

Execution of a “turnkey” replacement of a 6kV inverter for the flue gas desulfurization plant of a coal-fired thermal power plant with installed electrical power 240MW and achievable thermal power 800MW

Introl Automatyka successfully undertakes work on installations of critical status, which involves a tight implementation schedule and working under time pressure. One such implementation was the replacement of an existing medium-voltage frequency converter (in voltage inverter topology, from another manufacturer) with a PowerFlex 7000 converter (in current inverter topology). The inverter powered a fan motor, rated at 1048kW, which was part of a flue gas desulfurization plant using General Electric's patented NID technology. The purpose of replacing the inverter was to increase the reliability of the drive system by choosing a Current Source Inverter (CSI) based solution. Thanks to full four-quadrant operation, the user additionally gained the possibility of dynamic fan braking in emergency conditions and speed control with energy return to the grid. The entire task was carried out on a turnkey basis, starting from the design documentation, through the disassembly of the existing inverter, changes in the power field and control system, up to the commissioning and training of the operator in operation.

Scope of work performed:

- Preparation of design documentation in the modernized scope
- Disassembly of the existing frequency converter
- Delivery of the PowerFlex7000 (current type) 140A, 6kV converter from Rockwell Automation
- Adjustment of the support frame for the new frequency converter
- Modernization of the 6kV power field along with the control system
- Commissioning of the modernized exhaust fan speed control system
- Delivery of complete documentation in the modernized scope
- Training of the operator and operation