First large boom pump for Chernobyl delivered 20 years ago

In April 2006, the whole world remembers the Chernobyl catastrophe of twenty years ago, when the fourth reactor block of the nuclear power station went out of control: fuel rods overheated and melted down and large quantities of radioactive fission products were released into the atmosphere. Those responsible did not have much time to work out the details of complex, subsequent safeguards. Instead, it was a matter of acting quickly to contain the consequences of the catastrophe – the contamination of enormous areas of land. Putzmeister concrete pumps also played their part in this; their delivery began at the end of June 1986, almost exactly twenty years ago.

Through the dumping of approximately 5,000 t of sand, clay and lead from helicopters in the first weeks after the disaster, the heat escaping from the reactor block was successfully controlled and the dangerous radiation absorbed. The graphite fire was finally extinguished and the escape of radioactive materials was slowed by feeding in nitrogen.

In the early summer of 1986, the department responsible in the Soviet foreign trade ministry and Putzmeister signed a contract for the delivery of ten large boom truck-mounted concrete pumps, models M 50-4 and M 52-5, the largest truck-mounted concrete pumps available at the time, with "special equipment". The extras included two adjustable video cameras per machine, mounted on the rear left-hand supporting leg and on the tip of the boom. These were intended for observing the filling of the feeder container and the actual concreting work from a distance. Moreover, it had to be guaranteed that the truck-mounted concrete pump could even be operated from a distance of 600 to 800 m via remote control and by cable radio control. In addition to that, operation and observation should also be possible from the cab. Therefore a monitor has been fitted in place of the passenger's seat.

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Firstly, truck-mounted concrete pumps were equipped with a lead hood and video control

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The Putzmeister large boom pumps were either fed from several hundred metres away by stationary concrete pumps or – as here – directly from truck mixers

Special equipment against radiation

The special equipment on four machines included in addition a lead hood (weight approximately 4 t) to protect the cab from radiation. When the lead casing was attached, the driver could only get into the cabin via a hatch specially cut into the roof. Four small, slitted windows enabled viewing towards the front and to the side. Here too, radiation protection was provided by a lead glazing; the sensitive video camera optics were similarly protected. The first two machines left the Putzmeister works at the end of June. Prompt delivery was made possible by the readiness of several customers to provide machines which were really intended for themselves and the 5-axle chassis they had ordered. There were many Putzmeister employees who worked late into the night, were available at weekends and postponed their planned annual holidays. The last of this order's large boom concrete pumps were finally handed over in September 1986. Three stationary high pressure concrete pumps were also delivered.

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Machine operator Haertdinov Baschir in front of his M 52-5 (Photo: Baschir)

They had the task – as was learned later – to load some of the truck-mounted concrete pumps via pipelines from a distance and to deliver concrete for a 2.5 m thick protection plate under the reactor block.

Machine operator Baschir is thankful

Twenty years later, an e-mail from Haertdinov Baschir, one of the drivers of the large boom concrete pumps in Chernobyl, reached Putzmeister AG. Here is the translation, almost word for word:

"Greetings!!!
Haertdinov Baschir is writing to you.
I took part in cleaning up the damage at the Chernobyl nuclear power station. I decided to write this letter of thanks on the occasion of the 20th anniversary of the Chernobyl disaster. I worked as a driver of your truck-mounted concrete pump and delivered concrete into the area of the fourth block of the nuclear power station, in which the disaster occurred. Thanks to your "Putzmeister" technology, we cleaned up this dangerous accident. Your concrete pumps worked non-stop around the clock. They were only switched off to check the oil level in the engine. As confirmation of my words, I am sending you the photos. Once again a big thank you for your technology!!!"

As has since been learned, about twenty experienced machine operators also came with the Putzmeister concrete pumps to Chernobyl. They trained a further 80 drivers in operation of the machines. In the immediate vicinity of the reactor building where the accident occurred, it was only permitted to stay a maximum of two hours. Then the liquidators had to retreat back to a convalescent home about 160 km away.

Since, the concrete shell has got cracks, steel girders are rusting, walls threaten to collapse and rainwater seeps through into the interior. Day-to-day there are still 120 workers (another source speaks of "hundreds") trying to stabilise the building as far as possible. There are plans for the construction of a "safe shell". These provide for a gigantic, 100 m tall arched construction, which stretches over 250 m wide. Due to the high level of radiation at the sarcophagus, the arch will be constructed some distance away and towed in parts on Teflon rails over the reactor where the accident occurred. There is talk of the construction work beginning in the autumn of 2006; the "new, secure entombment" could already be finished by 2009.

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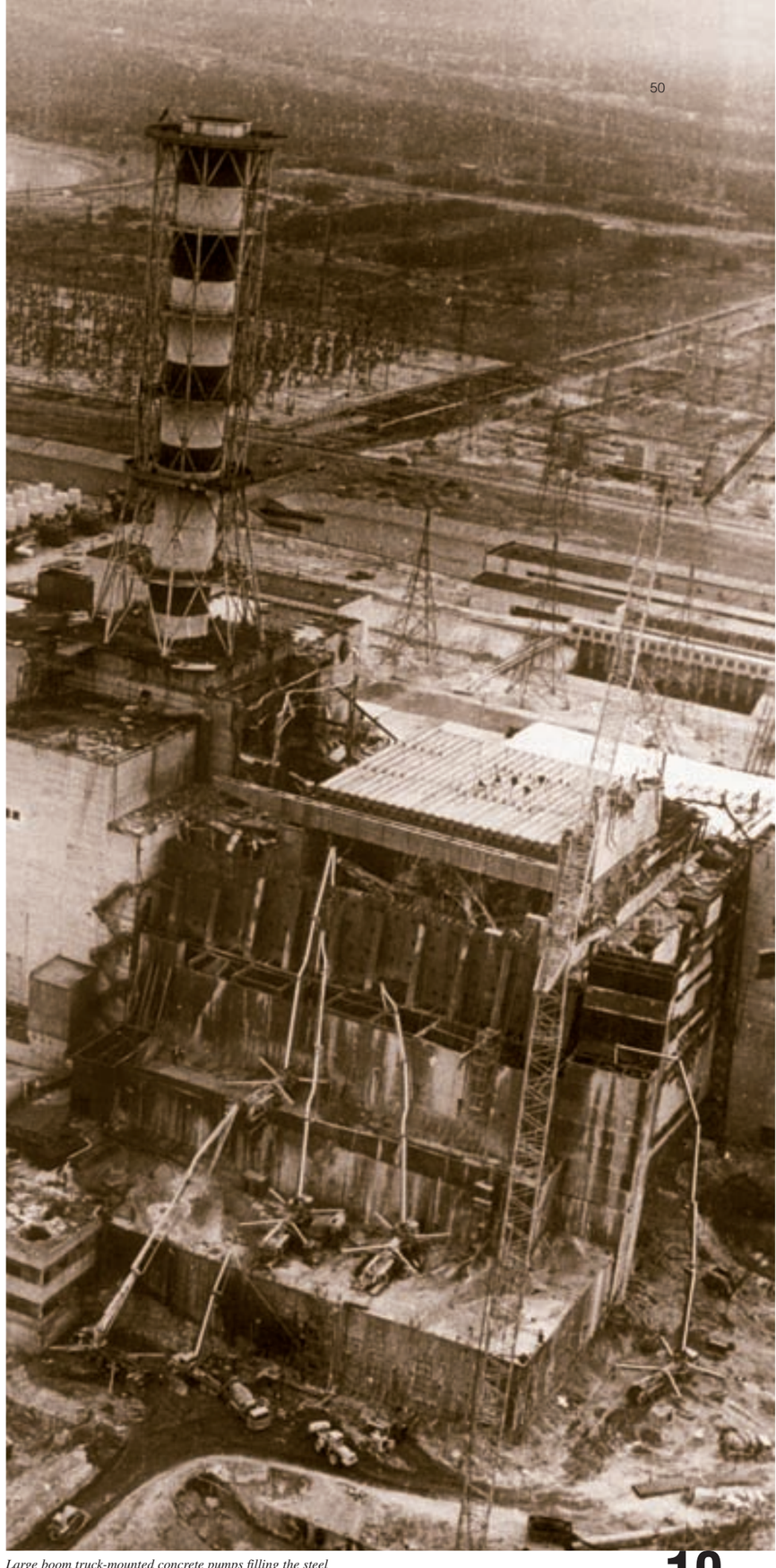

Large boom truck-mounted concrete pumps filling the steel moulds arranged in the pyramid shape of the protective wall