

CASE PUBLIC UTILITIES CORPORATION (PUC): AUTOMATION UPGRADE INCREASES PLANT RELIABILITY AND AVAILABILITY

ENERGY
ENVIRONMENT
ECONOMY



Joel Valmont
Deputy CEO of Public Utilities Corporation

The importance of a reliable supply of electricity on the Seychelles, an archipelago nation in the Indian Ocean, is very real. As the Public Utilities Corporation (PUC) of the Seychelles could not afford to run the risk of having a vulnerable automation system prone to failure, they made their power plant more reliable by upgrading the obsolete control and automation system on their diesel generator (DG) set.

– The consequences of a long downtime would have resulted in revenue losses for our company, problems for the Seychelles economy and customer dissatisfaction, says Joel Valmont, Deputy CEO of PUC.

The Public Utilities Corporation is a parastatal organisation formed in 1986 as the result of a merger between the Seychelles Water Authority and the Seychelles Electricity Corporation Limited. PUC is one of the leading organisations in the Seychelles, providing electricity, water and sewerage services to customers on the islands of Mahe, Praslin and La Digue. PUC delivers electricity to 28,000 customers, water to more than 29,000 customers, and provides sewerage services to over 3,000 customers.

UP AND RUNNING 24/7

The key to economic growth on the Seychelles is found in providing utility service with a high degree of reliability and quality. As such, the utility sector constitutes the backbone of the Seychelles economy. In 2014, the maximum electrical demand on the islands of Mahe

and Praslin was 50.9MW and 8.06 MW respectively.

PUC owns and runs three diesel power plants: the Roche Caiman power station (58 MW) and the New Port power station (12MW) on the main island, Mahe. The third one, Baie Ste Anne Praslin power station (11.35 MW), is found on the second largest island, Praslin.

– In addition, we also have a wind farm consisting of eight 750 KW wind turbines, says Joel Valmont.



“A long downtime would cause PUC to lose money and make our customers dissatisfied. The country’s economy and comfort of the Seychelles people rely heavily on these power plants.”

According to Joel, it is important for PUC to have their power plants up and running 24/7 to ensure a continuous, safe and reliable supply of electricity to their domestic, commercial and industrial consumers. Upgrade to a fully automated system

The automation system upgrade was made at the New Port power station, which contains one Wärtsilä 18V32LN engine. The original automation system for monitoring and control, installed in 1998, had become outdated and was incompatible with existing systems available on the market.

– We were very vulnerable. Had there been a major failure in the system, we would have found it virtually impossible to find the required spare parts and components to revive the system and get the generator set running, says Joel.

Wärtsilä engineered, supplied and installed a modern automation and control system package, including new WOIS (Wärtsilä Operator Interface System), WISE (Wärtsilä Information System Environment) and PLC (Programmable Logic Controller) systems to upgrade the plant automation system to the latest standards.

– From PUC’s point of view the upgrade was a success. It went smoothly and within the set time frame, says Joel.

HELPING TO SUPPORT PUC’S MISSION

Joel points out that the biggest benefits for PUC are the facts that the automation system is now compatible with the latest technology

available on the market and that the spare parts for the system are easy to obtain both now and in the future. This will help keep the engines operational, which in turn makes the power plant more reliable and secures PUC’s commercial interests in the future.

The upgrade also helps PUC in achieving its mission to respond to the customers’ demand for electricity.

– The new system is more user-friendly than the old one. And as it is so easy to go over the trends and events lists when trouble shooting, we can get back on line more quickly, which significantly reduces any potential downtime, says Joel.

WÄRTSILÄ UNDERSTANDS OUR NEEDS

For PUC, Wärtsilä was the natural choice for this upgrade. Wärtsilä had previously delivered the power plant and the original automation systems at the New Port power station in 1998. Finding another supplier would not have made sense.

– Going with Wärtsilä also ensured continuity and compatibility with other existing control aspects, states Joel.

He describes the cooperation with Wärtsilä and their products and services as good.

– The cooperation with Wärtsilä has been excellent and the quality of Wärtsilä’s products is of a high standard.

He is convinced that PUC will continue to cooperate with Wärtsilä.

– First of all, we are using Wärtsilä engines and systems in our power plants. And because Wärtsilä understands our needs and requirements we have good relations. Furthermore, their personnel have the knowledge and competence to come up with the solutions to our problems, concludes Joel Valmont.

Challenges	Solution	Benefits
<ul style="list-style-type: none"> – Improving the reliability of the power plant – Minimising plant downtime during installation 	<ul style="list-style-type: none"> – Installation of a modern automation and control system package, including new WOIS, WISE and PLC to upgrade the plant automation system to the latest standards. 	<ul style="list-style-type: none"> – Automation system compatible with the latest technology available on the market – Good availability of spare parts – Increased reliability and security of the power plant