WATER DISTRIBUTION:

INTELLIGENT WATER SUPPLY FOR THE COMMUNITY

GRUNDFOS iSOLUTIONS

PUMP CLOUD SERVICES

TAKÉO SAFE WATER SUPPLY CO.

FIND OUT HOW A CAMBODIAN WATER PLANT HAS GAINED 15% WATER SAVINGS PLUS A STABLE SUPPLY THANKS TO DEMAND DRIVEN DISTRIBUTION

In the Cambodian province of Takéo, the water supply company was doing its best to supply drinking water to 44,000 people in the small city of Doun Kaev and its surrounding villages. With a supply from Roka Khnong Lake, the plant used older pumps from Italy or China to distribute treated water to the network. “If the pressure rose and exceeded four bars, we had to reduce one pump to stabilise the pressure to keep the water pipes from bursting,” says Manager Mr. Sok Por. “The team on standby had to check it regularly.” Despite their best efforts, the team sometimes overestimated the pressure needed, resulting in pipe damage, non-revenue water (NRW) losses and wasted energy. Takéo experienced a high NRW of around 26%, high costs on replacement pump parts, and also unhappy customers in villages farthest from the plant. With Demand Driven Distribution, Takéo secured a reduction in water and water treatment chemicals, together with significantly less man hours needed for monitoring pumps.

18%
LEAK REDUCTION

15%
WATER SAVINGS

40%
PIPE BURST REDUCTION

Based on data from six months of operation in 2018

NEW SYSTEM
Takéo Safe Water Supply teamed up with Grundfos to implement a proven and well-tested technology – Demand Driven Distribution (DDD). For the DDD system, Grundfos supplied NKE pumps, sensors for monitoring pressure and flow in remote critical points, and a CU 354 system controller and CIU 250 for remote monitoring.

OUTCOME

- **VILLAGES SURROUNDING THE WATER PLANT NOW HAVE WATER 24 HOURS A DAY**
- **PLANT SAVES COSTS RELATED TO ELECTRICITY, RAW MATERIALS AND WATER LOSS**
- **WATER IS SUPPLIED BASED ON THE PRESSURE NEEDED BY THE CUSTOMERS**
- **DDD SYSTEM MEANS STAFF NO LONGER NEED TO MONITOR PUMPS ALL DAY**

MAXIMISING RELIABILITY AND COMFORT

Grundfos first made an audit of the Takéo plant's pump system before installing a DDD system of high-efficiency pumps, control panels and pressure sensors. Grundfos installed sensors at critical points in the network. These measure pressure and flow based on consumption and send information to the plant's control panel. Over time, the system learns to predict consumption patterns and adjust the system pressure. For the station workers, it was hard to believe the system could run automatically. "Before installing it, I was afraid the water pipe might burst," says Mr. Sok Por. "If the pump supplying water at night is at high pressure but fewer customers are using it, I didn't expect it to cut down by itself. But it has proven to be wonderful." The villages surrounding the plant now have water 24/7. Residents no longer have to buy extra water – they just turn on the tap.

"We have made the price of producing water much cheaper and gained more profit, and we are able to provide a constant water supply, which makes our customers happy."

Mr. Sila
Technical Manager,
Takéo Safe Water Supply Co.

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