

Rețele Electrice Romania modernized the Obor primary station, investing 66 million lei for an electrified future

- *The Obor primary station has been completely refurbished and modernized, for the benefit of about 69,000 customers*
- *Modern technologies will be able to ensure the future increased consumption needs, according to the trend of electrification of many activities*

Bucharest – Rețele Electrice Romania, part of the PPC group in Romania, has completed the modernization works for the Obor Station, one of the most complex electricity distribution stations in Bucharest, in order to increase the safety and quality of electricity supply for consumers in the Capital, while preparing the grid for the increased consumption requirements generated by the electrification of activities such as transport and district heating. The value of the investment was over 66 million lei, from the company's own funds.

"This investment is more than a technical modernization – it is a concrete step in building the network that will support the city's energy transition. We are living in a time when the electrification of transport, heating and industry will fundamentally change the demand for electricity. The network we are building today must be ready to meet the consumption needs of generations to come. The modernized Obor station is exactly that type of infrastructure: robust, flexible and designed for a future in which electricity will be the basis of the entire energy system, while bringing direct benefits to tens of thousands of homes, schools, hospitals and public institutions in Bucharest", said Mihai Pește, General Manager of Rețele Electrice Romania.

The modernization project of the Obor primary station started in 2019, with the completion of the design phase, followed by complex refurbishment works carried out in stages, in order to maintain continuity in supplying consumers with energy. The station currently serves about 69,000 customers, including homes, schools, hospitals, shopping centers and public institutions, and its expanded capacity prepares it to absorb new types of consumption – charging stations for electric vehicles, heat pumps and smart systems – as the energy transition advances in Bucharest.

The modernization involved the complete consolidation of the building, as well as the replacement of the electrical equipment, without interrupting the supply to customers. The works aimed at both the modernization of the high-voltage (110 kV), medium-voltage (10 kV and 20 kV) electrical installations

and the related connections, as well as the reconfiguration and expansion of the existing infrastructure. In this context, the 110 kV substation building was recompartimentalized, while a new building was built for the 110 kV GIS (Gas Insulated Switchgear) equipment and a modern control room.

At the same time, complex works were carried out to consolidate the existing structure, which involved the demolition of some masonry and reinforced concrete elements, as well as the rehabilitation and strengthening of the resistance structure by introducing new stiffening elements.

The project has modernized and integrated state-of-the-art equipment, including power transformers, protection and control systems, as well as a significant number of cells related to the 10 kV, 20 kV and 110 kV networks, thus contributing to increasing the reliability and operational efficiency of the substation.

The modernized station has an installed power of 200 MVA, provided by five transformers of 40 MVA each, of which two 110/20 kV transformers and three 110/10 kV transformers. The configuration of the high-voltage system (110 kV) is made with a double busbar system, which ensures a high level of redundancy and flexibility in operation, and the medium-voltage networks are organized in multiple busbar sections, adapted to the distribution requirements in the area.

Thus, the 110 kV system, configured with a double bus system, includes 3 line cells, 5 transformer cells, 2 measuring cells and 3 coupling cells, ensuring redundancy and operational flexibility. At the level of medium voltage networks, the modernization targeted an extensive volume of equipment, including 44 10 kV line cells, 4 transformer cells, 4 metering cells, 6 coupling cells and 4 cells for neutral treatment.

In the 20 kV network, 20 line cells, 2 transformer cells, 4 coupling cells, 2 measuring cells and 2 TFN cells were modernized. The substation configuration includes 4 busbar sections for the 110/10 kV system and 2 busbars for the 110/20 kV system, which allows flexible and safe operation of the grid.

A novelty element of the investment is the installation of a system to produce electricity from photovoltaic solar sources on the roofs of the substation's buildings, intended to compensate the consumption of the transformer station's own services and to increase energy efficiency.

The major benefits brought by the modernization of the Obor Station consist in increasing the security of supplying existing customers, increasing the flexibility of the high and medium voltage network, as well as the ability to absorb the new categories of consumption generated by the progressive electrification of the economy and society – from electric mobility to decarbonized heating solutions. The Obor station thus represents an essential node of the infrastructure we are building today for future generations.

The company **Rețele Electrice Romania** operates networks with a total length of about 136.000 kilometers in three major areas of the country: Muntenia Sud (including Bucharest), Banat and Dobrogea, covering one third of the local distribution market, and develops an investment program to improve the quality of services, safety and performance of the networks and local implementation of the environmental standards of the PPC group.



The electricity infrastructure operated by Rețele Electrice Romania includes 293 power stations and over 26.000 secondary substations.