



The Longtan dam, once completed, will be the tallest roller compacted concrete dam in the world and the second largest hydro-power station in China – behind the Three Gorges (the largest dam in the world). Like the Three Gorges, the main contractor has called on two of Potain's MD 2200 special application tower cranes to help with construction. An MD 1800 has also been installed on site. Once completed, the dam wall at Longtan will reach 192 m (630 ft) which is expected to be extended to 216.5 m (710 ft) at a later stage.

At Longtan the 60 t (66 US t) MD 1800 has been mounted on rails at a height under hook of 112.8 m (370 ft)

Potain's Special Application cranes are central to construction of the Longtan Dam in China.



Li Xuejiang (left) and She Yangli.



Building Longtan

Three of Potain's Special Application tower cranes have been ordered for work on the Longtan Dam on the Hong Shui River in China. Ben Shaw reports from site.

with a 70 m (230 ft) jib. One of the MD 2200 units, meanwhile, has been erected to a height under hook of 92.8 m (304 ft) with an 80 m (262 ft) jib. The other MD 2200 is currently being erected.

Both the MD 1800 and MD 2200 are being used to pour concrete and handle steel reinforcement. Around 70% of the cranes' lifting duties involve pouring concrete using a 6 m³ (7.8 yd³) bucket. Each bucket of concrete weighs a little less than 20 t (22 USt) and it is estimated that each crane can pour 240 m³ (314 yd³) of concrete in an 8-hour shift.

All the cranes are under the direct control of the main contractor on site, a joint venture of three large Chinese companies. The three companies are: The 7th Bureau of

Hydropower in China; The 8th Bureau of Hydropower in China (both government-owned companies); and The Gezhouba Company (the largest hydropower company in China).

Li Xuejiang, a manager with one of the technical departments for the contracting joint venture, explains the working process at the site: "This jobsite operates 24 hours a day, seven days a week – in common with most working job sites in China," he says. "When we started the groundwork on this project the cranes would work an average of 15 hours a day. But now the project's progressing, they're probably working over 20 hours a day. We have six operators for each crane, with three pairs each working an eight hour shift a day. All of the operators have undergone full training courses from Potain as well as from our own technical bureau."

Construction activity on the project is increasing and the site is already planning for the second MD 2200 unit which will begin work shortly. This crane will be fitted with the under-jib Nippon Topbelt conveyor system and used to pour concrete continuously. With the Topbelt system attached, the MD 2200 is capable of pouring concrete at 360 m³ (470 yd³) per hour. This impressive pouring rate is essential as the total volume

The rail portal on which the MD 1800 is mounted.



Workers position one of the enormous concrete buckets handled by the Potain tower cranes.

of concrete needed in the project is estimated to be over 6,000,000 m³ (7,848,000 yd³).

She Yangli is a consultant engineer with the Changxia Longtan Construction Project Company, one of the engineering firms working closely with the main contractor on the project. He notes that the dam has several record-breaking attributes which make it an impressive project to be involved with.

"It's not just the amount of concrete that needs to be poured here, or the fact it will be the tallest roller compacted concrete dam in the world which make this project stand out," he says. "Once completed the Longtan Dam will feature the largest

underground power plants in the world and also the largest boat lift. To cope with a project of this size it was essential we use some of the biggest tower cranes in the world, which is why there are three of these large tower cranes from Potain on the site. In addition, we've got two cable cranes, three gantry cranes and a Grove GMK5100 all-terrain crane all helping on site." ♦

The two cranes on site are shortly to be joined by a third unit.

