Power plant performance at Suralaya 04
ABB energy efficiency improvements
ABB to enable integration of renewables in Alaskan island microgrid shortage 08
Innovative solution to enable Kodiak Island
ABB solution to help Algeria meet growing demand for power 10
Fast-track delivery of power plant automation system and substation expansion
Symphony™ Plus (S+) evolution supports Vietnamese 13
Combined cycle power plant upgrade
Success stories

04 ABB energy appraisal leads to improved power plant performance at Suralaya generation station in Indonesia

08 ABB to enable integration of renewables in Alaskan island microgrid

10 ABB solution to help Algeria meet growing demand for power

13 Symphony™ Plus (S+) evolution supports Vietnamese combined cycle power plant upgrade

14 Vinh Son hydropower plant, Vietnam

Message from Country Managing Director

06 Safety campaign

“Whether you have an Elsag Bailey installed base, or a Harmony or Melody installed base, we’re going to take care of it. We’re going to make sure you have an upgrade path. We’re going to make sure we make the programming better for you. And, we’re going to reinvigorate a wonderful product line and a wonderful legacy in the sense of the heritage of this brand name.”

(ABB ex-CEO Joe Hogan – Automation & Power World, Orlando April 2011)

Dear Reader,

I cannot find a better way to introduce this first issue of Power!, than by reaffirming ABB’s life cycle commitment to Symphony and the company’s ‘Evolution without obsolescence’ policy. ABB makes sure to fulfill its commitments, with the aim to protect the DCS assets installed in around 6,000 units worldwide that gain wide appreciations from our customers all around the world, including in Indonesia.

Our local Power Generation team in Indonesia is providing excellent support to the different DCS applications installed throughout this wonderful archipelago, that span from Coal Fired to Combine Cycle, as well as from Geothermal to Hydro Power Plant. At the same time, we are addressing new challenges posed by the integration of renewable and distributed power generation, which is widely known as Microgrid.

ABB is already leading in this sector, with its pioneering Microgrid Plus System, a unique technology with a proven track record that allows conventional fuel-based generators to integrate with renewables in the same microgrid. This technology enables microgrid to operate with maximum use of renewable power (so-called high penetration), switch seamlessly between two or more power sources, and maintain grid stability at the same time.

Please take a look at one of our last projects that was delivered in Alaska.

Enjoy your reading and always remember: Think S+, go Symphony Plus!
The energy savings of 0.33 percent in the 400 MW Suralaya Unit 2, one of the power station’s seven generating units, was the result of a multi-stage ABB Service energy appraisal, followed by a feasibility study, master plan and implementation process. The Suralaya power plant generates power with four 400 MW generating units, three 600 MW units makes them as one of the largest power plant in Indonesia. In accordance to its Vision, In 2012 Indonesia Power aimed to be a more efficient and environmentally friendly power plant that could supply power to the grid more competitively. ABB responded by offering to do an energy appraisal of Suralaya.

ABB energy appraisal leads to improved power plant performance at Suralaya generation station in Indonesia

ABB energy efficiency improvements are saving the equivalent of 10,000 megawatt hours (MWh) of energy per year at Indonesia’s largest coal-fired power plant, the 3,400 MW Suralaya generation station on the island of Java owned by PT. Indonesia Power, the country’s leading provider of power generation.

ABB solusi audit energi membantu meningkatkan kinerja pembangkit listrik di Suralaya, Indonesia

ABB melakukan efisiensi energi setara dengan 10,000 megawatt hours (MWh) per tahun pada pembangkit listrik berbahan bakar batu bara terbesar di Indonesia, berkapasitas 3.400 MW yang merupakan milik PT. Indonesia Power, perusahaan pembangkitan listrik dengan daya mampu terbesar di Indonesia.
“In ABB, safety is our first priority. I will work safely and I will ensure those around me do.

This should a phrase we promise to ourselves every day. If we do this and act on it we will return to our family unharmed.”

Richard Ledgard
Country Managing Director ABB in Indonesia
ABB to enable integration of renewables in Alaskan island microgrid shortage

Innovative solution to enable Kodiak Island to integrate more renewable energy and stabilize power supply across its remote and isolated microgrid.

Zurich, Switzerland, September 12, 2014 - ABB, the leading power and automation group, will install its PowerStore, an integrated commercial flywheel technology to integrate with a battery system on Kodiak Island in Alaska to enable the integration of more renewable energy from an expanded wind farm to its microgrid and also to address stability challenges that will arise from a crane upgrade being undertaken to enhance its port operations. The project is being undertaken on behalf of Kodiak Electric Association (KEA), an electric cooperative owned by residents of the island.

The state-of-the-art Symphony Kodiak Island, off Alaska’s south coast, is the second largest island in the United States. Its population of 15,000 people live in just seven communities, the largest in the port town of Kodiak. KEA operates a microgrid that generates virtually all of its 28-megawatts (MW) of electricity capacity from hydropower and wind.

The City of Kodiak in conjunction with Horizon Lines recently decided to upgrade its existing crane to an electrically driven crane instead of a diesel driven one and expand its capabilities. The installation of the larger crane is expected to generate power fluctuations that can be particularly destabilizing for an isolated grid like the one on Kodiak Island. PowerStore’s dynamic response to transient events such as those expected from the new crane as well as the ability to carry out infinite charge and discharge cycles without degrading the PowerStore’s life expectancy make it an ideal fit.

"Expanding the crane operations at the port posed a challenge because it meant that we would likely have to rely more heavily on our fossil fuel-based generators," said Darron Scott, president and chief executive officer of KEA. "Not only will the ABB solution allow us to shave the peaks off the crane loads, it will also reduce the stresses placed on our battery systems and extend their lifespans." ABB’s solution incorporates two 1 MW PowerStore grid stabilization generators that are based on a fast-acting, spinning flywheel with ABB inverters to store short-term energy to absorb and/or inject both real and reactive power into the microgrid. PowerStore can switch from a full-power charge to a full-power discharge in less than 5 milliseconds. Besides providing voltage and frequency support for the new crane, the PowerStore units will extend the life of the two 1.5 MW battery systems and help to manage the intermittencies from the island's 9 MW wind farm.

ABB is also responsible for systems "Remote locations like islands may be rich in renewable energy sources, but the intermittent nature makes their integration into the power grid a challenge," said Claudio Facchin, head of ABB’s Power Systems business. "ABB’s innovative microgrid solution as in this case includes grid stabilization technology that enables high penetration of renewable power generation, and distributed control systems that provide intelligent power management and efficient hybrid power plant operation.

PowerStore is one of two core technologies comprising ABB’s Microgrid Plus, enabling penetration of renewable energy up to 100 percent and facilitating their integration into a microgrid with a high level of grid stability. The second core technology is the MGCEO decentralized microgrid control system, which consists of control modules distributed across the microgrid area. These modules communicate with each other on a peer-to-peer basis, providing a high level of flexibility and redundancy.

ABB has designed and delivered solutions for more than 80 microgrids worldwide, for a wide range of applications.
ABB solution to help Algeria meet growing demand for power

Fast-track delivery of power plant automation system and substation expansion will help boost generating capacity and ensure grid stability in populous northern region of Algeria.

Zurich, Switzerland, Nov. 13, 2014, ABB, the leading power and automation technology group, has won orders from Ansaldo Energia, Italy’s largest supplier, installer and service provider for power generation plants and components, to supply a plant automation system and substation expansion for the new Ain Djasser III gas-fired power plant in the northern province of Batna, Algeria. The plant is operated by Société Algérienne de Production de l’Electricité, Algeria’s largest power generation company.

ABB will provide a Distributed Control System (DCS) for the 340 megawatt (MW) in ISO conditions, open cycle power plant based on the Symphony® Plus total plant automation platform. The solution includes the platform’s intuitive and easy to use S-Operations human machine interface and a Symphony Harmony rack I/O (Input/Output) based turbine control system.

ABB and Ansaldo Energia have a long-standing relationship. In Algeria alone Ansaldo Energia has provided the gas turbines and ABB the control systems for more than 4,400 MW of power generation. This is equivalent to around 30 percent of the country’s total power generation capacity. It includes Ain Djasser I and II, the two other 340 MW plants in the Ain Djasser complex, which Ansaldo Energia and ABB supplied and commissioned in 2010 and 2014 respectively.

In a separate contract, Ansaldo Energia selected ABB to expand the 220 kilovolt (kV) air-insulated substation that feeds the power produced by the Ain Djasser plants into the Algerian transmission grid. ABB supplied the original substation in 2008 and will expand it to cope with the large increase in power when the third plant starts production. The solution includes a wide range of high voltage products, as well as substation protection and control. ABB is responsible for the design, engineering, supply, and commissioning of both orders, and will execute them on a fast-track basis to enable the plant to start producing energy as early as 2016.

"ABB is delighted to partner Ansaldo Energia in this important energy project," said Massimo Danielli, head of ABB’s global power generation business, part of the company’s Power Systems division. "We are pleased to contribute once again to the building of Algeria’s power infrastructure."

Ain Djasser III is part of a large-scale investment program that the country’s public utility Sonelgaz (of which Société Algérienne de Production de l’Electricité is a subsidiary), is pursuing to almost double electricity generation within the next three to four years. Algeria’s power consumption has been increasing by about 10 percent annually in recent years.


Dalam kontrak terpisah, Ansaldo Energia memilih ABB untuk memperluas gardu induk 220 kilovolt (kV) tipe AIS (air insulated substation) yang penyediaan listriknya dihasilkan oleh Pembangkit Ain Djasser ke transmisi jaringan Aljazair. ABB memasok gardu sebelumnya pada tahun 2008 dan akan memperluas untuk meningkatkan kapasitas pembangkit listrik dua kali lipat dalam tiga sampai empat tahun ke depan. Konsumsi daya Aljazair telah meningkat sekitar 10 persen per tahun dalam beberapa tahun terakhir.

Solusi ABB untuk membantu Aljazair memenuhi permintaan akan listrik

Pengiriman sistem otomatisasi pembangkit listrik dan perlusuan gardu induk dengan cepat akan membantu meningkatkan kapasitas pembangkit dan memastikan stabilitas jaringan di wilayah utara terpadat Aljazair.


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dikdesu proyek tersebut, dan akan meng-eksekusinya secara cepat untuk memastikan pembangkit dapat mulai memproduksi energi Listrik di awal 2016.


Ain Djasser 3 merupakan bagian dari program investasi skala besar untuk kebutuhan publik negara itu. Sonelgaz, yang merupakan anak perusahaan Société Algérienne de Produksi de l’Electricité, sedang berupaya untuk meningkatkan kapasitas pembangkit listrik dua kali lipat dalam tiga sampai empat tahun ke depan. Konsumsi daya Aljazair telah meningkat sekitar 10 persen per tahun dalam beberapa tahun terakhir.
Symphony™ Plus (S+) evolution supports Vietnamese combined cycle power plant upgrade

ABB was awarded a contract to upgrade the human machine interface (HMI) of the 150 MW steam turbine at the 411 MW combined cycle power plant in Vietnam. The plant is located at Ba Ria Town in the Ba Ria Vung Tau Province, on the coastal area of the Southeast region.

With ABB’s commitment of “evolution without obsolescence”, the customer appraised ABB’s approach as they see the benefit of not ripping and replacing the entire control system. Besides protecting their capital investment, ABB safeguards the customer’s field proven best practices of their specialist and plant personnel, the engineers, technicians and operators, as well as their intellectual properties such as control strategies, processes and control graphics.

Through the ABB Automation Sentinel Program, ABB will replace the old HMI with S+ Operations, Symphony™ Plus intuitive and easy to use HMI. Along with the planned software upgrade, ABB will also replace the communications hardware with the latest HR Series communication products and provide training to the plant operators to enhance their skill.

The project is scheduled for completion by fourth quarter this year.

Program evolusi dari Symphony™ Plus (S+) mendukung pembaharuan Pembangkit Listrik Tenaga Gas dan Uap (PLTGU) di Vietnam


Pembangkit yang dimiliki dan dioperasikan oleh Ba Ria Thermal Power Joint Stock Company, dan telah berusuia 14 tahun dioperasikan dengan menggunakan HMI INFI90/Symphony Harmony OIS 42 series HMI. Meskipun sistem kontrol telah bekerja dengan sangat handal selama bertahun-tahun, pelanggan memiliki kekhawatiran bahwa HMI OIS 42 (yang beroperasi pada konduktor VMS), saat ini telah memasuki fase “terbatas” pada silahkan hidupnya, yang menyebabkan reliability dan availability pembangkit akan berisiko jika dilianjutkan.

Dengan komitmen ABB, yaitu “evolusi tanpa akhir” pelanggan lebih menyukai pendekatan yang dilakukan oleh ABB, saat mereka melihat manfaat dari tidak memusnahkan dan mengganti seluruh sistem kontrol. Selain melindungi investasi mereka, ABB juga menjamin layanan terbaik kepada pelanggan untuk para ahli dan personel di lapangan, para insinyur, teknisi dan operator, serta properti intelektual mereka seperti strategi pengendalian, proses dan grafis kontrol.


Proyek ini dijadwalkan selesai pada kuartal keempat tahun ini.
ABB has been awarded a contract by Saigon Ban Mai Commercial Company Limited to supply a Symphony™ Plus total plant automation system for the 66 MW Vinh Son hydropower plant, Vietnam. The plant consists of two 33 MW units and is operated by Vinh Son-Song Hinh Hydropower, one of the country’s largest power companies.

ABB will replace an obsolete Alstom-Begelec control system with a state-of-the-art Symphony Plus control system based on the latest high-performance HPC800 controller.

ABB is also responsible for design, engineering, supply, installation, and commissioning. Utilizing best-in-class technology, the solution will seamlessly integrate all the unit control subsystems and control functions into a centralized unit control center. The subsystems and functions integrated include the turbine, generator, power transformer and unit auxiliaries, plant control and common plant auxiliaries, high voltage switchyard, spillway, intake and other hydraulic systems; as well as joint control, cascade control, flood and river control, plant frequency control, and reactive and active power control. The unit control center provides superior control strategies and an intuitive operator interface for reliable and consistent operation.

ABB will also supply an integrated historian for reliable total plant diagnostics and operations optimization, as well as business data storage and archiving for the power plant. The operational benefits of the solution for the end customer include advanced information analysis, greater plant design flexibility, improved process control and asset reliability, and improved operation and maintenance efficiency. The retrofit will take place during planned production shutdowns, and will be completed in 2015.

ABB akan menggantikan sistem kontrol Alstom-Begelec yang sudah lama dengan sistem kontrol Symphony™ Plus terkini menggunakan controller terbaru berperforma tinggi, yaitu HPC800.

ABB juga bertanggung jawab dalam melakukan desain, engineering, pengadaan, penyusunan, dan commissioning. Dengan memanfaatkan teknologi terbaik di kelasnya, solusi ini dapat mengintegrasikan semua unit kontrol substesen de-ngan baik dan fungsi kontrol menjadi control center yang terpusat. Subsistem dan fungsi yang diintegrasikan, terdiri dari turbin, generator, trafo dan unit auxiliaries; kontrol pembangkit dan common plant auxiliaries, gardu induk tegangan tinggi, spillway, sistem intake dan sistem hidrolik lainnya; termasuk, joint control, cascade control, pengendalian luapan air dan sungai, kontrol frekuensi pembangkit, dan juga kontrol daya aktif dan reaktif. Pusat unit pengendali menyediakan strategi kontrol yang unggul dan tampilan antarmuka operator yang intuitif, untuk pengoperasian yang handal dan konsisten.

ABB juga akan menyediakan laporan yang terintegrasi untuk kehandalan diagnostik pembangkit secara menyeluruh dan optimasi pengoperasian, serta penyimpanan data bisnis dan pengarsipan untuk pembangkit listrik. Secara operasional, manfaat dari solusi ini bagi pelanggan meliputi analisa informasi lanjutan, fleksibilitas desain pembangkit yang lebih besar, pengingat controller proses dan kehandalan aset, dan peningkatan operasi dan pemeliharaan yang efisien. Retroaktif akan berlangsung selama durasi pemeliharaan yang direncanakan, dan akan selesai pada tahun 2015.
Managing complex power networks in real time?
Absolutely.

As electricity grids become more complex, they are also growing smarter. ABB’s advanced energy management and communication solutions enable centralized real time monitoring and control of transmission and distribution networks, ensuring millions of users have a reliable power supply and helping utilities manage crucial functions like energy audits, outage management, billing, scheduling and power exchange. We offer a range of products, systems and services for power generation, transmission and distribution to help increase power capacity, enhance grid reliability, improve energy efficiency and lower environmental impact. With a 125 year heritage of technology innovation ABB continues to shape the grid of the future. For more information please visit us at www.abb.com and www.abbindonesia.co.id