Hyundai Heavy Industries Co. Ltd. Engine and Machinery Division (HHI-EMD) has completed the supply of equipment for 1062 MW of its diesel power plant product on the island of Cuba.

Between the 38 sites on the Cuban island, HHI-EMD has supplied 544 units including 372 sets, or 630 MW of its 1700 kW class containerized diesel generating unit, known as packaged power station (PPS) and 172 sets, or 430 MW of its 2500 kW class of its diesel power plant (DPP), since 2006.

Cuba, keen to overhaul its inadequate electrical infrastructure and end chronic power outages, commenced this large project in 2006. With the completion of the Bayamo, Cuba, site, the PPS sites on the island have been commissioned and handed over to the client in 2009.

According to the company, the success of the project in Cuba is essential for making inroads to other markets. The completion of this project should provide a high level of visibility for HHI-EMD’s HiMSEN engine and its DDP and PPS products in the Latin American market.

HHI-EMD’s PPS product offering is a new concept where the engine, generator and auxiliary equipments are pre-assembled in a 12 m container. This enables easier transport via container carrier. The use of a low-bed trailer is possible and civil works are minimized.

The HiMSEN engine was developed with the basic concept of creating a “practical engine that is Hi-Touch and Hi Tech,” by HHI-EMD offering world-class performance with lower fuel consumption, eco-friendly design and easier maintenance, reported the company. Fewer components are required due to the introduction of its modular design.

HHI-EMD opened a HiMSEN training program in Cuba located at the engine development and test department of HHI-EMD. The program offers training courses for the Cuban engineers to become more familiar with the HiMSEN engine, providing them the technical knowledge to operate the power plants in Cuba.

Due to its popularity, HHI adopted an optimized production management system for the 9H21/32 engine model that is integrated into the DPP and PPS packages, to reduce production lead times. This type of PPS was delivered in five months versus the more typical lead time of at least 12 months. These shorter delivery times and easy installation are features that make this a popular product offering where electricity demand is urgent.

HHI-EMD said plans are under way to complete additional DPP sites, and the company will be working with local Cuban companies through this portion of the project’s completion.
The industrial heartland on the outskirts of Trujillo in northern Peru has seen dynamic economic growth in recent years. Large-scale government-backed projects are under way for mining seemingly inexhaustible reserves of raw materials such as copper, gold, zinc, silver, lead and iron ore. On top of that, natural gas production and the planned construction of gigantic hydroelectric power plants in the Amazon basin have brought a noticeable rise in prosperity to the emerging economy.

The boom, which has produced an annual growth rate of 8% in the gross domestic product, brings with it the need to provide industry, countless small businesses and the Peruvian population itself with an adequate and reliable supply of electric power. Existing energy capacity, mostly in the form of hydro-electric power plants, has long fallen short of demand. Furthermore, Peru does not have a comprehensive interurban power grid.

Distributed energy generation by APR Energy addressed this issue. APR Energy is a global energy solutions provider delivering short-, medium- and long-term power generation projects utilizing reliable and environmentally friendly generating equipment. In order to offset the shortage, APR Energy developed a turnkey power plant composed of 40 diesel generator sets from MTU Onsite Energy. These gen-sets are powered by the MTU Series 4000 diesel engine and deliver a combined total of 60 MW of power.

The Series 4000 generator drive engine is a 16-cylinder, fully electronically controlled diesel engine with advanced turbocharging and high-pressure common rail fuel injection. In prime power generation applications, the engine is rated 2020 kW at 1800 r/min and has up to 20% more cylinder displacement than comparable engine-generator combinations. This results in enhanced transient response and more frequency and voltage stability.

APR Energy is known for its ability to rapidly deliver customized turnkey power solutions to customers around the globe, and this project was no exception. "It was only 130 days from the time we took the order until the power plant was operating in Peru," said Paul Marcroft, vice president of sales and marketing, APR Energy. "We used MTU Onsite Energy generators sets because we’ve had long experience with them and we’ve found that they provide the reliability and performance that our projects require."

APR has supplied turnkey power plants, like this one in Trujillo, at remote locations all over the world. These fast-track power projects in the Americas, Africa, the Middle East and Asia utilize diesel, gas, heavy fuel oil and dual-fuel technologies. Currently, APR is developing business in over 30 countries globally.