1
PHNIX SELLS 10,000 HEAT PUMPS TO POWER PROJECT IN NORTHERN CHINA

PHNIX, the leading manufacturer of heat pumps in China, announces that it has won a 10,000 unit order for its Low-temp. Heat Pump HeatPro Series on a Coal-to-Electricity mega-project in north China. In addition, most of the installation and commissioning of the contract projects that PHINX conducted in the Beijing region have been completed.
China's Coal-to-Electricity event is a large-scale government-subsidized project which aims to transform the traditional method of coal-fired house-heating during the winter in rural areas of north China, using heat pumps and other more energy-saving environmental protection equipment as an alternative. Winters in northern China are generally cold and dry, and the temperature in some extreme cold areas is often under -25¢ªC.
PHNIX's HeatPro Series of heat pumps, with Enhanced Vapor Injection (EVI) technology for dedicated heat pump applications, deliver outstanding performance and reliability, both in new buildings and boiler replacements. PHNIX has now developed a complete product line for R410A, obtaining significant benefits for the heat pump system using this refrigerant, which enables the design of more efficient and more compact equipment.
Thanks to EVI technology, PHNIX's HeatPro Series features a wide operating temperature range; the unit can reach a high water temperature of 55-65¢ªC even in cold climates ranging from -20¢ªC to 43¢ªC.
In order to control the haze and adjust the country's energy infrastructure, some local governments, such as Beijing Municipality, have introduced clean air policy measures to reduce coal consumption by replacing coal-fired house-heating with air source heat pump equipment in rural areas. Users have used these subsidies to purchase heat pump products worth anywhere from a few thousand to as much as tens of thousands of RMB. Related to use the heat pumps, consumers get more benefits in the form of special power subsidies, which reduce electricity prices to as low as 1 cent per kilowatt hour.

2
ABB'S ASSETSHIELD PROTECTS US GRID POWER

ABB has won orders from three major US utilities for its innovative AssetShield ¢â solution to deliver hardened and bullet resistant transformers, and facilitate the protection of critical grid assets, minimizing potential outages and enhancing the reliability of power networks.
AssetShield-protected transformers are designed to help utilities meet new security and resiliency standards for critical substations in the US. This solution is an integral part of ABB¡¯s Transformer Resilience initiative which includes five strategic elements ? assessment, hardening, monitoring, rapid repair and rapid

replacement ? designed to help utilities protect assets and restore power quickly in the event of physical damage to a substation.
The US, like any other country, is more dependent than ever on reliable electric power for residential, commercial and industrial use as well as strategic security. A natural disaster, attack on the grid or the loss of large power transformers could result in widespread power outages, affecting consumers and having a significant economic impact.
¡°We are pleased to provide this innovative solution to support increased grid resiliency and reliability,¡± said Markus Heimbach, Managing Director of ABB¡¯s Transformers business unit, a part of the company¡¯s Power Grids division. ¡°ABB is collaborating with customers to address rising physical security concerns through solutions like AssetShield¢â and other protective measures to mitigate risk and restore power faster.¡±
ABB¡¯s scope of supply for the orders received includes a 700 megavolt-ampere (MVA), 345 kilovolt (kV) power transformer, two 100 MVA, 141 kV power transformers and three 500 kV single phase units. The UL-752 standard compliant transformers feature Asset Shield tanks, dry bushings, impact sensors and automated cooling valves.
Armoured steel shielding of transformers and power equipment is part of the ¡°hardening¡± process to provide components with advanced ballistic-level protection against physical attack. This is a new solution to safeguard and protect large power transformers and other substation equipment. Based on a standard design, there is no visual difference between standard transformers and those with AssetShield protection, with the latter not requiring any additional maintenance or replacement measures.
ABB offers a complete range of power and distribution transformers designed for reliability, durability and efficiency. The company¡¯s vast portfolio includes both liquid-filled and dry-type transformers as well as services for complete lifecycle support, including replacement parts and components.

3
COMBINED CYCLE PLANT TECHNOLOGY UPGRADED BY GE POWER SERVICES

Uniper UK Ltd. has selected GE¡¯s Power Services to provide plant equipment upgrades and advanced digital solutions aiming to boost the performance of its Enfield and Grain combined-cycle power plants in the high-demand regions of greater London and the southeast of England. The upgrades are part of GE¡¯s new Fleet360* services platform of total power plant solutions and include a full suite of digital, plant and gas turbine solutions. The contract also includes the first order for GE¡¯s Operations Optimization software on a GT26 gas turbine.
Uniper¡¯s two, 400MW and 1,200MW stations, which consist of four GT26 single-shaft combined cycles, will be upgraded with a full suite of digital, plant and gas turbine solutions. The upgrades reflect a broader trend, as European utilities seek to modernize their combined-cycle power plants to increase performance, deliver competitive costs and meet additional environmental and flexibility requirements.

Showcasing the role of digital technologies in GE¡¯s total plant solutions, this latest contract marks the first installation of GE¡¯s Operations Optimization software on a GT26 gas turbine, giving Uniper the capability to monitor and predict key plant performance indicators.

"We are delighted to work with Uniper to demonstrate the added value of GE¡¯s Operations Optimization software to give plant operators greater real-time oversights into the condition of their generation equipment,¡± comments Paul McElhinney, president & CEO of GE¡¯s Power Services. ¡°Our new Fleet360 services platform of total plant solutions allows us to offer customers like Uniper the capabilities to help increase the efficiency, availability and operational flexibility of their combined-cycle plants in the United Kingdom.¡±

Fleet360 represents GE¡¯s expanded capabilities as a total solutions provider for all power generation equipment, regardless of whether the components were originally supplied by GE or another original equipment manufacturer. Fleet360 applies to upgrades, repairs, parts, multiyear agreements, operations and maintenance?as well as GE¡¯s advanced digital solutions.

4

CYRQ ENERGY SIGNS US$36M DEAL WITH ORMAT

Ormat Technologies, Inc. has announced that its subsidiary, Ormat Nevada Inc., has signed a US$36 million engineering, procurement and construction (EPC) contract with a subsidiary of Cyrq Energy, Inc. Under the EPC contract, Ormat will provide an air-cooled ORMAT¢ç ENERGY CONVERTER (OEC) at Cyrq¡¯s Soda Lake geothermal power project in northern Nevada. The project is expected to come on line in the first half of 2018. The new OEC will increase generation and reduce operating costs by replacing the two currently operating power plants, which were commissioned by Ormat in the late 1980s and early 1990s, respectively.

Isaac Angel, CEO of Ormat Technologies comments: ¡°We are delighted to be chosen again by Cyrq, having provided the successful construction of the Thermo No. 1 generation upgrade in 2013. Ormat continues to gain repeat customers for our power plant solutions due to our strategic advantage of being a vertically integrated company which enables Ormat to constantly develop and advance our technology. Over the years, we increased our OEC unit sizes considerably and improved efficiencies, providing our clients with the ability to utilise geothermal resources in a more sustainable and economical manner. The Soda Lake project will benefit from these advancements in our OEC proprietary technology derived over the past three decades, and this contract will further strengthen our position as a reliable and dependable supplier and contractor. Following the signing of this contract, which was included in the previously announced $100 million of contracts under negotiations, it will be added to our backlog, bolstering the revenues from our products segment over the next two years.¡±

Nick Goodman, CEO of Cyrq Energy, Inc. concludes: ¡°We are very pleased to work with Ormat on our Soda Lake 3 project. Ormat has been able to provide the best overall solution in our competitive process, and based on their

performance on our Thermo No. 1 project, which was nothing short of stunning, we have every expectation that Soda Lake 3 will be another flagship project in Nevada. Soda Lake 3 will be a great example of the evolution of geothermal technology and the sustainability of geothermal resources."

5
SUDAN TO BUY 5 GAS TURBINES FROM SIEMENS

Sudan's state-run energy provider Sudanese Thermal Power Generating Company (STPGC) will buy five SGT5-2000E gas turbines from Siemens. These machines will deliver a combined electrical generating capacity of some 850 megawatts for the Sudanese national grid. All five power plant units are scheduled to already commence commercial operation at the end of 2017.
In addition to the five E-class gas turbines, Siemens' scope of supply also comprises five associated SGen5-100A generators as well as Siemens' SPPA-T3000 control systems. Three of the machines are destined for Garri Power Station in the North of the Sudanese Capital Khartoum, while the remaining two units will generate electric power further east in Port Sudan on the country's Red Sea coast. All five of these turbine-generator sets will be initially commissioned as simple-cycle gas-turbine power plant units. However, later add-on of steam turbines is planned to expand the units to combined cycle configurations "Our power plant engineering is making a decisive contribution to very rapidly improving the power supply system in Sudan," states Willi Meixner, CEO of Siemens' Power and Gas Division. "We're thus in a position to help the people of Republic of the Sudan to develop a modern yet affordable electrification system that brings forward efforts to advance the nation's economic and social development. At the same time, we are pleased to give additional impetus to the initiative of the Federal Government to stabilize the region of North Africa. For Siemens this order furthermore constitutes a major step to strengthen our presence in Africa's growing power plant market."
All five gas turbines are already nearing ex-works shipment. Two of the machines were manufactured at Siemens' Gas Turbine Manufacturing Plant in Berlin, and manufacture of the other three is being completed in Saint Petersburg, Russia. The five generators will be delivered from Erfurt, Germany, to Republic of the Sudan. Siemens' E-class gas turbines can fire not only natural gas but also heavy fuel oil and light diesel oil. This high fuel flexibility along with the short delivery lead time proved to be an important selection criterion for the customer in opting for Siemens.
Republic of the Sudan has substantial market potential for power plant components and solutions. The country is planning to invest extensively in its energy infrastructure in the coming years in order to be able to meet the rising demand for electricity.

6
QINOUS CREATES UNIQUE AC STORAGE SYSTEM & ENERGY MANAGEMENT SYSTEM

QINOUS, a German manufacturer of smart energy storage systems, developed an extremely compact system in the power range from 30 to 200 kW power and up to 335 kWh capacity. Occupying only up to 4.5 square metres floor space, the QINOUS ESS QCompact includes a complete AC storage system and energy management system. The system is ideally suited for use in remote regions with no connection to a national grid as well as for grid-connected use in commercial or community applications.

¡°Like all our storage solutions, the QINOUS ESS QCompact is easy to install and operate,¡± says Steffen Heinrich, Managing Director of QINOUS. ¡°What makes the system special is its compactness and performance range. It contains the most storage capacity in the least space, including the power electronics, the lithium-ion batteries, and a specially developed energy management system. All this makes the ESS QCompact unique in the market.¡± The compact storage system provides up to 200 kVA of power and has a capacity of up to 335 kWh, while taking up just 3.0 to 4.5 square meters of floor space and can be shipped in a high-cube container. The integrated, comprehensive energy management system ensures a secure and efficient power supply. It manages the flow of energy between various generation units (e.g. solar plants, diesel generators, energy storage system) and controls frequency and voltage in the grid. The integrated black start function makes off-grid operation possible. Thus, area networks can be stably supplied in the event of a power failure.

QINOUS monitors the state of the components along with a variety of system parameters. The system performance is accessable via secure access at a user-friendly web-based monitoring system.

The energy storage housing is made of aluminium and high quality insulation material. The interior is divided into two compartments. The area for the batteries and electronics is temperature-regulated and almost airtight to protect the components against aging resulting from high temperatures, dust, salt mist, insects, and moisture. The other compartment contains the heat exchanger and transformer.

A QINOUS ESS QcompactM with 90 kW and 165 kWh will soon be put into operation in a village in Tanzania. Together with an existing solar facility, it will ensure a clean energy supply. ¡°The solar facility in combination with our storage unit offers the ideal solution for the village to gain more independence from expensive, environmentally harmful diesel fuel,¡± says Busso von Bismarck, Head of Business Development at QINOUS.

Another QINOUS ESS Qcompact L with 120kVA/125kWh is already in operation in Bavaria performing peak-shaving at a manufacturing facility.

QINOUS is a system integrator of smart plug-and-play Energy Storage Solutions (ESS) with integrated Micro-grid and Energy Management System (MEMS) in the range from thirty kilowatt to several megawatts. The QINOUS ESS is specifically designed for on-grid and off-grid applications for even challenging environmental conditions. The standardized QINOUS platform concept gives the necessary flexibility while guaranteeing continuous high quality at competitive costs. The QINOUS ESS are fully integrated solutions which are simple to install and to operate.

7

E-ON BEHIND 228MW WIND FARM IN USA

E.ON has placed a new order with the Nordex Group for a 228 MW project in the US. Nordex will be installing 76 AW125/3000 turbines at the Bruenning¡¯s Breeze Wind Farm in Texas. The IEC-2b turbine with its rotor diameter of 125 metres is designed for medium wind speed conditions like those found in the area near Bruenning¡¯s Breeze, and makes it possible for E.ON to realise a project with a low cost of energy. The manufacturer will be installing the turbines on 87.5 metre tubular steel towers. E.ON plans to commission the turbines at the end of 2017.