

PURPOSE AND OBJECTIVE

The objective of DSO is to ensure the smooth running of the management to guarantee uninterrupted electricity access to the distribution network to all its users.

In the current conditions to ensure uninterrupted supply of electricity during the Winter 2023-2024 (Including New Year's holidays), measures are taken throughout the territory through Technical-Organizational measures according to the Plan of measures of readiness for DSO in all its structures: DSO Central Headquarter, High Voltage Directory, Regional Directories.

Albanian DSO operates according to voltage levels:

1. High Voltage Directory - has under administration Substations 110/35/MV (Power Transformers Bay); 35/MV and 35 kV Lines.
2. Regional Directories - Manage the distribution network including : Medium Voltage 20/10/6 kV , cabins (transformation points) 20/10/6/0.4 kV and Low Voltage 0.4 kV network.

INTERVENTIONS FOR THE IMPROVEMENT OF DISTRIBUTION NETWORK (Substations, 35 kV lines) DURING THE YEAR 2023

In order to improve and increase consumer safety during the winter 2023-2024, DSO implemented the following interventions:

- Strengthening of the Main Substations of the South-East region, which is most affected during the winter season by difficult climate conditions(heavy rain and snow) as well as there are also many winter tourist spots that are visited by tourists from all over the world.
- In addition, in this Region there have been a lot of requests for the connection of renewable energy sources in the distribution network. This will lead to improve the quality of supply and guarantee easier coping with the consequences that come from the atmospheric conditions of the winter season.

Taking into consideration as mention above , DSO has invested , during year 2021, in strengthening of KORCA Substation 110/35/10 kV, which is also the main substation of the South-East Region, adding another 1 (one) PT (Power Transformer) 40MVA, 35/10 kV. In order to increase capacities, facilitate access conditions of new renewable energy sources and improve security of supply, DSO has implemented another investment , which consist in reconstruction and upgrading of a 35 kV line outgoing from KORCA Substation 110/35/10 kV towards Bilisht Substation. This project is expected to be completed at the end of 2023.

In addition , we'd like to mention that another important substation of this region is POGRADEC Substation 110/35/10 kV , located in Pogradec City , listed into touristic areas of Albania. DSO has started its strengthening adding 1 (one) PT 25 MVA, 110/35/10 kV and another 1(one) PT 25 MVA, 110/35/20 kV, which will precede the development of 20 kV distribution network in this city. This investment started in the summer of 2023 and is expected to be completed in the summer of 2024.

EXPECTED PROBLEMS IN THE HV/MV NETWORK AND MEASURES FOR THEIR ELIMINATION

The main problems:

- The increase of the loads of Power Transformers 110/35/MV and 35 kV lines with aggravation of climate conditions.
- The increase in the number of faults, including flooding of substations due to the aggravation of climate conditions that could be associated with heavy rain/snow/wind.
- Other natural emergencies.

The measures taken:

- The establishment of loads monitoring teams at the level of HV Units, and duplication of operative personnel in the main substations.
- The supply of necessary equipments and materials, as well as test equipments to each faults elimination teams, to reduce the time of energy restoration.
- Putting more vehicles in full readiness of the faults elimination teams.
- Placement of preparedness teams near the Main Substations and important feeders, which supply renewable energy sources, hospitals, pumping stations and institutions of special importance.
- Installation of pumps for water removal in Substations that risk flooding and maintaining contacts with the Civil Protection Agency for issues.
- Activation of the Serious Faults Elimination Unit using the special tools and vehicles for significant interventions.
- Monitoring the operation regime of renewable energy sources already connected to the 35 kV lines; 35/20/10/6 kV busbars of Substations.

INTERVENTIONS FOR THE IMPROVEMENT OF THE 20/10/6 kV-MV NETWORK AND 0.4 kV LV NETWORK DURING THE YEAR 2023

In order to improve and increase the safety of energy supply to consumers during the year 2023, the following interventions have been implemented by the HQ DSO and Regional Directories:

- Interventions, through investments and maintenance, in construction of :

- 20 kV new feeders and reconstruction of existing ones;
- 20/0.4 kV Transformation Points (cabins), to improve technical indicators through load redistribution and increase security of supply
- New LV network/replacement of existing LV bared overhead lines with Aerial Bundled Cables (ABC)
- Fulfillment of Maintenance Plan.

- Technical and organizational measures :

- Monitoring of loads and coordinating with Units, in the field, the optimal network operation regime
- Monitoring and keeping ready the Open-points for all 20 kV ring feeders.
- In the addition further maintenance of the existing weak points in the MV network, increasing the effectiveness in the fault determining and its elimination.
- Establishment of readiness teams, especially in the areas where are located renewable energy sources, hospitals, pumping stations and institutions of special importance, in order to guarantee the energy restoration in a short period of time in case of faults.

EXPECTED PROBLEMS IN THE MV 20/10/6 KV NETWORK AND MEASURES FOR THEIR ELIMINATION

The main problems:

- Increasing the loads of feeders, distribution transformers and LV lines due to aggravation of climate conditions .
- The increase in the number of faults, including flooding in some Cabins.
- Damage to the MV/LV overhead network (poles, insulation, conductors) as a result of extreme weather conditions heavy rain/snow/wind.
- Other natural emergencies.

The measures taken:

- Setting up load monitoring teams for each Regional Directory.
- The supply of necessary equipments and materials to each operational team in the field, to reduce the time of energy restoration.
- Putting more vehicles in full readiness.
- Placement of preparedness Teams near each Regional Directory with priority to pay attention to the important costumers such as: renewable energy sources (small HPP-s , PV-s ; Hospitals ; Pumping Stations and other institutions of special importance.
- Maintaining constant contacts with the respective local institutions as well as with the Civil. Protection Agency for coordinating and solving the problems that may arise.
- Since not having a SCADA System that covers the entire distribution network, it is assigned a Reporting Manner, that in cases of emergency conditions, every MV/LV regional Dispatch Centers communicate every 1.5 hours to the Central Dispatch of MV/LV network.