

Full pump programme supplied to brand-new Tuscan wastewater plant

PIETRASANTA, ITALY: When the industries of the Versilia area, particularly those working with marble and stone, experienced a growing need for industrial process water, the local water and wastewater authority, V.E.A., decided to build a new wastewater treatment plant.

This entailed several environmental benefits: purified wastewater is reused in industries, and the new plant also allowed them to increase the quality of the purified wastewater, thus meeting the strict requirements imposed by the health authorities on discharges into rivers. Grundfos supplied a full range of pumps for the new wastewater treatment plant, thereby contributing to the preservation of the stunning Tuscan countryside.

THE SITUATION

The objective of the new plant is to carry out further purification of the wastewater already treated by a mechanical-biological process at the existing plant, allowing it to be used at local industries. The new solution involves two separate stages: tertiary treatment just downstream of the existing plant, and a further refining process downstream of the tertiary treatment.

While planning this new plant, the main concern for V.E.A. was to have a reliable full-line supplier capable of providing all pumps and all systems used in the field. The objective was to ensure that everything fits together perfectly, eliminating the risk of incompatibility between pumps and other equipment.

A main point for the contractor, ACTEA srl, was to have a supplier who could be of real help during the design and engineering

TOPIC:

Wastewater treatment

LOCATION:

Pietrasanta, Italy

COMPANY:

ACTEA srl

stages, providing strong technical support as well as a range of innovative solutions.

THE GRUNDFOS SOLUTION

Grundfos proved capable of supplying all the equipment needed. First, three 13.7 kW heavy-duty sewage pumps are installed in the inlet storage basin. Their speed is controlled by the basin level controls, maintaining a constant incoming flow.

The wastewater is first directed to two sand filter units, followed by two UV disinfection stations. The final storage tanks are located at the end of the tertiary treatment process. From here, 30% of the wastewater is sent for further refining for industrial use, while the remaining 70% is ready to be discharged into the rivers.

The first stage of the refining treatment involves the use of two 15 kW horizontal centrifugal pumps (NB), whose speed is controlled by the discharge speed of the pumps themselves. The water is first sent through ozone treatment followed by high-pressure sand filter units. The process is finished by a further round of enhanced ozone treatment and granular activated carbon filters.

At this point, the resultant industrial water is pumped onwards by means of a Hydro 2000 booster, which maintains a constant pressure of 4 bar in the industrial water network. The booster system already features PCU and is prepared for installation of a G100 gateway.

Furthermore, additional pumps (NB and AP pumps) are installed as part of other processes at the treatment plant, e.g. in bypass pumping stations.

THE OUTCOME

The pumps and pumping systems have met all the contractor's expectations, operating with complete reliability during the commissioning phase, which ended in late April 2004. Start-up of the new wastewater treatment plant is scheduled for May 2004 and is expected to progress smoothly. This will allow the Tuscan marble industry and other industries to use purified wastewater for their processes, thereby helping to conserve our precious water resources and protect the environment.

V.E.A. have expressed their complete satisfaction with their Grundfos products, and the Pietrasanta project has already paved the way for further business partnerships: they have now begun to buy Grundfos pumps for other wastewater plants and water supply wells.

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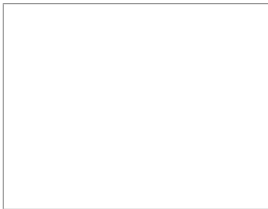
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