

# Tyco Integrated Fire & Security safeguards RWE's new power plant in Neurath from fire: an ambitious project with rigorous requirements



Tyco already provided fire protection at RWE's power plants in Nieder- aussem, Frimmersdorf and Biblis. So the collaboration between the two companies for RWE's newest power plant building in Neurath is easy to understand. The assembly of the systems began in September 2007; some sections became operational in October 2008, and the project was completed in mid-2010. This case study describes one part of the joint project that RWE and Tyco undertook together to safeguard the Neurath power plant.

RWE Power AG is the power production company within the RWE Group in Continental Europe, and is one of Europe's largest power producers. Its power generation is based on a variety of energy sources. Around 17,000 employees work both nationally and abroad for RWE Power and its affiliated companies. They help to generate an operating profit of some 2.7 billion euros (fiscal year 2011).

### The world's most advanced plant technology: Lignite-fuelled power plant RWE Neurath BoA 2&3

Since early 2006, RWE Power had been constructing two blocks of a lignite-fuelled power plant with optimised plant technology at the site in Grevenbroich – Neurath (BoA). Following the first block in Niederaußem that went on stream in 2003, blocks 2 and 3 were built to one of the world's most sophisticated designs. The engineers realised efficiency gains in many areas of the power plant process. This was achieved by using high-tech materials and computer-modelled turbine blades, recycling residual heat, and by cutting its own auxiliary power requirements. In this way, the engineering team was able to increase the level of efficiency by almost a third. This ambitious project naturally had stringent requirements for fire protection.

### Big plants demand big solutions

In Neurath, in parallel with the construction of the power plant, Tyco installed VdS-compliant stationary fire extinguishing systems on an impressive scale. These systems protect the transformers, cable conduits, cable riser shafts as well as the coal conveyor belts which are

installed there. This required 130 valve stations, 50 motor damper blades, 10,000 extinguishing nozzles, and 67 km of pipeline. Based on the customer's specifications optimised extinguishing systems were installed, that mainly comprised Tyco components.

Tyco also installed a hydrant system for the whole power plant. Transformers, coal conveyor belts and turbines are all protected with spray water technology, while Tyco's MicroDrop® process was used to protect the cable trays. Micro-Drop® extinguishing systems are an advanced development of Tyco's spray water technology and offer an environmentally friendly solution. Thanks to its microfine spraying pattern, the system makes optimal use of the water's potential for extinguishing, and reduces the consumption of contaminated extinguishing water. These extinguishing systems deter the dangerous "detonating fuse effect," and effectively put out cable fires in power plants as well as within turbines. Industry know-how, a proven track record of co-operation in three power plant construction projects, and its cost effective solutions were the decisive factors for RWE Power when it decided to award the contract to Tyco. Of course, Tyco's expertise as an industry leader in the fire protection field, producing effective and environmentally responsible products played a role in the selection too.

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