



BIG IN VIETNAM

Yen Nghia pump station, Vietnam - ANDRITZ pumps for flood control

By Elisa Wielinger

Vietnam is one of the rainiest countries in the world with the majority of the rain falling in the north of this coastal state. Although this area of Southeast Asia is actually characterized by a sub-tropical climate alternating between hot and humid summers and mild winters, on average it is the humid weather that dominates for eight months of the year. The peak of this phase is reached during the three-month rainy season in late summer and autumn. During this period, the incoming monsoon brings storms with heavy and steady rain. Rivers and streams regularly burst their banks during this period leading to widespread flooding.

In 2008, for example, more than 100 people lost their lives due to floods in Vietnam. Home to about 6.4 million inhabitants, capital city Hanoi was particularly hard hit and people were killed in the floods or by lightning. In addition to these fatalities, the storms led to a shortage of clean drinking water and basic foodstuffs. Similarly, numerous people died and more than 100,000 homes were flooded in 2013. During October and November 2016, Vietnam was struck by a series of three unusually violent storms. Floods again killed many people and destroyed 100,000 houses as well as 1,300 hectares of rice paddies.

In order to contain the severe effects of the annual monsoon the Vietnamese Ministry of Agriculture and Rural Development (MARD) has launched numerous flood control projects. The Yen Nghia project marks the start of this initiative and by the end of 2018, the biggest flood discharge pumping station in the country will be built to the southwest of Hanoi. For this important project, ANDRITZ is supplying 10 vertical line shaft pumps over the period from April to August 2018.



The Yen Nghia pumping station and the associated pumps are specially designed and built for this flood control application. This means that the pumps are only activated in case of need, but then have to work at 100% capacity and with total reliability.

Their task is to transport a large volume of water at low head in the shortest possible time. Therefore, each pump has an extremely robust axial hydraulic design in order to successfully cope with the diverse materials that are typically contained in floodwaters. Each pump conveys up to 15 m³ per second and the Yen Nghia pumping station has a total flow capacity of up to 150 m³ per second. Thus, they would be able to empty the world's largest swimming pool – the 250 million liter pool in the Chilean resort of San Alfonso del Mar – in less than half an hour.

The ANDRITZ scope of supply for the Yen Nghia pumping station includes the construction, manufacture, transport, and installation supervision of the 10 pumps, as well as ANDRITZ original equipment spare parts. The required performance test of the pumps will be conducted at the facilities of the local Vietnamese partner company Hai Duong Pump Manufacturing JSC (HPMC). HPMC is responsible for supplying the entire electromechanical equipment for the Yen Nghia station. In the course of this collaboration on the largest pumping station in Vietnam, ANDRITZ has signed an exclusive distribution contract for large pumps with HPMC for Vietnam, Cambodia, and Laos. This forms the basis for further common projects in the future.

Technical parameters of ANDRITZ vertical line shaft pumps for the Yen Nghia project	
Impeller diameter	2,040 mm
Design – Head	4.9 m
Design – Flow path	15 m ³ /s
Engine performance	1.25 MW