

CASE STUDY

Thai solar plant harnesses MicroSCADA Pro protection.

Energy from sun, delivered by ABB.



The Lopburi solar plant in Thailand is a 73 megawatt field of photovoltaic cells, covering an area around 250 football pitches. It delivers enough electricity to power 70,000 local households. The delivery of that power is managed with ABB's MicroSCADA Pro software, to ensure the greatest possible efficiency in generation and maintenance of the site.

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01 Lopburi solar plant, Thailand.

Project

The site comprises 520,000 thin-film photovoltaic panels, making it amongst the largest installation using the technology. The cells are connected with 1,778km of underground cable, carrying not only the generated power by also command and control connections to link the MicroSCADA Pro system to the 29 ABB Remote Terminal Units (RTUs) scattered around the site.

MicroSCADA Pro also provides live updates to the national grid, connecting into the Electricity Generating Authority of Thailand (EGAT), so they can control demand. Meteorological sensors around the site feed into the MicroSCADA Pro system, which collates that information with the power being generated.

ABB solution

ABB provided a MicroSCADA Pro system, along with 29 RTUs to collate and package the information gathered from photovoltaic cells, power inverters and meteorological sensors.

The cells and inverters are connected over a TCP/IP bus, future-proofing the installation as the industry moves towards packet-based communications. The meteorological sensors provide analog data which is gathered by the RTUs for transmission to the MicroSCADA Pro system. Along with the equipment ABB provided staff to supervise the installation, a process which took around 70 man-days.

Customer benefits

Using MicroSCADA Pro can improve the reliability of the operation, as well as its efficiency. Centralized monitoring enables disturbances to be quickly identified and addressed, reducing the impact on operations and minimizing the disruption from failure in any part of the network.

Centralized supervision is also cheaper: automated monitoring of both primary and secondary equipment can generate early warnings to alert staff before equipment fails, based on detailed analysis of performance. Integration with weather sensors allows for predictive management, ensuring the plant operates at peak efficiency all the time.

That's important as Thailand is committed to finding a fifth of its electrical needs from renewable resources by 2020, a target the Lopburi will help them achieve, with MicroSCADA Pro keeping a watchful eye on the numbers.

ABB advantage

ABB has been active in Thailand for more than a century, delivering its first medium-voltage motor in 1913, and now manufactures power transformers in the country. But it wasn't just the local presence and support which convinced National Energy Development to go with an ABB solution. MicroSCADA Pro is already being used in solar plants around the world, and that field experience is invaluable in understanding the challenges unique to managing a substation drawing its power from the sun.

The physical size of the installation, and the rapid changes in generated power, all require expertise at which ABB excels. MicroSCADA Pro has proven its ability to effectively manage solar plants, and will do so in Thailand just as it is doing all over the world.

Contact your local service and sales support team to discuss your requirements further.

For further information visit:
www.abb.com/microscadapro

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