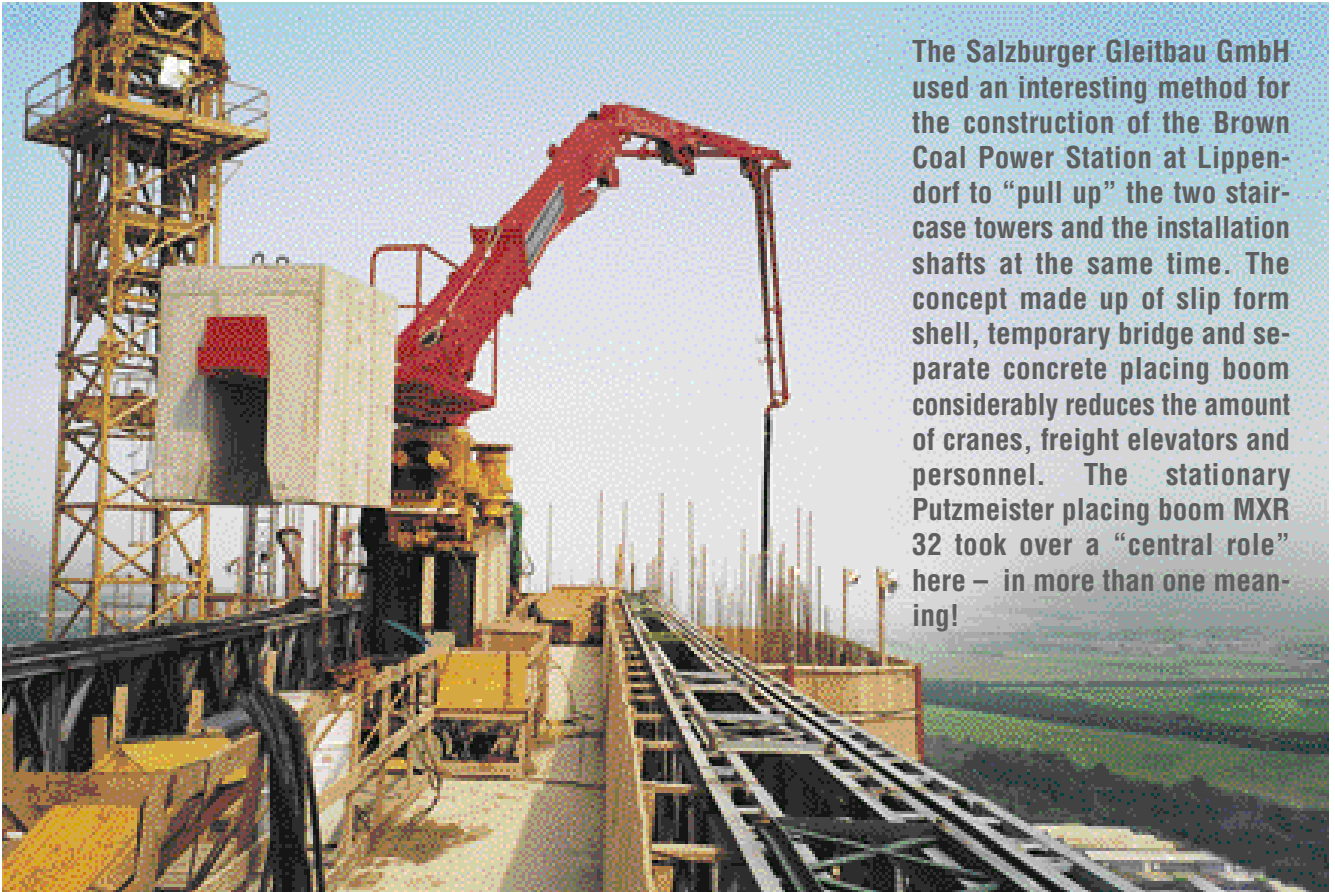


Site report

Stationary concrete placing boom MXR 32-4 T integrated in a slip form



1



The Salzburger Gleitbau GmbH used an interesting method for the construction of the Brown Coal Power Station at Lippendorf to “pull up” the two staircase towers and the installation shafts at the same time. The concept made up of slip form shell, temporary bridge and separate concrete placing boom considerably reduces the amount of cranes, freight elevators and personnel. The stationary Putzmeister placing boom MXR 32 took over a “central role” here – in more than one meaning!

File under: A 1.00, BP 1.03, A 4.00, BP 4.03

Additional reinforcement measures for vibration compensation were not necessary. The boom was anchored by means of a cross base adapter on the steel girder.

With the new construction of the Brown Coal Power Station at Lippendorf, just a few kilometres south of Leipzig, the VEAG Berlin continued the series of its large power station projects – with the planning of which it had begun over the last few years in the East German Federal States. With a performance of 2 x 800 megawatt it is one of the largest energy producers in the Federal Republic. The contract for the shell work was awarded to Messrs. Heitkamp GmbH, Herne, who engaged the Salzburger Gleitbau GmbH as a subcontractor for the slip form and concreting work. Due to the extremely tight schedule allowed and the demand to rationally arrange the construction site equipment within the area of the stair-

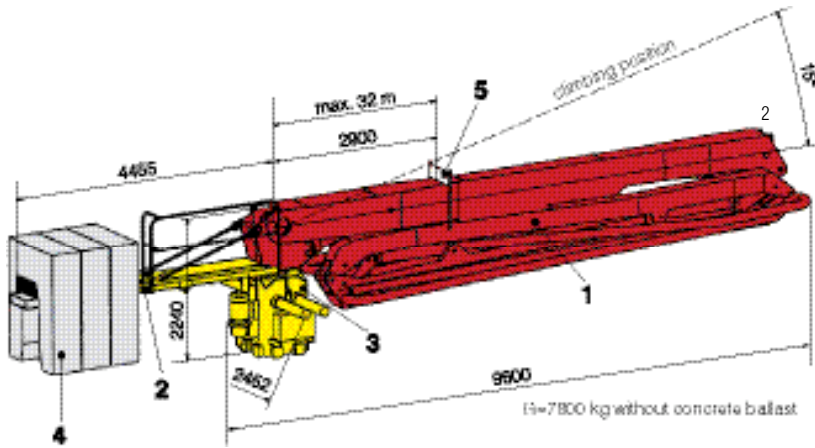
case towers that was very complicated anyway, the Salzburger Gleitbau GmbH chose an unusual concreting concept.

Before work commenced on the actual power station blocks, work first began on the construction of the two respective 167 high staircase towers which had an axle distance of 50 m between them. Both towers were drawn up – at the same time – with the help of slip forms. So as to connect both constructions during the construction phase, the Austrian specialists decided to place a bridge over the upper edge of the two tower formworks, and to anchor it down. This bridge did not just noticeably make a difference to the mobility of the construction site per-

sonnel and the transport of the materials but also served as a support for the concrete placing boom that was set up in the middle.

Due to the central position of the stationary Putzmeister placing boom MXR 32, the Direction of Works was able to dispense right from the very beginning with a sub-construction connected up on the ground, respectively a further rotating tower crane for the transport of concrete.

The 12 tonne stationary boom was anchored onto the steel transverse support by a tubular column head piece and a crossbase adapter. The net bearing span was 35 m. To keep the vibrations that



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| <p>1. 4-section boom assembly with concrete line, 125 mm, and 4 m end hose.</p> <p>2. Counter ballast bearer</p> <p>3.1. Boom pedestal with built-on hydraulic unit 15 kW, 380 V, 50 Hz (on request special voltage and integrated hydraulic oil tank)</p> | <p>3.2. Electric control cabinet</p> <p>3.3. Electro-hydraulic control for all boom functions including climbing device: Standard cable remote control with 40 m cable. Special accessory remote control</p> |
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3



The concrete placing boom MXR 32 was in the center point of this remarkable construction concept

were expected during the concreting process as low as possible, plans were initially made to precisely balance the load moment of the placing boom and its counterbalance. In the field, however, these measures that had been planned were, however, not necessary.

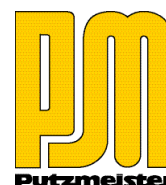
A masterly performance was the introduction of the forces of the bridge bearings to the placing boom set up in the middle. A report on the wind revealed that vibration amplitudes of +/- 40 cm could arise in both tubular column areas. Therefore out of the question was a far-reaching rigid bridge connection between the towers which would have caused a difficult-to-detect introduction of longitudinal force as a result of coupled vibrations.

A bridge length alteration of 1.6 m was possible with a special shifting mechanism to shorten, resp. lengthen the clear span between the two staircase cores. With an unrestricted horizontal alteration of the angle at the support, it was possible to take up the additional transverse vibration of the towers that occur.

Thanks to the very sensitive (radio) proportional control, the movements of the 4 x folded Putzmeister placing boom could be controlled very precisely. Just one concreting team was necessary to place the concrete in a 45 minute exchange cycle into the formwork sections of the two towers. A stationary pump took over the conveying of concrete to the placing boom via a vertical line from the ground. The concrete delivery line was anchored to the building and could easily be extended within the area of the slip form by pipe shears or adapted to the progress of construction during the slip process.

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