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Rețele Electrice România has modernised the Filaret primary substation in Bucharest, through investments of almost 79 million lei

- *The Filaret primary substation has been completely refurbished and modernised, for the benefit of more than 25,600 customers in the southern area of the Capital*
- *With the completion of this project, all of the company's primary substations in Bucharest are modernised*

Bucharest – Rețele Electrice România, part of the PPC group in Romania, has completed the works to modernise the 110/20/10 kV Filaret primary substation, located in District 4 of Bucharest, to increase the safety and quality of the electricity supply for customers in the southern area of the Capital. The value of the investment was almost 79 million lei, from the company's own funds. Filaret was the last of the company's electrical substations in Bucharest that still required modernisation, so that, at present, all Rețele Electrice România substations in the Capital benefit from new technologies.

"The modernisation of the Filaret primary substation is more than a technical investment – it is the piece that completes the modernisation of Bucharest's entire substation network. We are living at a time when the electrification of transport, of heating and of industry will fundamentally change the demand for electricity, and the network we are building today must be ready for the needs of the generations to come. By refurbishing the Filaret primary substation and bringing it into remote control, we are providing a safer and more flexible distribution service for more than 25,600 customers in the south of the Capital and we are strengthening an important node of the city's energy infrastructure", said Mihai Pește, General Manager of Rețele Electrice România.

The project to modernise the Filaret primary substation started in 2019 and was carried out in stages, in order to maintain continuity in the supply of consumers. The substation currently serves more than 25,600 customers in the southern area of Bucharest – homes, businesses and institutions – through 202 secondary substations connected to the 20 kV and 10 kV networks. Thanks to its extended capacity, the Filaret primary substation can absorb the new types of consumption, from charging stations for electric vehicles to heat pumps and smart systems, as the energy transition advances in the Capital.

The works, financed entirely from own sources, began in August 2019, with the modernisation of the tanks for the outdoor equipment – the power transformers, the neutral treatment installation and the internal services – and continued, from April 2020, with the reorganisation of the indoor spaces in order to accommodate the 110 kV equipment in GIS technology (Gas Insulated Switchgear – circuit

breakers with gas insulation), the 40 MVA power transformers and a modern control room, on the upper floor.

Following the modernisation, the installed capacity of the substation increased from 160 MVA to 200 MVA, provided by five transformers of 40 MVA each – two with a transformation ratio of 110/20 kV and three with a ratio of 110/10/20 kV, which now operate on the medium voltage side at 10 kV. Supplementing the configuration with a 40 MVA transformer brings additional redundancy and flexibility in the operation of the network.

The modernisation covered an extensive volume of equipment: at the level of the 110 kV system – 7 line cells, 5 transformer cells, 3 measurement cells and 3 coupling cells; in the 20 kV network – 30 line cells, 2 transformer cells, 4 coupling cells, 2 measurement cells and 2 TFN-type cells; and in the 10 kV network – 49 line cells, 4 transformer cells, 4 measurement cells, 6 coupling cells, 3 cells for neutral treatment (RTN) and 2 TSI cells. The protection cabinets were also replaced and are now located in a new control room.

A new element of the investment is the installation, on the roof of the substation, of a system for producing electricity from a photovoltaic solar source, together with a storage system, intended to offset the substation's own technological consumption and to increase energy efficiency.

The modernisation of the Filaret primary substation is complemented by the modernisation of the 110 kV Filaret – Grozăvești high-voltage line, completed in the course of last year – a project of approximately 22 million lei, financed entirely from own sources, which increased the transmission capacity of the line to 170 MVA, for the benefit of approximately 70,000 consumers in Districts 4 and 5. For the first time, a monitoring system was installed on this line, which measures in real time the temperature and the vibrations of the infrastructure.

The major benefits brought by the modernisation of the Filaret substation consist in the increased safety of the supply to customers, the greater flexibility of the high- and medium-voltage network and the capacity to integrate the new categories of consumption generated by the progressive electrification of the economy and of society. With the Filaret substation modernised, Rețele Electrice România closes a cycle of investments that gives Bucharest a completely renewed network of primary substations, capable of meeting tomorrow's consumption requirements.

The company **Rețele Electrice România** operates networks with a total length of approximately 136,000 kilometres in three important areas of the country: Muntenia (including Bucharest), Banat and Dobrogea, covering one third of the local distribution market, and is developing an investment programme for improving the quality of services, the safety and performance of the networks and the local implementation of the environmental standards of the PPC group. The electricity networks operated by Rețele Electrice România number 293 primary substations and more than 26,000 secondary substations.