

## Works Started in April

This year's overhaul season in the TENT branch started with the overhaul of the TENT B1 unit, while standard overhaul works will be performed on all available branch facilities. In early April, the overhaul season in the TENT branch was opened by the downtime of the B1 unit of the Nikola Tesla B thermal power plant in Ušće. At this thermal power plant, 650 MW, standard overhaul works will last for a month. After the works on the above unit have been completed, overhaul of the Unit B2 (of the same capacity) will be carried out. These works will also last for a month. Although the overhaul season will be of smaller scope this year than in the past, this, according to TENT, will not affect the quality of planned overhaul works on all its available thermal capacities. The plan envisages that standard overhauls will be carried out in all four locations of the branch (TENT A, TENT B, Kolubara and Morava) in order to bring all TENT unit, as in previous years, to a state of high reliability, thus allowing them to operate in the upcoming period without major disadvantages and with fewer unplanned delays.

Srdjan Josipovic, director of technical affairs for energy generation of the TENT branch, pointed out that the overhaul works would cover maintenance of boiler and turbine plants, electrical facilities, external facilities, as well as all electrostatic precipitator facilities of the units within this branch. According to him, the piping system of the condenser, hydrogen cooler, oil cooler for lubrication and control of the turbine plants of all units in the branch will be cleaned. He also added that the overhaul of bearings, testing of equipment, as well as the capacitor and heater sealing on the regenerative part of the turbine would be performed, while the inspection and overhaul of the pumps would be carried out depending on their vibration state.

- On the boiler part of the plant, removal of deposits from the inner surfaces of the boiler piping system will be performed and its repair after inspection, standard overhauls of the mill installations and other vital parts of the boiler plant, such as fans, dust, post-combustion grate... Cleaning of ash from discharge and collection electrodes will be carried out on all electrostatic precipitators, and it is planned to inspect and repair the gearbox and check the status of the insulator surface in the high-voltage chambers - Josipovic said.

During this year's unit overhauls, certain construction works will be planned including regular annual maintenance and installation of protective refractory layers on recirculation channels, coal and fuel oil burners and post-combustion grates.

On the three units of this branch, A1, A2 and A5, the overhauls will also be performed in standard format, but the works will last longer than on other thermal units and due to non-standard activities.

Josipovic stressed that on the TENT A1 unit, "refreshment" of the high pressure turbine by replacing vital parts, which is planned after obtaining a detailed image of necessary turbine

operations in order to extend the lifetime of the equipment until 2022, when the revitalization of the entire block was anticipated.

- For this unit, procurement and installation of high-pressure turbine housing with ancillary equipment is planned, revitalization of existing equipment which is being retained, factory overhaul of the high pressure turbine spare rotor and its assembly, regular overhaul of the medium pressure turbine, overhaul of bearings and equipment testing and commissioning - he said.

On the TENT A2 unit, an unplanned overhaul of high pressure turbines due to reduced steam rate on this part of the equipment was also planned, as well as due to problems with elevated condensate levels in the sealing steam cooler.

In addition to this, on electric equipment of the TENT A4 and TENT A6 units, during standard overhaul works, the installation of new 400 MVA unit transformers, already delivered by Siemens' factory in Zagreb, *Koncar Energetski Transformatori*, was also planned.

More extensive and demanding activities will be performed on the TENT A5 unit within a period of 58 days. The largest volume of work will be performed on the boiler piping system. Superheater 4 will also be replaced - from the terminals at the inlet chamber prechamber to the terminals at the outlet chamber prechamber. Part of the superheater 2 will also undergo replacement - from the terminals on the inlet chambers along the front and back boiler walls to the area between superheaters 4 and 6. These works also include the replacement of one part of the superheater 1 on the back and front wall, inside the piping entry zones of superheaters 2 and 4.