Bailonggang Wastewater Treatment Plant
Shanghai, China

The Bailonggang WWTP is recognized as the largest plant of its type in Asia. This plant, located in Shanghai’s southern suburbs close to the estuary of the Yangtze River, began operating in 1999. In 2008 it was upgraded and expanded, and a further expansion in 2012 increased the plant’s capacity to 740 million gallons or 3.36 billion litres per day. The facility now processes more than half of the wastewater from Shanghai, China’s most populous city.

The Recent Plant Upgrades and Additions Included:

Eight Anaerobic Sludge digesters and a Sludge Drying and Disposal Facility

Each of these eight new pre-stressed concrete sludge digesters has a maximum diameter of 25 metres, a height of 44 metres (32 metres above ground and 12 metres underground), and a volume of 12,400 m³.

Process Upgrade

The digestion process reduces the volume of raw sludge over a period of approximately 24 days, with the residual sludge then being dewatered and thermal dried. Approximately 44,500 m³ of biogas from the digestion process is generated each day and used to operate the sludge drying plant. The dried and deodorized residue is then disposed of, either to landfill or to non-crop applications.

Xypex to Enhance Durability

After a comprehensive survey of many options, Xypex was selected by the construction project group to waterproof, protect and enhance the durability of these critical structures. All internal concrete faces of the eight digesters were treated with Xypex Concentrate. In areas where anaerobic activity and a highly aggressive chemical environment were anticipated, an acid-resistant lining was applied. However, the designers specified that Xypex also be applied to these specific areas as well, not only to provide secondary protection for the concrete but also to enhance the performance and durability of the primary acid-resistant lining.

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