Management of applications, penetration and operation of Renewable Energy Systems in the Distribution and Transmission Grid of the Electricity Authority of Cyprus

A. Penetration of Renewable Energy Systems in the Grid of EAC

The Electricity Authority of Cyprus in its capacity as Transmission System Operator (TSO) manages applications for RES-E generation systems with a capacity of up to 8MW (8000kW). For systems above 8MW, the management of applications falls under the responsibility of the Transmission System Operator of Cyprus (TSOC).

The TSO (EAC) administers the new Self-Consumption Plan of the Ministry of Energy, Commerce and Industry (MoECI), which was approved by the Council of Ministers on 29 March 2023. The plan covers the following categories of investment in Photovoltaic Systems:

1. Net metering for domestic (natural) and non-domestic consumers with a maximum capacity of 10.4kWp per electricity consumption account.

2. Net metering for commercial and industrial units, residential buildings, public buildings, camps, schools, agricultural and livestock units, fisheries, etc., with a maximum capacity of 8 MWp per electricity bill.

3. Virtual net metering for the self-consumption of residential units with a maximum capacity of 10.4kWp and for professional farmers and wineries with a maximum capacity of 100kWp.

4. Virtual Net Billing to cover the own consumption of natural or legal persons and public/local authorities with a maximum capacity of 150kWp per electricity account and per beneficiary/business.

As mentioned above, the Self-Consumption Plan was issued by the Ministry of Energy, Commerce and Industry and the provisions and requirements of the Plan are implemented by EAC in its capacity as a TSO (Transmission System Operator).

In addition, the TSO (EAC) manages the applications of photovoltaic parks and other renewable energy systems with a capacity of up to 8 MWp for connection to the EAC grid and the final outcome is the inclusion of the projects in the competitive electricity market.

To date, there are approximately 40,000 photovoltaic (PV) systems in operation with an installed capacity of 215MW, the vast majority of which are domestic PV net metering systems. There are 150 PV parks connected to the competitive electricity market with a total capacity of 220 MW. In total, the penetration of RES in the EAC grid from PV, wind and biomass is 670 MW.

In addition to the above, the DSO (EAC) has issued Preliminary Connection Terms, which have been accepted by the investors, for a further 145 PV parks with a total

capacity of 265MW to be connected to the distribution grid. These projects are either at the design stage, or at the stage of approval for the installation of the grid, or at the stage of construction of the distribution grid.

In addition, the TSO (EAC) has referred to the TSOC, on the basis of its competence, applications from photovoltaic parks exceeding 250 MW, for the performance of studies for the upgrading of existing transmission substations and projects for the reinforcement and extension of the transmission network.

B. Management of PV Systems applications

Due to the high price of electricity, it is a fact that from the second half of 2022 there is a sharp and rapid increase in applications for PV systems, mainly for net metering. The number of applications reaches about 2000 per month from the second half of 2022, compared to 400 applications per month in 2020. In other words, there has been a very large increase in applications, quadrupling in one year.

In order to best manage the situation, the Electricity Authority of Cyprus has taken specific measures. In particular, it has transferred human resources from other departments to the installation inspectors' departments and has managed to drastically reduce the waiting time for the inspection of each electrical installation to less than three weeks nationwide from the date of submission of the plans for inspection. Specifically in the Nicosia district, the waiting time has been reduced from 20 weeks as of 14/05/2023 to 3 weeks for PV net metering and 4 weeks for other substations. In the other districts of the EAC, the waiting time has been reduced from 12 weeks to less than 3 weeks for all categories of electrical installations, both for PV systems and for the audit of other substations.

In addition to the above, the Cyprus Electricity Authority has launched a tender for the purchase of services from a number of persons with a Diploma in Secretarial Studies to provide support services in the management of applications from the Regional Distribution Offices. These services include: the management of applications from the receipt of each application, the verification of the necessary documents, the registration in the EAC software and the support until the approval and issuance of the terms of connection of each PV system by the EAC officer.

It should be noted that, in the context of sincere and honest cooperation, constructive meetings have been held and working groups have been set up with The Cyprus Scientific and Technical Chamber (ETEK) and the associations of professional groups dealing with both the installation of PV systems and other substations. The aim of the working groups is to work closely together to further improve processes, communication and general issues related to the electrical installation sector, from the submission of applications to the EAC to the connection of substations and PV systems to the EAC distribution network.