

In thermal power plant Nikola Tesla A in Obrenovac, the capacity of power units A3, A5 and A6 has been increased, as well as the capacity of unit B1 in TPPNT B in Ušće. In the following period, power units TPPNT A4 and TPPNT B2, as well as the unit TPP "Morava" in Svilajnac, will get additional capacity.

In the branch TPPNT, the beginning of the new century has been marked by major revitalizations of facilities, in which the TPPNT A in Obrenovac and the TPPNT B in Ušće have been leading the way. In addition to extending the operating life, enhancing availability, reliability and energy efficiency and the imperative ecological modernization, one of the main benefits is certainly the increase in the capacity of power units along with obtaining "green megawatts".

Within the previous period, in TPPNT A in Obrenovac, the capacity of units A3, A5 and A6 has been increased, whereas the increase in the capacity of unit A4 has been envisaged for year 2017. The capacity of unit A3 has grown from the previous 305 to 329 megawatts, the capacity of unit A5 from 308.5 to 340 MW, and the capacity of unit A6 also from 308.5 to 347.5 MW. Assessing the previous effects of the strengthening of units, Milan Petković, director of TPPNT A, emphasizes that, within the carried out revitalizations, the biggest electricity producer in the Balkans has obtained the additional capacity of 94.5 megawatts.

- With the installed capacity of 1,745 megawatts, the TPPNT A represents 30 percent of the EPS's capacity, which defines the prominent position in the electric power system of Serbia. On the other hand, this obliges us to always keep the power plant facilities in top form, with the highest level of readiness for a stable and reliable operation in accordance with the European environmental standards. Since 2002, after the carried out revitalizations, evident improvements have been achieved in all segments of operation - says Petković. - Frequent failures and unnecessary delays have been eliminated and a positive step forward has also been achieved when it comes to environmental protection.

The capacity increase in three of the six available power units has also had an important share in the overall performance of TPPNT A. Certainly, we can do more and things will be even better, particularly as of next year, when, in addition to A3, A5 and A6, the unit A4 should also be strengthened with additional megawatts.

- The preparation of a study on the further perspective of using the units A1 and A2 is underway, the results of which have already, at this moment, shown the justifiability of the operating life extension, and this for the next 100.000 hours at least - Petković explained. - This indicates towards the possibility of making significant investments in these units in the following 5-year period, during which they would be revitalized and modernized. The aim is to increase the efficiency, availability, reliability and safety of operation, as well as to increase the production capacity.

According to Mr. Petković, in 2016, the preparation of study and project documentation will be intensified so as to define more precisely the future strategic direction of the exploitation

of these units. We are also reconsidering the activation of the project for delivering heat to the Belgrade heating system, the expansion of capacity for heating Obrenovac, as well as the further steps in improving environmental protection.

In TPPNT B in Ušće, where two largest power units of EPS, B1 and B2, are installed, with the nominal capacity of 620 megawatts each, the first phase of unit B1 reconstruction, done in 2012, has been particularly important. By the six-month overhaul activities, in which around 2,200 domestic and foreign contractors took part, the unit capacity has been increased by 30 megawatts, of which 10 megawatts are produced on the basis of additional utilization of the heat from fuel gases (green megawatts). The overall cost of the first phase of unit B1 revitalization amounted to 75 million euros. EPS provided 58 million, whereas the remaining 17 million euros were provided from the donations of the Swiss Government and the European Union.

Numeric indicators confirm that the investments have paid off very quickly because, owing to the revitalization, the operating life of the unit has been extended by 200.000 hours, and there were also some production records. Namely, already on 29th January 2013, B1 achieved a record daily production, and in March 2014, also the highest monthly production since the beginning of operation.

With respect to the positive results of increasing the capacity of unit B1 and the obtained "green megawatts", Goran Lukić, director of TPPNT B, says that after almost 30 years of successful operation and a series of exceptional production results of the unit TPPNT B1, the first extensive revitalization was done in 2012. These were the works on the key components of the thermal power plant facilities and the control and regulation system was completely replaced.

- In addition to extending the operating life, the task of the revitalization was also to increase the capacity of the unit, which was carried out successfully, so that since then, the unit B1 has been operating with stability and producing electricity with an increased nominal capacity of 650 MW - Lukić explained. - A particular result of the revitalization are certainly the 10 "green megawatts", which have been obtained by installing an additional heater in the boiler, an additional EKO 1A with the corresponding reinforcement, as well as the increase in the evaporator tube diameter, by which a more efficient exchange and utilization of the heat from flue gases has been achieved, i.e. a better utilization of coal.

New Capacity

In 2016, the conclusion of another two significant projects has been planned, which, among other, will also result in the increase in the capacity of units. These are the capital overhaul of the unit TPPNT B2, as well as the second phase of the capital overhaul in the thermal power plant "Morava" in Svilajnac. According to expectations, the power unit TPPNT B2 should gain 30 megawatts of new capacity (which is the amount that its „counterpart" B1 has also gained), whereas the only unit in "Morava" will also get additional capacity,



Serbia: Power plant Nikola Tesla A, capacity increase and overhaul projects 2016

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