

Interview with

Vanco

Shahpaski

Chief Dispatcher at the NDC

A day with the field teams and the transmission line department

**Where the road ends, the work
continues.**







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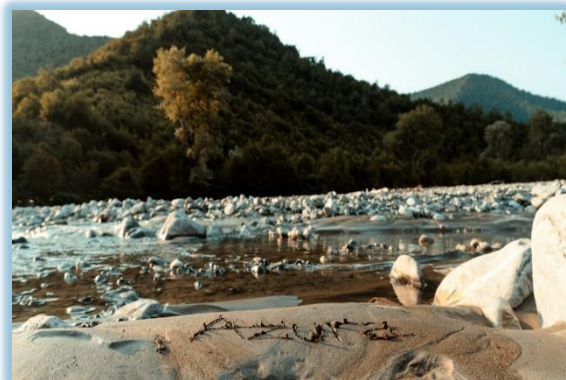
CURRENT EVENTS

LOW WATER LEVELS HIT NUCLEAR PLANTS, HYDROPOWER PLANTS AND TRANSPORT

Extreme heatwaves and the prolonged drought that hit Europe this summer have shown the effects that climate change has on the energy sector. Record-low water levels on the Danube, Rhine, Sava and other major rivers have not only affected river transport and agriculture, but have also created a series of challenges for electricity generation. Due to the lack of rainfall, the capacities of some nuclear power plants and hydropower plants have been reduced, and the governments of several countries have introduced emergency measures to preserve power system stability.



The most critical situation is with the Danube River, where the low water level is causing a chain of problems. In Hungary, the “Paksh” nuclear power plant is operating at significantly reduced capacity due to the decreased water inflow needed for cooling the reactors.



The government has called on citizens and companies to use electricity rationally.



The seriousness of the crisis is best illustrated in Romania. Namely, in order to ensure sufficient water flow to the “Cernavoda” nuclear power plant, previously unseen engineering interventions were undertaken, which included flooding dams and controlled explosions to deepen the river channels. Due to high temperatures and the reduced flow of the Sava River, in Slovenia, for the first time in two decades, the “Krško” nuclear power plant temporarily reduced generation. Croatia has also registered problems with river transport. The historically low water levels of the Danube and Drava have almost completely paralyzed navigation, so some cargo ships remained stranded, and the transport of goods slowed significantly.

CURRENT EVENTS

In Serbia, the low water level of the Danube has affected generation at hydroelectric power plants, and river transport is significantly hampered. Reduced electricity generation increases the need for imports during periods when demand is highest.



Unlike its neighbors, Bulgaria maintains the stability of its nuclear sector. The “Kozloduj” plant continued to operate without significant restrictions thanks to technical solutions that enable safe functioning even at very low Danube water levels.

In this crisis, Bulgaria is among the largest exporters of electricity in Southeast Europe and plays an important role in stabilizing the regional market.



The consequences of the drought are also visible in Western Europe.

The Rhine, one of the most important transport arteries, reached exceptionally low water levels, as a result of which ships sailed with significantly reduced cargo, and part of the transport was redirected to rail and road traffic.

This increased costs and created additional pressure on industry and supply chains.

The crisis this summer showed that climate change is no longer just an environmental challenge, but a serious factor that determines Europe’s energy security and economic stability.



The drought exposed the weaknesses of water-dependent systems and emphasized the need for greater investments in renewable energy sources, battery storage systems and better cross-border



interconnection of electricity grids.

If high temperatures and the lack of rainfall become increasingly frequent phenomena, European countries could face additional restrictions in electricity generation, higher electricity prices and new disruptions in transport and supply.

<https://www.energetika-net.com/energetsko-gospodarstvo/ne-krsko-veceras-pocinje-smanjivati-snagu-elektrane>

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CURRENT EVENTS**MACEDONIA AVOIDED REGIONAL ENERGY CRISIS, BUT DROUGHT REMAINS A CHALLENGE**

While most European countries faced serious energy problems due to record low river water levels, Macedonia weathered the heatwave without significant disruptions to electricity generation and supply. The favorable hydrological situation and the fullness of water reservoirs ensured stability of the energy system. Unlike the emergency measures that some European countries were forced to take, Macedonia did not need similar restrictions. According to hydrological assessments, the winter snowfall and rain and the wet spring contributed to better filling of lakes and reservoirs and stable inflows to hydroelectric power plants. This created more favorable conditions for electricity generation and the possibility of using water for other needs, especially in agriculture.

This situation has also had a positive impact on the work of energy companies. According to estimates by AD ESM, the reservoirs have a sufficient amount of water, which allows for the realization of the



planned electricity generation. Hydropower plants, in addition to generation, continue to provide system services for the stability of the electricity grid. However, experiences from the region have shown that a stable energy season is not a guarantee for the future. Climate change brings increasingly frequent periods of extreme temperatures, long-term droughts and reduced river flows, which can lead to a decline in generation in hydroelectric power plants on the one hand and increased consumption of electricity

for cooling, on the other. In addition to energy, a prolonged drought could also put pressure on water supplies. Last summer, Skopje faced reduced capacity at the Rashche spring, demonstrating that water management is not just an environmental



issue, but also an infrastructure and security issue. Experts agree that in addition to better reservoir management, Macedonia must continue to diversify its energy sources, as solar power plants, a better electricity grid, energy storage capabilities, and greater regional connectivity can increase the system's resilience to periods of climate extremes. The message is that there is no immediate threat of electricity shortages, but experiences from Europe show that climate change will increasingly determine the way countries plan and develop their energy systems. Пораката е дека непосредна опасност од недостиг на електрична енергија нема, но искуствата од Европа покажуваат дека климатските промени сè повеќе ќе го определуваат начинот на кој државите ќе ги планираат и развиваат своите енергетски системи.



CURRENT EVENTS**SUCCESSFULLY CONDUCTED TESTING OF PPP "NOVACI" ACCORDING TO MEPSO'S TECHNICAL REQUIREMENTS**

At the photovoltaic power plant "Novaci", compliance testing was conducted to verify the operation of this generation facility against the technical requirements and conditions prescribed by AD MEPSO. The testing was carried out in accordance with the Test Protocol in the presence of representatives from AD MEPSO, who monitored the execution of all planned checks and their compliance with the prescribed procedures. As part of the testing, the following were

performed: a test of disconnection and synchronization with the transmission network, tests for active power control and active power ramp rate, as well as tests for automatic voltage regulation, automatic reactive power regulation, automatic power factor regulation, and verification of the reactive power capabilities of the energy park.

The presence of MEPSO engineers enabled direct monitoring of the test execution and confirmation that they were carried out in accordance with the established technical requirements. Upon successful completion of the verifications and analysis of the obtained results, an order was issued to conclude the testing and proceed with the regular operation of the generation facility. Such activities represent an important part of the verification process for the technical requirements for connection and operation of generation facilities to the electricity transmission system. Through these activities, the secure, stable, and reliable functioning of the power grid is ensured, in compliance with the applicable technical standards and requirements.

APPEAL TO FARMERS FOR SAFETY NEAR TRANSMISSION LINES

MMEPSO appeals to farmers to exercise particular caution when carrying out activities near transmission lines, especially during the irrigation and harvest periods. It is recommended that agricultural machinery, irrigation systems and metal pipes not be used within the protective

corridors of transmission lines, and that stubble not be burned in their vicinity. Compliance with safety rules is essential both for the protection of human life and for the secure operation of the transmission system.

CURRENT EVENTS**MEPSO EXPANDS COOPERATION WITH JAO ON THE MACEDONIAN-GREEK BORDER**

A few few months after MEPSO joined the JAO family – the Single Allocation Platform of the European Union – and the successful start of the allocation of cross-border capacities through long-term and daily auctions on the Macedonian-Serbian and Macedonian-Bulgarian borders,

MEPSO is ready to expand its cooperation with this European platform. The team of the Department for Operational Control of the Power System (OEES), which successfully integrated the aforementioned borders last year, has once again taken to the now familiar field. In coordination with the responsible personnel from the Greek transmission system operator, it has successfully completed the negotiations for the integration of the Macedonian-Greek border into the JAO platform and has commenced preparations for full and functional integration into the capacity allocation system.

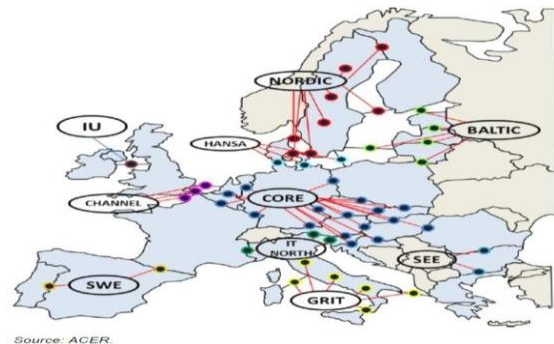
Preparations are underway, and working meetings between JAO and the system operators are held every two weeks.

Details are currently being finalized, and if the process proceeds according to the planned timeline, the complete documentation will be submitted to the Energy and Water Services Regulatory Commission in September for approval.

This means that as of 1 January 2027, long-term allocations (annual and monthly) and

short-term allocations (daily), in addition to the borders with the Republic of Bulgaria and the Republic of Serbia, will also be carried out by JAO on the Macedonian-Greek border. The Single Allocation Platform of the European Union

Pe– JAO, headquartered in Luxembourg, is the only European platform for the allocation of cross-border capacities recognized by ENTSO-E.



JAO is a service company that manages the single leading trading platform in Europe (e-CAT) for cross-border transmission capacities. On behalf of the transmission system operators (TSOs), JAO conducts the auctions for the available long-term and short-term transmission capacity rights on all internal EU borders. Additionally, JAO organizes shadow auctions, which act as a backup for Single Day-Ahead Coupling (SDAC). Since 1 October 2018, JAO has been operating as the Single Allocation Platform (SAP) for all European transmission system operators (TSOs) that function in accordance with EU legislation, fulfilling the regulatory obligations and requirements. With the integration of the Macedonian-Greek border into the JAO system, another condition for the market coupling of the Macedonian electricity market with the Greek electricity market is fulfilled.

CURRENT EVENTS

THE SAFETY OF THE TRANSMISSION LINES BEGINS ON THE GROUND

The Corridor Maintenance Department, as part of the Transmission Line Maintenance Department, is responsible for cutting and removing overgrown vegetation within the prescribed safety corridors of the transmission lines owned by AD MEPSO.

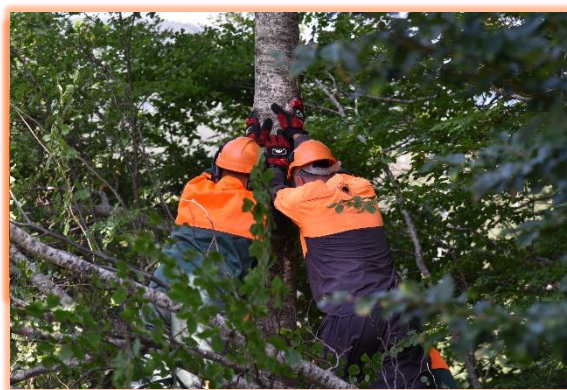


The activities are carried out on the basis of planning documentation, which is prepared in accordance with the reports of visual inspections carried out by the teams of the Transmission Lines Department. All workers engaged in cutting vegetation have certificates for successfully completed training for safe work with a chainsaw. They are also equipped with appropriate personal protective equipment for cutting work, which includes protective trousers with Kevlar, a protective coat, Kevlar gloves, a protective helmet with a visor and earplugs.

The teams engaged in maintaining the corridors are an integral part of the transmission line teams and are deployed in SS Skopje 1, SS Shtip, SS Bitola and SS Ohrid. Most of the activities for cutting

vegetation are carried out while the transmission lines are live, with appropriate safety procedures and measures for the protection of workers and the electricity infrastructure being applied. In cases where it is necessary to cut larger trees, where there is a risk that the tree will fall in the direction of the conductors during cutting, preventive disconnection of the transmission line is applied.

Additionally, depending on the specific conditions on the ground, other safety measures are taken,



such as securing and tying the upper part of the tree, its controlled pulling in the intended direction of fall and other appropriate measures for the safe performance of the work. In this way, uninterrupted maintenance of the safety corridors is ensured, the risk of vegetation touching or approaching the conductors is reduced and conditions are created for the safe and stable operation of the transmission network.



INTERVIEW WITH VANTCHO SHAHPASKI, CHIEF DISPATCHER AT THE NDC

THE BALANCE OF THE POWER SYSTEM IS MAINTAINED WITH KNOWLEDGE, TECHNOLOGY AND QUICK DECISIONS



The National Dispatch Centre of MEPSO is the place from where the Macedonian electricity transmission system is monitored and controlled in real time.

The decisions made at the NDC are crucial for ensuring a secure supply of electricity, network stability and coordination with European transmission system operators. In a conversation with the Chief Dispatcher of MEPSO, Dipl. El. Eng. Vantcho Shahpaski, we talk about the responsibility that this position carries, the changes brought by renewable energy sources and digitalisation, the importance of regional cooperation, as well as the challenges that transmission system operators face today.

What does it mean to be a Chief Dispatcher in the national electricity transmission system and what are your key responsibilities?

If the electricity transmission network represents the bloodstream of the electricity system, then the National Dispatch Centre represents the brain of that system. The NDC, as part of the strategic and critical infrastructure of a power system, is built from several parts that form a whole. In addition to the dispatchers, whose role is to operate the power system, there are the departments that plan and prepare the operation of the power system from the aspect of market and security analyses, the departments that summarise, analyse and evaluate the

operation of the power system, and of course the departments that, behind the scenes, take care of all the software, applications and hardware in order to enable the continuous operation of the NDC, quality and secure electricity supply to all users of the transmission system, and uninterrupted transit of energy through the interconnection lines by delivering accurate data from all elements of the transmission network to the NDC.

The role of the Chief Dispatcher is to coordinate the work of all the previously mentioned departments, to create and maintain coordination among them, with the sole aim of enabling continuous and secure operation of the power system, quality and secure electricity supply to all users of the transmission system, and uninterrupted transit of energy through the interconnection lines. In a word, working in the position of Chief Dispatcher means taking care 24 hours a day that the system functions securely and stably. Every decision we make can directly affect the electricity supply in the country.

How has dispatching work changed in recent years and which technologies have most changed the system control?

If we analyse a longer period of time regarding how much dispatching work has changed, we can say that the role of the dispatcher has not changed – it remains to enable secure and stable operation of the power system – but the way in which the power system is managed has changed significantly. On the one hand, the increased need for and use of various software tools, applications, calculations and analyses digitalise the management of the power system, making it faster and easier; on the other hand, the increased integration of renewable energy producers and non-standard consumers makes the management of the system increasingly uncertain. This is why the need has emerged for more precise planning of the work and activities of all users of the transmission network. Rapid data exchange also plays a key role, as it is essential for planning and forecasting the operation of individual parts of the system, as well as of the system as a whole. To summarise, dispatching work is extremely responsible and dynamic and is constantly being upgraded, and with the development and application of artificial intelligence, it will change and adapt to trends even more.



What key parameters do you monitor in real time to ensure secure and stable control of the transmission system?

Secure and stable operation of the power system means that the values of the listed parameters are within the permitted limits.

The role of the dispatcher is to constantly monitor them and, if there are deviations, to bring them within the prescribed limits. In real time, the following are monitored: frequency, control area error, i.e. deviation from the planned generation, consumption and exchange of electricity and comparison with the actually measured current values of the parameters, load on transmission lines and transformers, current generation and consumption, cross-border energy flows... and a number of other parameters necessary for secure and stable power supply.



In what situations must dispatchers react quickly?

The speed and efficiency in dealing with unforeseen situations define the expertise and ability of the dispatcher. Most often, unforeseen situations in the power system control are directly or indirectly related to meteorological conditions or equipment failures, as well as to sudden changes in the generation and generation capacities. The reasons can be technical, natural or, in certain cases, a consequence of the human factor. The role of the dispatcher is to deal with the situation that has arisen and to return the system or part of it to a normal and reliable operating mode as soon as possible and to ensure uninterrupted supply of electricity. The most recent example is the storm that hit Macedonia at the end of July, a situation that the dispatchers on shift coped with excellently and in a short time the delivery of electricity to all users of the transmission network was enabled.

What does a crisis situation look like in the National Dispatch Center? How much time does the

dispatcher have to react and what is crucial in such moments, procedures, experience or his personal qualities?

The best example, but also the best test for the speed of reaction, the ability to deal with unforeseen situations and to mobilize the entire dispatch team, was last year's incident in the power system. Due to extremely high voltages in the 400 kV network, all power transformers connected to the 400 kV network were turned off, and the 400 kV and 110 kV networks were separated.

The consequence of this was an interruption in the supply of most of the consumption area. In such situations, the combination of good knowledge of the procedures and experience from many years of running the power system is crucial. The dispatcher must remain calm, think soberly, not let panic overcome him and focus as much as possible on the situation that has arisen.

Only with proper assessment and timely decisions can the system be safely managed and its rapid return to normal operation be ensured.



How has the increased participation of solar and wind power plants changed dispatching work?

The integration of renewable energy producers, primarily solar and wind power plants, introduces greater variability into the system and larger and often unplanned values of the parameters necessary for system control, since their generation directly depends on weather conditions.

Therefore, more accurate forecasts, greater system flexibility, constant monitoring of the

balance between generation and consumption, as well as a well-developed market for balancing services are needed.

At the same time, the integration of renewable sources is necessary for the energy transition and represents an opportunity for a more modern and sustainable energy sector.

How important is accurate forecasting of generation and consumption for reliable system control?

Forecasting is one of the most important tools for reliable system control.

The more accurate the forecasts for consumption and generation are, the better the reserves and cross-border capacities can be planned.

The operational security of the power system is ensured by collecting and analyzing the forecasts for consumption and generation from all system users, in order to preventively identify potential disturbances, timely response to reduce system imbalances or preventive response due to potential disturbances of the system parameters. In our work, we use various analytical models, meteorological data and specialized software tools for short-term and medium-term forecasts..

The Macedonian power system is part of the synchronous continental European grid. Why is daily coordination with neighboring transmission system operators important?

Today, no power system operates in isolation. All electricity transmission systems in continental Europe are interconnected and disruption of one system has the greatest impact on the directly interconnected systems, but also on the entire continental Europe.

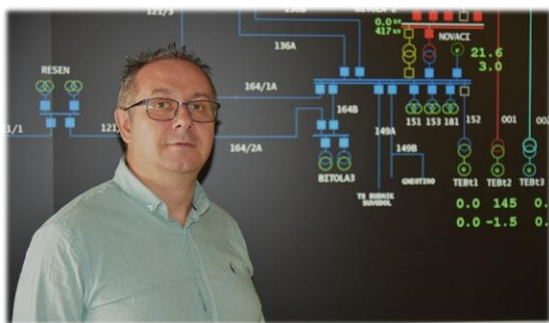
The long-term goal of ENTSO-E is for the entire European electricity grid to be one large super system managed by a single center and several regional coordination centers that should replace the current regional coordination centers for

security calculations. In addition, the coupling of electricity markets within Europe aims to ensure that energy generation from one end can reach another end of Europe.

This means that energy has to pass through the transmission networks of several countries. To ensure this, it is necessary to constantly coordinate energy flows, the integration state of the power system elements and operational security calculations to be made on a model that connects all involved system operators.

For example, an outage of an important element in one country can lead to the redirection of flows through several neighboring systems.

That is why we communicate daily with operators in the region and jointly coordinate operating modes and planned outages.



Which digital solutions have improved the work of the National Dispatch Center the most?

ЕН The energy sector, and especially the power system control, has been using the benefits of digitalization and automation for years.

Recently, artificial intelligence has also found increasing application in the control process.

The basic tools for the power system control are SCADA, the MMS market control application and the AMR/MDM energy calculation and acquisition application, software without which the power system cannot be managed and which are constantly being upgraded and improved. In recent years, real-time data exchange with all users of the transmission network has improved, the number of transformer stations that have the ability to be remotely controlled and

read is increasing, and new applications are also used to stimulate processes in the power system.



Forecasting and market simulator software, event control software, as well as various platforms and environments for data exchange are used.

What are the biggest challenges for transmission system operators in Europe, today and in the next decade?

Every job has certain risks, but the consequences can vary significantly. Technical risks from unplanned weather disasters are part of everyday electricity control.

The integration of increased generation from renewable sources and climate change in recent years have created risks from unplanned and increased energy flows that deviate from traditionally accepted energy flows.

As a result, previously unexpected conditions and values of system parameters outside the usual operating limits have appeared.

All these technical risks are an integral part of electricity control and we need to be prepared to deal with them. However, in recent years we have been facing a new challenge, and these are cyber attacks and maintaining cybersecurity.

This is a risk that goes beyond the scope of electricity control, and its consequences can be far more serious and difficult to predict.

What is the role of Macedonia and MEPSO in the regional and European electricity system?

Macedonia and MEPSO have been part of the European electricity system and a full member of ENTSO-E for more than 15 years. Macedonia's advantage is its strategic and central position on the Balkan Peninsula, good connectivity with neighboring electricity transmission systems, as well as continuous investments in new transmission interconnection lines. This positions the country as an important transit center for energy from the east and south to the north and west and vice versa.

Cross-border transmission lines with neighboring systems enable uninterrupted flow of electricity, security of supply and more efficient functioning of the regional and European electricity market.



What do market coupling and integration with the European electricity market mean for MEPSO and Macedonia?

Market coupling means greater supply and demand for electricity, greater competition, better utilization of infrastructure and more efficient use of available resources. In practice, when electricity can move more easily between neighboring markets, security of supply improves and conditions are created for more efficient functioning of the entire regional market.

The ultimate goal of market coupling is to achieve a single electricity market in Europe.

For MEPSO, this means more efficient use of the entire potential of the electricity transmission network, while for Macedonia it creates the

opportunity for direct access to European electricity markets.

What have European operators learned from major system outages in recent years and how do these experiences affect the work of MEPSO?



Major outages in the electricity transmission networks in Europe have shown that even an event that starts in one country can quickly spread to multiple systems.

The pace of change in the energy sector, especially the integration of renewable energy generation, is faster than the pace of operators' adaptation to deal with the consequences.

This results in situations that were unimaginable a few years ago. That is why today operators are paying even greater attention to real-time data exchange, precise planning of energy flows and jointly coordinated security calculations for wider regions.



One of the most important lessons is that without regional coordination, joint analyses and harmonised emergency procedures between all system operators in Europe, there is no secure electricity system.

PROJECTS**TC SS OHRID ENTERS THE FINAL PHASE OF IMPLEMENTATION**

The construction of the new 400 kV Ohrid substation, which is part of the key segments of the first 400 kV interconnection between Macedonia and Albania, is making visible progress and is in the final phase of realization. Following the completion of the installation of the primary and secondary equipment, the

operational-functional testing of the systems has begun. In this phase, the functionality, compliance, and readiness of the equipment and systems for safe and stable operation are being verified. Activities at the site continue according to the planned schedule, with the aim of completing all remaining works and preparing the facility for its integration into the electricity transmission system once all preconditions for the full operation of the entire interconnection are met. The testing is being carried out by the Contractor, in the presence of experts from AD MEPSO, who are actively involved in the project implementation working group.

The new 400 kV Ohrid substation will play a significant role in strengthening the transmission network, improving the security of the power system, and establishing a new energy interconnection with Albania.



PROJECTS

CONSTRUCTION WORKS ON THE 400 kV BITOLA – ELBASAN TRANSMISSION LINE ARE ALSO PROGRESSING



Assembly and erection of the first transmission towers has begun along the route of the overhead line, marking the project's entry into a new phase of implementation. At the same time, construction teams are working on several fronts: access to tower locations is being secured, excavations and concrete foundation works are underway, and preparatory activities for the installation of additional towers are being intensively carried out at multiple locations along the route. All these activities are being realized on the first of the two sections of the transmission line — from SS Bitola 2 to the new SS Ohrid — and are progressing according to the planned schedule. The Bitola–Elbasan transmission line represents a key connecting segment of the new interconnection that will enable the establishment of a direct 400 kV link with Albania. Upon completion of the project, the new overhead line will contribute to increasing cross-border transmission capacities,

enhancing the security of the electricity transmission system, and improving regional energy connectivity.



NEW BACKUP DATA CENTER FOR MEPSO:

INFRASTRUCTURAL FOUNDATION FOR GREATER RESILIENCE AND CONTINUITY OF ICT SYSTEMS

Prepared by the IT Department

As the electricity transmission system operator of the Republic of North Macedonia, MEPSO is obligated to ensure a high level of availability, reliability, and resilience of the systems that support the company's key business and operational processes. In this regard, the project for establishing a new backup data center (Data Disaster Recovery Center) at SS Dubrovo in Negotino was implemented.

The main objective of the project was to establish an additional location for hosting and recovery of critical information systems, thereby enhancing the company's business continuity capabilities and response to unforeseen events.



The implementation of the project included the complete adaptation of the space and the deployment of all the infrastructure necessary for the operation of a modern data center. IT cabinets, uninterruptible power supply (UPS) systems, electrical infrastructure, precision air conditioning, an automatic fire detection and suppression system, access control system, video surveillance, structured cabling, as well as a monitoring and

management system for the technical parameters of the infrastructure were installed. Following the completion of the installation activities, functional testing of all implemented systems was carried out, after which the backup data center was put into



operational use.

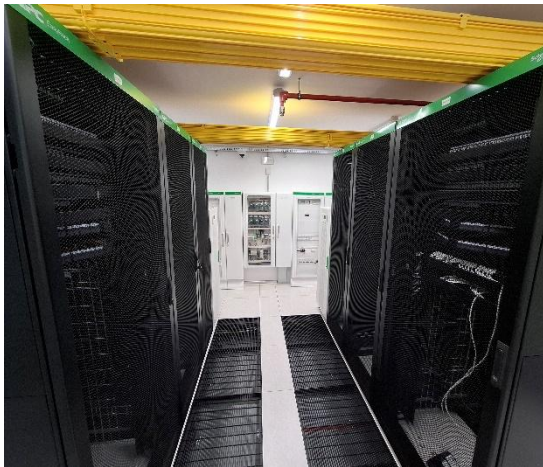
The establishment of the Disaster Recovery site represents a significant step towards improving the resilience of MEPSO's ICT infrastructure.

The new data center provides conditions for faster recovery of critical systems in the event of unavailability of the primary infrastructure and serves as an additional layer of protection for the company's information resources.

During the implementation of the project, principles of redundancy, physical protection, and continuous monitoring were applied in order to ensure stable and predictable operation of the



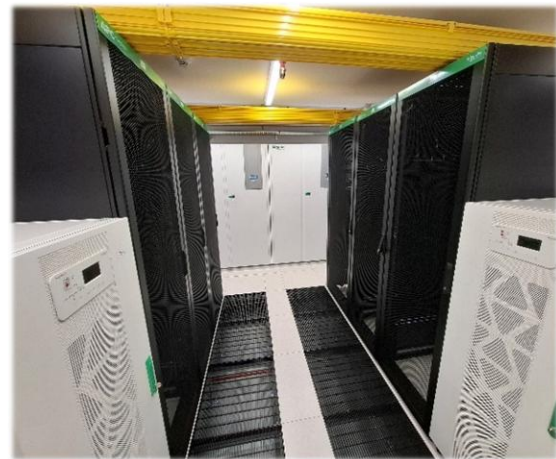
infrastructure. The centralized monitoring system enables real-time control of the status of key technical parameters, including power supply, air conditioning, and environmental conditions in the facility. This allows for timely detection of deviations and faster response.



Special attention was paid to the physical security of the facility through the implementation of access control systems, video surveillance, and automatic fire protection. This ensures an appropriate level of protection for the equipment and infrastructure that supports the company's

information systems. As part of the project, training was also conducted for the professional staff with the aim of successful management and maintenance of the new infrastructure.

With the implementation of the new backup data center project, AD MEPSO has acquired a modern infrastructure that represents an important element in ensuring business continuity and the



further development of the company's digital capacities. This project is yet another step towards strengthening the resilience of critical infrastructure and providing stable support for the processes that enable the secure operation of the electricity transmission system.

PROJECTS

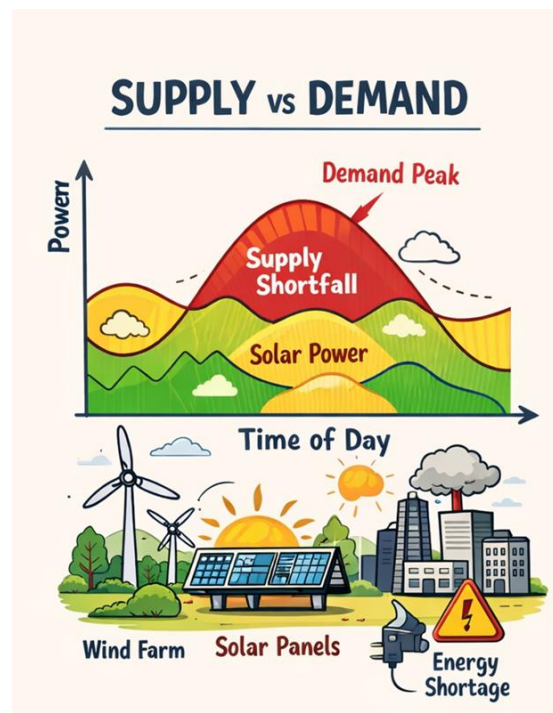
ADEQUACY STUDY CONFIRMS: THE MACEDONIAN POWER SYSTEM IS READY FOR THE ENERGY TRANSITION

By: Sime Kuzarevski, Strategic Planning and Analyses Unit

MEPSO completed the country's first National Resource Adequacy Assessment in accordance with the European Resource Adequacy Assessment (ERAA) methodology developed by ENTSO-E. The study confirmed that North Macedonia's electricity system has sufficient generation and transmission resources to ensure a secure electricity supply across all analyzed time horizons.

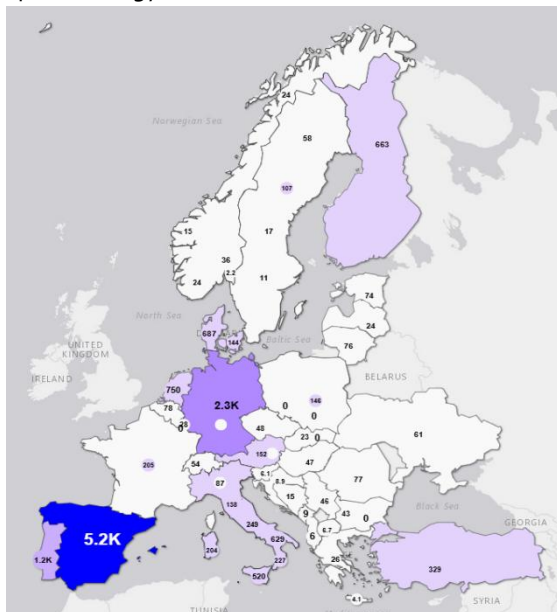
This is the first study of its kind conducted in North Macedonia and the wider region using a state-of-the-art probabilistic assessment methodology. Using the ANTARES market simulation platform, the electricity systems of 34 European countries were modeled, while more than 37 million possible future system states were analyzed through 720 Monte Carlo simulations for each scenario and planning horizon. For the first time, this approach provides a realistic assessment of security of electricity supply under conditions of climate change, increasing integration of renewable energy sources, evolving electricity demand and regional market integration.

The results indicate that the key adequacy indicators, Loss of Load Expectation (LOLE) and Expected Energy Not Served (EENS), the principal European metrics used to assess resource adequacy, remain well below the established reliability standard. This means that no electricity shortages are expected, even under extreme weather conditions or in the event of unplanned



outages of generation facilities. Of particular significance is the finding that even the scenario that assumes a more ambitious expansion of the generation portfolio, with a substantially higher share of solar and wind power plants, does not compromise the security of electricity supply in North Macedonia. This resilience is ensured by the combination of flexible domestic generation resources, primarily gas-fired and hydropower plants, and the country's high level of regional interconnection, providing strong cross-border support through its well-developed transmission links with neighboring power systems.

The medium-term planning horizon represents a critical phase in North Macedonia's energy transition, during which the complete retirement of aging lignite-fired thermal power plants and a significant increase in renewable energy capacity are expected. The study also provides valuable insights into one of the most important emerging challenges facing the European power sector, the growing occurrence of surplus renewable electricity generation, commonly referred to as spilled energy.

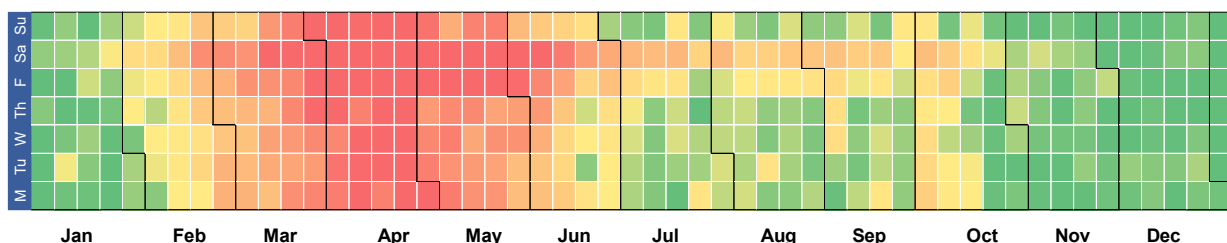


*Unused electricity from renewable energy sources
(spilled energy)*

A The analyses show that this phenomenon is becoming increasingly dominant across Europe,

particularly during periods of high electricity generation from solar and wind power plants combined with low electricity demand. It is most commonly reflected in negative electricity market prices. In North Macedonia, spilled renewable electricity generation is expected to occur primarily during the spring months, when electricity demand is at its lowest. However, the projected volumes of such surplus energy remain significantly lower than those observed in Western European countries, owing to the country's strong regional interconnections and its ability to exchange electricity efficiently with neighboring power systems. The results indicate that North Macedonia has the potential to position itself as a regional exporter of green electricity, provided that investments continue in parallel in battery energy storage systems, pumped-storage hydropower plants, demand-side management mechanisms, and the further strengthening of cross-border interconnections.

The Resource Adequacy Assessment is one of the most significant analytical studies MEPSO has undertaken in recent years. Prepared in cooperation with RTE International and the French Development Agency (AFD), it provides a strategic foundation for planning the future development of North Macedonia's electricity sector, supporting the integration of renewable energy sources, the expansion of the transmission network, and the long-term security of electricity supply..



Daily distribution of spilled energy

PRESENTATION OF TRANSFORMER STATIONS**TS KAVADARCI - MORE THAN HALF A CENTURY IN THE SERVICE OF
SAFE POWER SUPPLY**

Prepared by: Irina Daskalovska Kjosjevska



In the heart of the Tikvesh region, for more than half a century, the SS Kavadarci has been an important part of the country's electricity infrastructure. Commissioned in 1968, the substation was originally designed as a 110/35 kV facility and played a significant role as the connection point of the Tikvesh HPP in the then electricity system.



Today, after almost six decades of operation, SS Kavadarci has a much broader significance. It represents an important energy node in the 110 kV

network and is one of the key facilities for a secure and stable electricity supply in the region. Through its connections, SS Kavadarci is connected to TS

Dubrovo, SS Prilep, SS Veles, SS IGM and SS Kavadarci - city, which is the main source of power supply for the city of Kavadarci and industrial consumers in the region.

"SS Kavadarci is not just a plant with equipment and transmission lines. This is a facility on which the daily functioning of the region, industry and the quality of life of citizens depend. Our task is to ensure that this infrastructure is reliable 24 hours a day, 365 days a year," says Slobodan Bogevev, head of TS Kavadarci.

SS Kavadarci also includes the new SS IGM and the 110 kV plant of the Tikvesh HPP, which further emphasizes its role in the stability and security of the power grid.

Two 110/35 kV transformers with a power of 20 MVA each have been installed in the SS Kavadarci, intended for the needs of EVN. But behind the safety of such a facility, there is not only the power of the equipment, but also its maintenance, constant supervision and the expertise of the team that takes care of its functionality.



In the past period, significant investments were made in the modernization of the plant. In 2017, a complete reconstruction of the primary equipment in the 110 kV plant was carried out, and in 2022, the secondary equipment, i.e. the control and protection systems, was renewed, with the installation of a SCADA system.



These investments enabled improved working conditions, greater reliability in plant management, and more efficient supervision of the condition of the equipment.

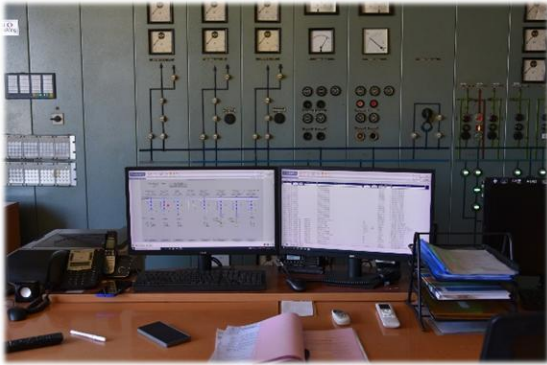
Even the most modern technology cannot replace the expertise, responsibility and dedication of the people who ensure that the system functions reliably on a daily basis.

The team at SS Kavadarci works in conditions that require high professionalism, concentration and readiness for timely reaction. Safety at work is of particular importance, and this means strict application of procedures and rules and consistent compliance with the prescribed measures.

„The greatest recognition for our work is when users and companies do not feel our presence, because that means that the system is operating stably and reliably. Safety at work is our top priority. Working in a substation requires discipline, responsibility and strict adherence to safety rules.

Only in this way can we take care of both people and the security of the power system," says BogeV.





Working in such a facility also brings a series of challenges, from monitoring the technical integrity of the equipment, through quick and precise response, to dealing with various conditions in the system. In emergency situations, the preparedness and experience of the team of employees come to full expression, because maintaining the stability of the grid depends on the speed and correct reaction.

The care for the TS Kavadarci will continue in the future. As part of the planned activities, a reconstruction of the roof and facade of the facility

is foreseen, which will further improve the working conditions and the physical condition of the facility itself.

More than half a century after its commissioning, the TS Kavadarci remains an important point in the power grid. Its history is a story of the development of the power system, from a facility that began in 1968 as a connection point for the Tikveš HPP, to a modern plant equipped with modern control and protection systems.

And the future of the power industry, according to the head of SS Kavadarci, requires new generations of engineers.

"I highly recommend that young engineers accept the challenge of working in a substation. It is a job that requires knowledge, responsibility and constant improvement, but at the same time it provides the opportunity to be part of something big and important, which is the safe functioning of the power system," concludes Bogečev.



WOMEN IN THE ENERGY SECTOR

25 YEARS DEDICATED TO LABORATORY ANALYSIS AND SYSTEM SECURITY

Interview with Olivera Stojanovska - Technologist Tester at the AD MEPSO Laboratory



You have been part of the MEPSO laboratory for many years. How has your work in the laboratory changed over the years and what are the biggest changes that accreditation has brought?

I have been working in the MEPSO laboratory for 25 years.

My beginnings here were a great experience, and the equipment for that time was very good. But when you want to work and constantly improve, it is an even greater

challenge.

Over the years, the requirements and the way of working have changed, and accreditation has brought a big change. With it, we have gained international recognition, and our services and certificates are also recognized abroad. This means greater trust from customers, a competitive advantage, standardized work and constant quality control.

The laboratory is the only accredited laboratory of its kind in the country. What does that mean in everyday work and how important is it to maintain high standards?

With the accreditation itself, the laboratory is placed on a higher professional level. We are the only ones in the country, and more broadly in the region, accredited for this type of testing, primarily for our transformers and switches, and of course for testing for third parties.

This means that we work every day according to high standards and strictly defined procedures

Behind the reliable operation of the electricity transmission system lies the work that often remains out of the public eye:

laboratory testing, analyses, and continuous monitoring of the condition of high-voltage equipment. MEPSO's Laboratory is the only accredited laboratory of this type in the country and plays a key role in ensuring the security and reliability of the electricity transmission network.

In this edition of the "Women in the energy sector" column, we speak with Olivera Stojanovska, a Testing Technologist in the Insulation Materials Department. With 25 years of experience, she is a member of the team responsible for the quality of testing and the application of the highest professional standards.

She discusses the importance of accreditation, the everyday challenges in the laboratory, and the role of preventive testing in maintaining a stable and secure power system.

What do you analyze and what can these analyzes most often reveal about the condition of electrical equipment?



Our 400 kV transformers are analyzed through regular controls, and when necessary, extraordinary tests are also performed. We conduct DGA and FGA analyses, and we also measure SF6 gas in circuit breakers across the entire country. If any unacceptable parameters are detected, additional extraordinary and control measurements are carried out as needed. These analyses are extremely important for assessing the condition and quality of the power equipment. Based on the obtained parameters, decisions are made regarding further actions.

How important is preventive testing for the safety and reliability of the transmission system?

Preventive testing is very important for the uninterrupted operation of the power system, ensuring quality, preventing defects, and extending the life of the power grid.

You also work with samples of equipment that is in operation. How much does this work require discipline, precision and good coordination with other services in MEPSO?

This work requires absolute zero tolerance for errors. The accreditation itself has allowed us to be more accurate in everything we do. Discipline, respect and application of procedures are very important, as well as the accuracy of measuring instruments.

Early and accurate diagnostics are part of our everyday life. The MEPSO laboratory is an important link in the chain and therefore flawless coordination with other services is necessary, all for the purpose of a stable electricity system of the country.



The laboratory also works for external companies from the country and the region. What does this trust mean for MEPSO and how is such a reputation built?

For MEPSO, the fact that the laboratory also provides services to external companies from the country and the region represents the highest proof of internationally recognized quality, technical superiority, and commercial success. This gives MEPSO confirmation of its expertise and professionalism. We, the people in the laboratory, are responsible for this — through our impartiality, objectivity, speed, and efficiency in meeting all requirements.





Technology and standards in the energy sector are constantly evolving. What does the process of continuous professional development look like in an accredited laboratory?

In our accredited laboratory, which operates according to the international standard ISO/IEC 17025, the process of professional development is strictly defined, planned, and reviewed on an annual basis. It is supported by trainings, new equipment, updated standards, equipment calibration, and certificates for authorized users. The laboratory participates in Proficiency Testing and Interlaboratory Comparison (PT/ILC) schemes, conducts internal trainings, and carries out periodic staff assessments and re-evaluations.



What are the biggest technical challenges you expect in the coming years, given the energy transition and the increasing integration of new technologies?

The greatest technical challenges in the coming years will be maintaining the stability of the network, further development of the laboratory, and investment-driven growth. This involves acquiring new equipment, implementing advanced technologies, and enhancing our testing capabilities — all with the aim of achieving greater stability of the electricity transmission system.

What is your greatest professional satisfaction?

For me, the greatest professional satisfaction comes from successfully solving complex problems. I am fulfilled by efficient work, the opportunity to apply a creative approach, access to information, training, and new equipment — all aimed at the continuous advancement of the laboratory.



ЕДЕН ДЕН СО ТЕРЕНСКИТЕ ЕКИПИ И ОДДЕЛОТ ЗА ДАЛЕКУВОДИ

ТАМУ КАДЕ ШТО ПАТОТ ЗАВРШУВА, РАБОТАТА ПРОДОЛЖУВА



Written by: Irina Daskalovska Kjosovska

Mavrovo and Galichnik. Mountain ranges, dense forests, steep slopes and terrain that is not easily accessible. For most people, these are areas for rest and enjoyment of nature, but for the teams of the Transmission Lines Department at the TNO Branch, these are places where they work every day. With the Chief Engineer of the TNO Branch Jane Gerasimovski, the Head of the Transmission Lines Department Ardi Hamza and the field teams, we spent a working day there, observing what it means to take care of transmission lines and the security of the power transmission network, in places where nature often sets the most difficult conditions. The day starts early.

The equipment is checked, tasks are agreed upon, movement and access to locations are planned. In the field, there is no room for rushing, and even less for improvisation. Every step has its own reason, and safety is the first condition before starting any intervention



When there is no road to the transmission line tower

The work of the transmission line teams does not only take place along roads. A large part of the routes pass through mountainous and difficult-to-access areas, steep terrain and dense forest. Where the vehicle cannot continue, the teams use specialized four-wheelers that make it easier to reach the transmission line tower. In some places, there is no road at all. The only access is by water, so the boat is part of the equipment that helps the teams reach the transmission lines, inspect them or intervene when necessary.

„In the field, the problem is often not the task that needs to be completed, but how to get to the place where we need to complete it," says Jane Gerasimovski. "That's why it's important to have the right equipment and plan every step well."



Working high above the ground

One of the activities that we closely followed was the replacement of insulators on one of the transmission towers. From the ground it may seem like a routine job, a simple intervention, but the height at which the work is done, the conditions and the handling of high-voltage equipment require experience, precision and strict adherence to safety procedures. Such interventions are part of preventive maintenance, procedures that extend the service life of the equipment and ensure the reliability of the transmission network. Every insulator, every connection and every tower is carefully checked, because it is precisely such activities that contribute to the stability of the entire power system.



„Кога нешто ќе се направи навреме, најчесто никој и не забележува дека сме го спречиле проблемот", вели Арди Хамза. „Но, тоа е и целта на превентивното одржување, да не чекаме дефектот да се случи, туку да го спречиме."



The route must be clear

In addition to the transmission line towers, the route along which the conductors pass is equally important. We also found teams working on clearing the routes in the field. Removing branches, trees and overgrown vegetation that approaches the conductors can create a serious problem, especially during strong winds, storms or snow. Therefore, clearing the routes is a regular and necessary part of the maintenance of transmission lines that requires good coordination, careful planning and, above all, strict compliance with safety rules.





Drones are a modern ally for field teams

The development of technology has significantly improved the inspection and monitoring processes of transmission lines. Field teams today have the drone as an ally, a device that was unthinkable a few years ago.

The Transmission Lines Department has drone equipment, and the employees who use it have the appropriate authorizations and piloting certificates. Parts of the route that are difficult to access can be inspected from the air, potential damage can be detected more quickly, the intervention can be better planned and greater safety for field teams can be ensured.

Drone footage is also an important tool for documentation, analysis and planning of future activities.

„Дронот ни помага да видиме нешто за што порано требаше да одиме пеш, понекогаш и со часови“, објаснува Хамза. „Тоа не значи дека т,“ The drone helps us see something that we previously had to walk to, sometimes for hours,” Hamza explains. “That doesn't mean the field crew is becoming less important. On the contrary, good information from the drone helps our people get the job done faster and safer.”



Работата не запира ниту во најтешките временски услови

The work of the transmission line crews does not end with the nice weather. In winter, when snow covers the mountainous areas, when temperatures drop below zero, and access to the routes becomes even more difficult, their work continues.

Photos from the winter interventions testify to conditions in which every step is difficult, but the task is the same, to make the power transmission network safe and stable.





„In the field, the weather is not always in our favor. Sometimes it's snowing, sometimes it's raining, sometimes it's strong wind. But if we know what to do and if we're well prepared, even the most difficult conditions are manageable”, says Gerasimovski



Behind every transmission line tower, there is a team

After a few hours spent in the field, it becomes clear how much work goes into something that we usually only see as a transmission tower in the distance. Behind it stands a man who inspects it, a team that climbs to it in all weather conditions, a colleague



who monitors the condition of the route, someone who inspects the terrain with a drone, and behind all of them, stands well planned work, professionalism, and responsibility.

“We can have good equipment and modern technology, but in the end it is the people who get the job done,” says Nikola Nikolovski, Head of TL Team Skopje, TL Maintenance Service, Transmission Lines Department. “Our teams know the terrain, they know the job and they know that there is no room for compromise when it comes to the safety and security of the network,” he adds.



And it is here, in the mountains above Mavrovo and Galichnik, where the road often ends long before the route does, that it becomes clear what the daily care of the electricity network means.

Work that the public does not see, but feels every time the electricity reliably reaches where it is needed.

HUMAN RESOURCES**AD MEPSO IMPLEMENTS A RANGE OF ACTIVITIES FOR THE DEVELOPMENT OF THE HUMAN POTENTIAL OF EMPLOYEES**

In an era when the energy sector is changing faster than ever before, the success of a company depends not only on technology and infrastructure, but above all on the people who create, manage, and continuously improve these processes. Guided by the firm belief that human capital is the most valuable resource of any successful company, AD MEPSO continuously invests in the development of its employees, the strengthening of organizational culture, and the establishment of a modern and efficient human resource management system.

The Human Resources Department Plan for 2026 is focused on creating conditions for professional development, continuous learning, and strengthening the competencies of employees, while simultaneously providing efficient personnel support and consistent application of legal regulations. In the upcoming period, the priority remains the professional training and upskilling of employees, given the rapid technological development, digitalization of work processes, and the introduction of new information systems that require continuous upgrading of knowledge and skills.

For this reason, trainings are planned based on the real needs of the organizational units and are oriented towards the practical application of the acquired knowledge in daily operations.

The Human Resources Department is also working on further improvement of the system for planning, monitoring, and evaluation of trainings. In addition to their implementation,



special attention is given to measuring their effectiveness, assessing

the benefits for the work process, and encouraging the transfer of knowledge among employees.

The goal is for every training conducted to create added value, not only for the individual, but for the entire organizational system.

Continuous activities are also carried out related to recruitment processes personnel administration, improvement of job

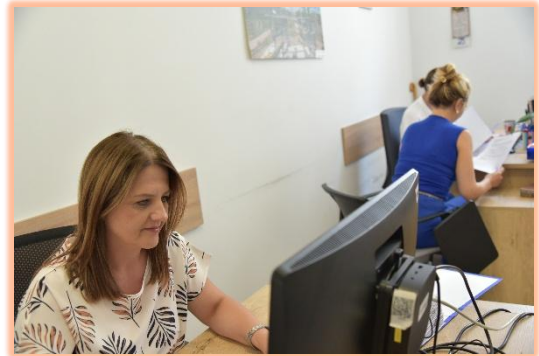
systematization, as well as ensuring timely and efficient realization of rights and obligations arising from the employment relationship. Special emphasis is placed on supporting internship programs, through which AD MEPSO enables students and pupils to gain practical experience and better understand the functioning of the electricity power system. Particular attention is devoted to developing a culture of knowledge sharing. Employees who attend or will attend trainings are encouraged to transfer the acquired knowledge and experience to their colleagues, thereby turning individual learning into a shared value and a driving force for organizational development.



"The selection of the right people is at the heart of AD MEPSO's future functioning. Better personnel means greater potential energy, a clear insight into the profile and quality of available staff, the recruitment of new employees, proper job selection, and so on — all in order to effectively achieve AD MEPSO's desired goals. The better this function is performed, the closer we are to the set objectives," says Žaklina Lazarevska, Head of the Selection, Professional Development and Planning Service, Human Resources Department.

"Continuous investment in people," she says, "represents a long-term investment in the future

of the company." With clearly defined goals, modern human resource management



practices, and a strategic approach to professional development, AD MEPSO is building a strong foundation for competent, motivated, and well-prepared teams that will successfully meet the challenges of the energy transition and contribute to the company's further growth. In a world where knowledge has become the most valuable capital, the development of human potential remains one of the most important investments for AD MEPSO — an investment that brings value today, but even more so in the future.



THE ENERGY TRANSITION IN SEE: NEW CHALLENGES FOR THE STABILITY OF TRANSMISSION SYSTEMS AND THE ROLE OF NEW TECHNOLOGIES

Written by Elena Achkoska

Within the framework of the professional activities of AD MEPSO, a presentation was held on the topic “The Energy Transition in Southeast Europe – New Challenges for the Stability of Transmission Systems and the Role of New Technologies”, dedicated to the changes brought by the accelerated integration of renewable energy sources and their impact on the operation of power systems.

In my presentation, I addressed the changes brought by the energy transition and the impact they have on the operation of power systems. "When I was studying, the power system was considered one of the most stable engineering disciplines.

Today, the energy transition is changing the rules at an unprecedented speed,” I emphasized, pointing out that modern power systems require a new approach to planning, control and regional coordination.

In recent years, we have witnessed intensive growth of renewable energy sources, primarily photovoltaic power plants. With more than 1,500 MW of integrated renewable sources, the Macedonian electricity system is no longer a passive system, but an active regional hub. Under such conditions, the role of MEPSO becomes even more significant – not only as the operator of the transmission network, but also as a coordinator of system processes, a guarantor of security and a

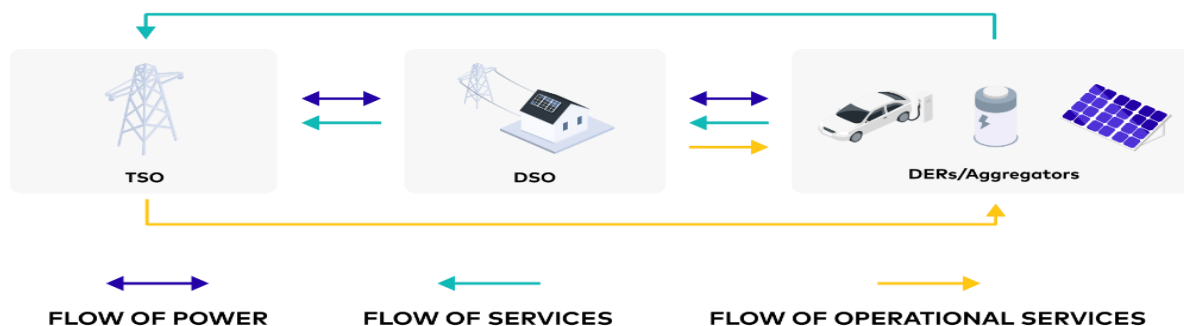


bearer of long-term planning and regional coordination.

I emphasized that the integration of a large number of renewable energy sources brings new operational challenges: variable power flows, increased needs for balancing energy, reduction of system inertia and increasingly complex control of voltages and system stability.

I paid particular attention to the problem of high voltages in spring operating regimes, which today represents one of the most pressing operational challenges in the region. As part of MEPSO's activities to improve voltage regulation and system security, I also presented the announced installation of a 150 MVAR shunt reactor at SS Dubrovo.

In the presentation, the need for an integrated approach to the planning and control of the transmission and distribution networks was also emphasized. With the increasing number of renewable energy sources, the two networks are increasingly functioning as a single system, which requires continuous coordination, real-time data exchange and joint operational decision-making.



In the concluding part, the vision for the future power system was presented, in which flexibility, battery systems, virtual power plants, advanced EMS/SCADA and PMU technologies, artificial intelligence and digitalisation will play a key role. It was emphasized that future security will not depend solely on the construction of new generation capacities, but also on the system's

ability to respond quickly, coordinate and control the increasingly complex processes brought by the energy transition. The presentation once again confirmed the strategic role of MEPSO in the energy transition process and its commitment to the development of a modern, secure and regionally integrated power system, prepared for the challenges of the future

WORKSHOP FOR THE INTEGRATION OF VARIABLE RES

At the end of July, a technical workshop was held within the framework of the project "North Macedonia: Supporting Smart Grid Infrastructure and Development to Facilitate Accelerated and Reliable Renewable Energy Sources (RES) Absorption", financed by the European Bank for Reconstruction and Development (EBRD). The workshop presented the results of the assessment of the flexibility and adequacy of the power system, the preliminary results of the dispatching and market modeling, as well as the initial simulations for Cost-Benefit Analysis - CBA, for the priority projects for the development of the transmission network.



A review of the indicators for security of supply, flexibility and balancing needs, energy storage possibilities, as well as the expected limitation of generation from renewable sources was given. Special attention was paid to the key assumptions

of the models and the way in which the obtained results will contribute to the assessment of the benefits of potential projects for the development of the transmission network. The workshop enabled an exchange of views and expert discussions between representatives of MEPSO and the consulting consortium COLENCO-DNV, as well as with representatives of the Ministry of Energy, in order to confirm the basic assumptions and provide comments before the finalization of the Cost-Benefit Analysis. This project aims to support the modernization of the transmission



network and to create conditions for a faster, more reliable and more efficient integration of RES into the electricity system of Macedonia, contributing to the energy transition and the fulfillment of national and European energy goals.

CONFERENCES, PRESENTATIONS, TRAINING

NEW KNOWLEDGE AND SKILLS FOR EMPLOYEES THROUGH TRAINING IN AI, PROJECT MANAGEMENT AND MS PROJECT



In order to improve digital competencies and strengthen capacities for successful project management, MEPSO employees participated in a four-day training dedicated to artificial intelligence, project management and MS Project. The training, organized by the University of Business and Technology (UBT) from Kosovo, was implemented from 20 to 24 July 2026 with a focus on the practical application of modern tools and methodologies in everyday work. The participants had the opportunity to deepen their knowledge of the basics of artificial intelligence, machine



learning, analysis and forecasting, as well as the possibilities for applying AI in institutional and project processes. Additionally, through practical exercises, they were introduced to the principles of project management and the use of MS Project for planning, monitoring and reporting on project activities. The combination of theoretical lectures, practical demonstrations and work on specific examples enabled the participants to acquire applicable knowledge that will contribute to more efficient work, better planning and successful implementation of future projects in MEPSO.

MEPSO ENGINEERS ON PROFESSIONAL TRAINING AT SEleNe CC

As part of the ongoing activities to strengthen regional operational cooperation, engineers from AD MEPSO participated in a professional training at SEleNe CC. The training was organized in two groups and focused on the practical application of the processes and tools used in daily operational coordination.



The processes related to the coordinated security analysis, the development and processing of the common network model, as well as the data exchange processes in accordance with the methodologies and recommendations of ENTSO-E



were presented. Special emphasis was placed on the practical application of the processes, with the participants working on real scenarios and practical exercises with the software tools offered by the SEleNe CC platform. The training represents a significant step in further improving the cooperation between AD MEPSO and SEleNe CC, enabling the coordinated implementation of operational processes, exchange of experiences and strengthening the capacities of the engineering staff for efficient and reliable coordination of the power transmission system.

CONFERENCES, PRESENTATIONS, TRAINING

FROM THE STUDENT DESK TO NDC: THEORY GAINS MEANING WHEN YOU SEE THE TRANSMISSION NETWORK UP CLOSE

Four students from the Faculty of Electrical Engineering and Information Technologies (FEIT), in their second and third years of studies, are completing a professional internship at MEPSO this summer. Through several weeks of training, they have the opportunity to get directly acquainted with the operation of the Macedonian transmission system and with the work of the services that daily ensure a secure and stable supply of electricity.



The students come from different study programmes: Electrical Power Engineering, Automation and Renewable Energy Sources (EAOIE), Computer Systems Engineering, Automation and Robotics (KSIAR), and Computer Technologies and Engineering (KTI).

This enables them to view MEPSO's operations and the application of the knowledge acquired at the faculty from different perspectives.



During the practical training, they visited the National Dispatch Centre, the "Pintija" and "Butel" transformer stations, the AMR/MMR Department, the Department for daily planning and scheduling, balancing management, outages, relay protection, as well as MEPSO's accredited laboratory. At each location, MEPSO engineers introduced the students to the processes, technologies and responsibilities that stand behind every segment of the transmission system control.



"The transformer stations left the strongest impression on me. At university we learn a lot of things theoretically, but only when you see the plants, the protection systems and the way a substation functions, the whole picture becomes much clearer," says Nikola. What was particularly interesting for the students was that they practically saw the connection of all the departments in MEPSO and how each process is part of a complex system in which there is no room for improvisation.

"We now understand much better how important accurate measurements, quality planning and timely coordination are. We have realized that behind the safe operation of the power system lies a huge responsibility and teamwork," says Angela.

Π They were particularly impressed by the work of the National Dispatch Center, where, as they say, for the first time they had the opportunity to see how the operation of the power system is monitored in real time and how coordination with neighboring transmission system operators takes place.

"At university, we study power systems, but we don't have many opportunities to see how cross-border electricity flows, interconnections, and day-to-day coordination with other countries are

monitored in practice. It was a completely new experience for us and showed us how complex it is to manage a national transmission system," says Leonid.

The practical work, the students say, helped them better connect theoretical knowledge with real engineering processes, but also to set higher criteria for their further professional development.

"After this internship, we know much more clearly what kind of environment we would like to build our careers in. We saw what it's like to work in a system where every decision is important and where professionalism, discipline and knowledge are basic prerequisites," says Miroslav.



For MEPSO, internships represent an investment in future generations of engineers and an opportunity for students to gain a realistic idea of the work of the national transmission system operator during their studies. Such programs provide an easier transition from academic education to engineering practice, and at the same time allow the company to recognize and motivate future professionals who will be part of the development and secure operation of the Macedonian power system in the future.

TRADE UNION ORGANIZATION OF AD MEPSO

THE TRADE UNION OF AD MEPSO SUCCESSFULLY PRESENTED ITSELF СПОРТСКИ СРЕДБИ ВО КЛАДОВО



Bo Organized by the trade unions of the electricity transmission companies from Southeast Europe, the XIII Regional Sports Meetings were held from 11 to 14 June 2026 in Kladovo, Republic of Serbia, with the Trade Union of AD MEPSO also participating with a delegation of 80 participants. These traditional sports meetings have been uniting the employees of the electricity transmission companies in the region for more than a decade, enabling socializing and the exchange of experiences. At the ceremonial opening at the hotel "Đerdap", the organizers and representatives of the trade union organizations from Serbia, Bosnia and Herzegovina, Bulgaria, Montenegro and Macedonia emphasized that sport connects people through fair play, teamwork and solidarity – values that the trade unions also nurture in their everyday work.

During the sports meetings, the competitors tested their skills in several sports disciplines:

- mini football (fustal),
- volleyball,
- 3x3 basketball,
- bowling,
- tennis,
- swimming,
- chess,
- darts,
- ping-pong.





Our teams competed with great motivation, sports spirit and fair play, worthily representing AD MEPSO and Macedonia. In addition to the competitive part, the meetings enabled the creation of new friendships, the exchange of experiences and the deepening of cooperation between the trade union organizations from the region. Through its participation in the sports games, the Trade Union showed that, in addition to caring for workers' rights, it also pays attention to the recreation, health and team spirit of its members.

In addition to the participation in the sports meetings, the past period was also significant on the trade union front. Following constructive social dialogue with the management, the Trade Union secured an 8.3% salary increase, which represents an important step towards improving the economic security and living standard of the employees. With a view to advancing the health protection of the employees, the Trade Union plans to organize preventive rest periods in November for employees who work under difficult and specific working conditions..

A strong trade union means a secure worker. Together we continue to build a better working environment and a stronger MEPSO.

ВРАБОТЕНИТЕ И МЕПСО

Panche Manojlovski graduated from the Faculty of Business and Economics at the University of Southeast Europe in Tetovo. In 2015, he obtained his Master's degree in the Marketing study program. He has been employed at AD MEPSO since 2008, when he began his career at SS Jegunovce. He subsequently worked in the Accounting Department, and since 2010 he has been part of the Commercial Affairs Department. In 2020, he was appointed Head of the Commercial Procurement Service, and since 2023 he has been leading the Commercial Affairs Department within the Financial Affairs Sector. He holds a certificate for a public procurement officer, as well as numerous certificates in the field of public procurement, through which he continuously upgrades his professional knowledge and competencies. He is responsible for the organization and coordination of the department's work, ensuring the timely and efficient implementation of programs, plans, and procurement and sales requirements at AD MEPSO. He also performs monitoring and control over the implementation of public procurement procedures, ensuring their legality, transparency, and efficiency. With his many years of experience and expertise in public procurement, he actively participates in the preparation and execution of numerous procedures of strategic importance for the company.



Aleksandra Agovska holds a Master's degree in Electrical Engineering and has 18 years of professional experience in the energy sector. She began her career in 2008 in the private sector as a SCADA systems engineer, where, through work on industrial and infrastructure projects, she built a solid foundation in the design and implementation of SCADA solutions. In 2014 she joined AD MEPSO, where she held several positions – operational dispatcher, SCADA systems engineer and engineer for the maintenance of the electricity metering system – each of which further developed her understanding of the operational functioning of the electricity transmission system. She currently works in the Department for Connection of Consumers and Producers, where she is part of the team that coordinates the process of connecting electricity facilities to the transmission network, applying the relevant energy regulations and by-

laws.

Ardi Hamza holds a master's degree in electrical engineering and serves as Head of the Transmission Lines Department within the TGO Branch. The Department plans, coordinates, and implements activities related to the maintenance, reconstruction, and development of the 110 kV and 400 kV transmission network. As Head of the Department, Ardi plays an active role in planning, coordinating, and implementing major investment projects. These include the construction of the 400 kV Bitola 2 – Albania transmission line, the project to strengthen the transmission network in the south-eastern part of the country, and the reconstruction of the transmission lines along the SS Gostivar – SS Oslomej – SS Kichevo – SS Sopotnica – SS Bitola corridor. A key focus of his work is modernizing the electricity transmission system through advanced technologies and innovative engineering solutions. Preparations are underway to implement a Dynamic Line Rating (DLR) system and install High Temperature Low Sag (HTLS) conductors as part of the reconstruction of existing transmission lines. To support the inspection and routine maintenance of transmission lines, MEPSO employs advanced technologies, including unmanned aerial vehicles (UAVs) equipped with thermal imaging and high-resolution cameras. This approach enables rapid and accurate detection of potential defects, enhances the safety of inspection activities, and improves the overall efficiency of transmission network maintenance.



Dionis Tanaskoski is a graduate electrical engineer who obtained his higher education at the Faculty of Electrical Engineering at Ss. Cyril and Methodius University (UKIM) in Skopje. He began his professional career in companies specializing in the design and construction of electric power facilities and installations, including "Dio Engineering" DOOEL Skopje and "LDL Engineering" DOO Skopje, where he held various technical and managerial positions. In 2018 he joined AD MEPSO, where he continues to work. Within the Operational Planning Service, Market Operations Department, TSO branch, he serves as Responsible Engineer for Daily Planning. Throughout his career he has actively contributed to the development of professional staff and successfully transfers his knowledge and experience as a mentor for practical training. He holds licenses for design and construction in the field of electrical engineering and is an active member of the Chamber of Authorized Architects and Engineers of the Republic of North Macedonia. He continuously advances his professional competence by participating in trainings and seminars, with a particular focus on modern aspects and practices in the electricity sector.



Ana Destanovikj graduated with a degree in Political Science from the American College Skopje. She continued her higher education at Vesalius College in Brussels, Belgium, where she completed her final year of studies. In 2015, she earned a Master's degree in International Relations and Diplomacy. She has been part of AD MEPSO for 10 years, where she began her professional career in the General Director's Office as a Referent in the Service for Governing Bodies. Today, she works as a Senior Referent in the Department for Selection, Professional Development, and Planning, where she actively participates in human resources planning, recruitment and selection processes, as well as in the organization and coordination of domestic and international training programs. As AD MEPSO's representative in the Legal and Regulatory Group (LRG) at ENTSO-E, she regularly attends meetings and activities, following current European

regulatory processes and exchanging experiences with representatives from transmission system operators from more than 30 European countries that are members of ENTSO-E. In 2025, she became the first representative of AD MEPSO to participate in the HR TSO Community Seminar organized by ENTSO-E..

Vojne Saveski is a responsible technician in the IT/TC Sector, Telecommunications Department. He has 30 years of work experience, which he began in 1995 in the then ESM. He began his professional career as an electrical technician in the calibration laboratory in Elektro distribucija Skopje, during the period when the introduction and testing of the first digital electricity meters began. The same year, he continued his professional path in the Telecommunications Department, in the Radio Network Department. Then, the implementation of a new project for the digitalization of the telecommunications system began, which until then used phase conductors as transmission media. Since 2005, with the formation of AD MEPSO, he has continued his work experience in the Telecommunications Department in the IT/TC Sector. As part of the team, he participates in the continuous advancement and improvement of telecommunications systems, as well as in the introduction of new technologies. He actively participates in the implementation of several significant projects, contributing with his knowledge, experience and dedication to work, team cooperation, monitoring of modern technological achievements and their integration towards the modernization, security and development of the telecommunications infrastructure of AD MEPSO





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