABS +A1 Oil Recovery Vessel Class 1, +AMS, +DPS-1, FiFi 1, Enviro, Circle E. They are the first OSRVs GPA has designed for the offshore market, and, like the other recent GPA designs, will be under an eight-year contract for Petrobras.

"The recent event in the Gulf of Mexico once again demonstrated that the industry needs to be prepared. When risk turns to reality, the companies involved have to be capable of handling such spills. As a company that highly values environmentally friendly operations, GPA is very pleased to be involved in a project that would have a positive impact



in case of another incident," says Guido Perla, chairman of GPA. GPA's designs are based on well-proven single-curvature hull forms and other construction methods simplifying

the building process, such as flanged plate framing and transverse framing, which allows GPA to offer a cost-effective solution to the highly competitive Brazilian market.

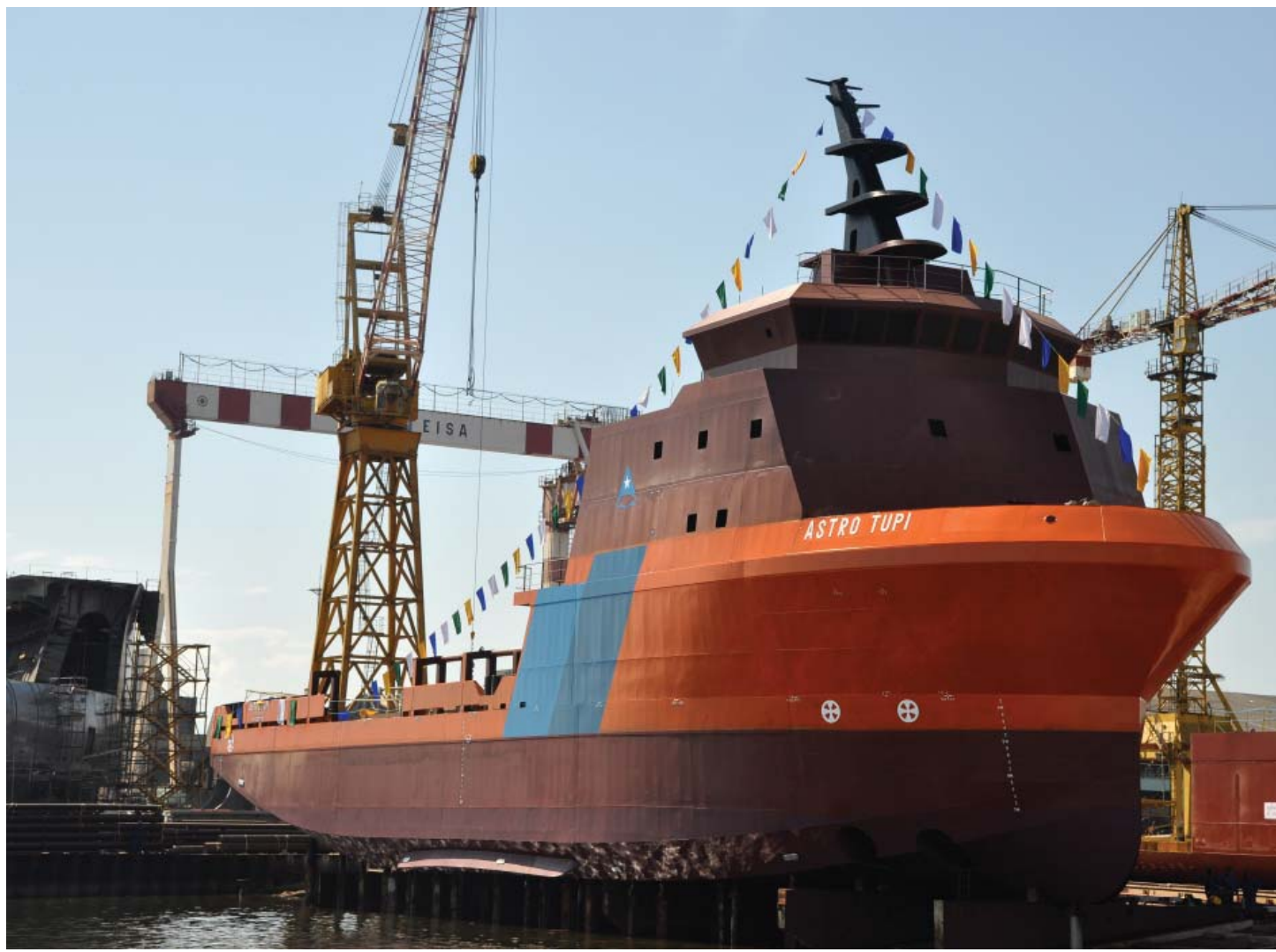
"Well-designed hard-chined, single-curvature hulls can result in efficient operations and fuel savings. All of our offshore vessel designs, by now over 140 vessels in service or under construction, are based on these methods and have been extremely beneficial for operators worldwide," says Paulina Alvarez, general manager of GPA Latin America.

In recent years, GPA has focused on building relationships with local operators and shipyards in Latin America and created a direct presence with subsidiaries in Chile and Brazil. These subsidiaries provide naval architecture support to the GPA headquarters in Seattle, working in conjunction with the GPA design and engineering staff, as well as providing technical assistance, and project and contract management directly to local shipyards that are currently constructing GPA Designs.

"The local market has been developing very attractive projects that we want to take part in, and therefore, we need to be prepared to support and serve our clients during the complete execution of the projects," says Alvarez.

"A local presence facilitates keeping a close liaison with clients after launch and delivery with respect to the operation and maintenance of each vessel. One of our main assets and differentiation points is that GPA has always developed special solutions that suit each client's needs. Therefore it is of advantage for us to be closer and more accessible to our clients in order to get a better understanding of their situation, needs and requirements." ■

## « FIRST GPA 462-10 OSRV LAUNCHED IN BRAZIL, continued



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LATER ON, an order for an additional OSRV followed. The AstroTupi is expected to be delivered in March 2012, while the second vessel is expected to be launched in January and delivered in the second half of 2012. ●

## GPA 254L AHTS INSTALLS WIND STRUCTURE

BOURBON OFFSHORE recently installed a wind turbine off the coast of Portugal. These operations were performed by the BOURBON LIBERTY 228, an Anchor Handling Tug Supply Vessel of the GPA 254L AHTS series.



THE PROJECT, led by the Portuguese utility EDP, demonstrated the vessel's adaptability

The GPA 254L AHTS is part of a 54 vessel series of offshore vessels constructed for BOURBON OFFSHORE in China at Zheijang and Dayang Shipyard.

The design offers flexibility in terms of power management, allowing to bring on power in small increments to keep the engines at appropriate loadings, operating at their highest efficiencies. Thus, fuel consumption and CO<sub>2</sub> reject are reduced by 20-30% compared to conventional systems.

The DP-2 certified system, with two azimuth and one fixed stern thrusters and two bow thrusters, allows for redundancy and increases the safe operating parameters for this modern AHTS. Even in the event of failure in the control or propulsion system, the vessel is able to safely maintain precise position in close proximity to offshore facilities for anchor handling operations or cargo offloading. The oval tank design for liquid products, coupled with a faster and automated cleaning system, enables optimized loading and transfer operations.

In addition to operational performance benefits, GPA's design also offers an extremely economical, cost-efficient solution due to certain simplified construction methods. GPA maintains a successful track record of designs following these proven standards, mainly single-curvature hull forms and other structural arrangements, such as transverse framing and flanged plate framing. This combination enables shipyards to build more vessels in less time in a cost-efficient manner, which was crucial to the success of the GPA 254L AHTS series with a delivery cycle of approximately three weeks. ●

# ARRV RESEARCH VESSEL

## KEEL LAYING CEREMONY

On April 11, 2011, Marinette Marine Corporation (MMC) held the keel laying ceremony for the Alaska Region Research Vessel (ARRV) R/V SIKULIAQ, for which GPA provided the design validation.

THE R/V SIKULIAQ, a cold-climate, oceanographic research ship, replaces the over 40 year old and now retired R/V ALPHA HELIX. The R/V SIKULIAQ, owned by the National Science Foundation, with its initial science mission in 2014, will be one of the most advanced university research vessels in the world, and will go into unrestricted science operations after delivery to University of Alaska, Fairbanks (UAF).

The vessel will be home ported in Seward, Alaska, at UAF's Seward Marine Center. The vessel has an overall length of 261.5 ft, a maximum beam of 52.0 ft and a design wa-

terline draft of 19.5 ft. The displacement at the design waterline is 4,065 long tons. In terms of speed, the R/V SIKULIAQ is designed to reach 14 knots in calm waters.

Operated by the University of Alaska, Fairbanks, and part of the U.S. academic research fleet, the vessel has mild ice breaking capabilities for ice of up to 2.5 ft thick. Thus, the vessel is capable of safely bringing scientists to the ice-choked waters of Alaska and the polar regions and of operating for longer periods of time than previously possible in the North Pacific Ocean, Gulf of Alaska, and the Bering, Chukchi, and Beaufort Seas.

The MV SIKULIAQ will be deployed for different research missions, such as collecting sediments from the seafloor, hosting remotely operated vehicles, using a flexible suite of winches for handling scientific equipment and conducting surveys throughout the water column and sea bottom with the use of extensive research instrumentation.

Furthermore, the vessel is capable of transmitting real-time information directly to classrooms worldwide.

The vessel was designed to leave the smallest environmental footprint possible, taking into consideration underwater radiated noise for marine mammals and fisheries. Up to 26 scientists and students, including those with disabilities, can be accommodated aboard the R/V SIKULIAQ.

GPA was selected by MMC in Marinette, Wisconsin, to assist them with the Design Verification phase of their contract with UAF. GPA reviewed the design for compliance with the rules of the American Bureau of Shipping, USCG, SOLAS, stability requirements, the Owner Specifications, and various other criteria pertaining to good marine construction practices and shipyard building techniques.

The final goal of the Design Verification was to turn over responsibility for the vessel design to MMC. Additionally, MMC had GPA develop several other functional design drawings for the shipyard, as well as detailed design for major foundations and key systems. The R/V SIKULIAQ bears the class notations ABS, +A1, Oceanographic Vessel, +AMS, +ACCU, DPS-1, unrestricted service. ●



## « FIRST GPA 696 IMR DELIVERED, continued

bow thrusters, one 843 kW drop-down azimuthing bow thruster delivered by Schottel and six 1,235kW Cummins generators, as well as one 1,235 kW auxiliary generator and one 450kW emergency generator.

**THE CONFIGURATION** of the environmentally friendly diesel-electric propulsion system, including two engine and two electrical rooms, creates full redundancy in accordance with DP-3 requirements.

The diesel-electric propulsion system also results in reduced maintenance cost and improved station keeping at offshore installations, and significantly increases crewmember safety. Because of its design and standardization, the GPA 696 IMR series can compete with more expensive, similar-sized vessels, reducing operational cost to the customer by up to 20%.

**THE DECK** equipment of the 100-meter vessels includes one 150 MT @ 10 m radius main crane, which can lower packages to a depth of 3,000 meters and one 40 MT @ 9 m radius deck crane. Both cranes, with built-in swell compensation systems, cover the entire 1,200 m<sup>2</sup> deck surface to ensure handling and storage of packages over the entire area.

**THE SOLAS-CERTIFIED** IMR vessels also have significant below-deck cargo capacities, capable of carrying 380 m<sup>3</sup> of methanol, 2,541 m<sup>3</sup> ship's ballast, 1,080m<sup>3</sup> fuel oil and 749 m<sup>3</sup> fresh water. The vessels are also equipped with a helideck designed for a Super Puma Helicopter EC225.

a stimulation vessel, rescue vessel, hotel vessel or provide light intervention on wells while offering modern conditions aboard with meeting rooms, offices, lounges and comfortable cabins. The vessel design allows for the following configurations:

- **ROV** Vessel: 2 ROVs can be used at the same time.
- **DECK** Cargo: Maximum deck cargo is 2080MT with an equivalent 18512m-MT vertical moment
- **Hotel** Vessel: Accommodations for 105 people aboard under comfortable working conditions.
- **MINI-FPSO** Vessel: Increased freight loading capacity with a storage capacity of 24,000 barrels of crude oil.
- **OIL Well Intervention Vessel**: Support of interventions on oil wells for measurement and cleaning.

One of the remarkable features of these vessels is the ability to operate both cranes and both ROVs simultaneously over the complete operating envelope of the vessel without any restrictions. These vessels are certified to satisfy both the current IMO deterministic and probabilistic damage stability requirements. With these ten GPA 696 IMR vessels, the number of GPA-designed 600, 200 and 100 series of offshore vessels has increased to over 140, reinforcing GPA's position as one of the world's leading naval architects. ●



## « GPA DESIGNS FOR PANAMA CANAL AUTHORITY, continued

**GPA's scope** for the barge design included the basic design and regulatory package, following strict requirements of the ACP specifications. The barges measure 65.00 meters in overall length with a beam of 15.00 meters, while the hopper measures 47.50 meters in length and has a breadth of 10.92 meters.

A unique feature of the barges is the raised position of the hydraulic cylinders, set such that they allow for their repair with the barge on the water, an improvement on other standard designs.

**The ABS classified**, remotely operated barges have a hopper capacity of 1,000m<sup>3</sup> and are designed to suit the requirements of the existing ACP dipper dredger Rialto M. Christensen, which is currently operating in the canal.

These barges are yet another example of GPA gradually developing and securing a position as a significant player in the South American maritime industry. The five barges and two pusher tugs are the first contracts that GPA secured for the Panamanian market and are the result of

continuous and diligent efforts to enter Panama for several years now.

**"We are very pleased** that GPA was chosen to design these vessels. We continuously invest intensive time and effort into the South American market and are quite satisfied that it is paying off, with a total of 19 vessels under construction at South American shipyards," explains Guido Perla, Chairman of GPA.

In the early days, most, if not all, of GPA's clients were US-based but with the expansion of the company to different continents in recent years, GPA has become a truly fully fledged global player. Concurrently to the projects for Panama, several other GPA-designed vessels are under construction for the workboat and offshore industry in Brazil, China and the US.

Due to advanced, cost effective design methods, GPA can successfully compete in these major markets against larger players with certain competitive advantages and thus established a reputation as a prominent naval architecture and marine engineering firm worldwide. ●

