

Energy Company Integrates Communications

New hydroelectric power plant in Russian Federation improves safety and efficiency with Cisco Smart Grid technologies.



Customer Name: Cascade of Kubanskiye (JSC RusHydro)

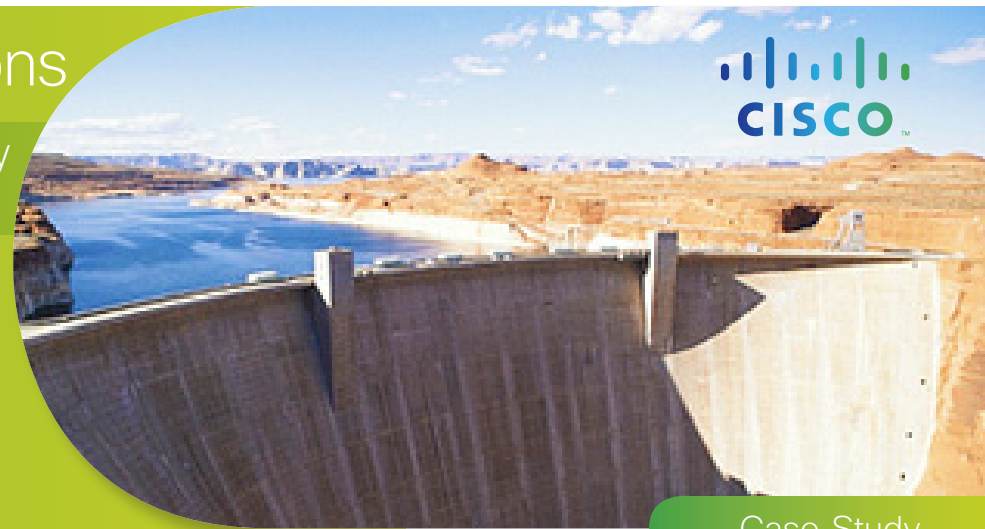
Industry: Energy

Location: Russian Federation

Number of Employees: 3430

Business Impact

- Reduced costs by integrating and consolidating services on one network
- Enhanced safety by improving detection of malfunctions
- Created platform for further expansion and automation



Case Study

Business Challenge

Cascade of Kubanskiye consists of nine hydroelectric power plants and a pumped storage unit located on the river Kuban in the North Caucasus area of the Russian Federation. In 2008, the organization became an officially established branch of JSC RusHydro, Russia's largest hydroelectricity company and the second largest in the world, in terms of installed capacity. Today Cascade of Kubanskiye has a capacity of 462.4 megawatts (MW) and provides power to the territory of Stavropol Krai and its neighboring regions.

In 2010, construction began on a new hydroelectric power plant, Yegorlykyskaya HPP-2, to supply Stavropol. An important element of the project was to create a highly reliable and secure IP-based communications infrastructure that could be used for data transmission throughout the organization; telephony, loudspeaker, and radio communications; physical security surveillance systems such as closed-circuit television; and voice and data communications between HPP and the North-Caucasian Regional Dispatch Control. A longer-term goal was to use the same infrastructure to automate control of the power supply.

Having researched the leading networking vendors, Cascade of Kubanskiye chose Cisco® Smart Grid technologies for its communications platform, which would be supplied by Cisco partner and Authorized Technology Provider [Systeminvest ZAO](#).

Solution and Results

An integrated, high-performance Cisco wired and wireless network has enabled Cascade of Kubanskiye to minimize expenditure by consolidating several services onto the same resilient infrastructure, including phone, computing, and physical security. The network provides uninterrupted connections between the critically important plant equipment, the dispatch center, and employees' and mobile experts' places of work. For example, secure wireless communications support the specialists who design control systems and monitor the operation of instruments in the plant's supervisory control and data acquisition system (SCADA).

The Cisco Smart Grid solutions are being used with automated process control systems from [NPP Mikronika OOO](#), creating a secure communications infrastructure for transmission, reporting, and near real-time analysis of incoming data from a variety of electronic devices installed within Yegorlykyskaya HPP-2. This application will increase safety at the plant by enabling prompt detection, location, and troubleshooting of malfunctions, helping to decrease response times and minimize the impact of emergency situations.

The Cisco platform is scalable enough to support additional requirements, in the event of more widespread implementation of Smart Grid components at other power generation and supply facilities, and in consumers' homes and businesses.

“The Cisco Smart Grid solutions will increase safety at the plant by enabling prompt detection, location, and troubleshooting of malfunctions, helping to decrease response times and minimize the impact of emergency situations.”

Partner Profile

[Systeminvest ZAO](#) is a Cisco partner and Authorized Technology Provider that provides a wide range of information and communications technology (ICT) services, including systems integration, outsourcing, and business consulting. The company has a full portfolio of expertise in areas such as information technology, telecoms, engineering, automated management, and accounting systems.

“Systeminvest ZAO successfully installed the Cisco switches for the control networks at the hydroelectric power plant, which enabled the Cisco Smart Grid solution to be put into operation.”

For More Information

Further details of the Cisco Smart Grid strategy and solutions are available [here](#)