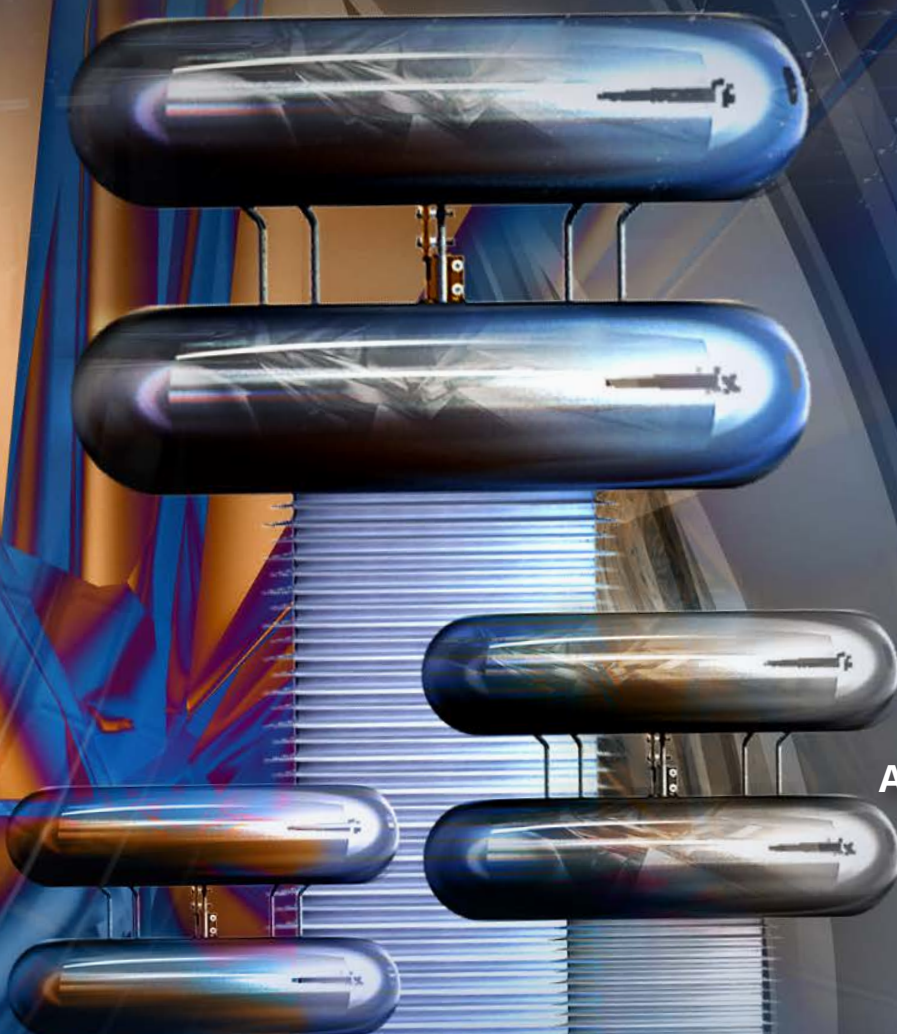


IZOLYATOR

Established in 1896



●
**THE 252 KV
MILESTONE
PASSED**

IZOLYATOR-AKS
CABLE
ACCESSORIES
SUCCESSFULLY
TESTED

_p. 18

●
**HIGH-
VOLTAGE
BUSHINGS
AND CABLE
ACCESSORIES**

THE BASIS
OF THE MULTI-
PRODUCT
LINE OF
IZOLYATOR
GROUP

_p. 24

●
**IN THE
SPOTLIGHT**

THE YOUTH:
FROM SCHOOL
TO A MATURE
PROFESSIONAL

_p. 42

1200 KV

**BUSHING
RIP INSULATION** _p. 08

**FIRST TIME CREATED IN RUSSIA
CERTIFIED BY ROSSETI PJSC**

**HIGH-VOLTAGE
BUSHINGS FROM
12 TO 1200 KV**

**COMPLETE
RANGE OF
BUSHINGS**



INNOVATIVE PRODUCTS

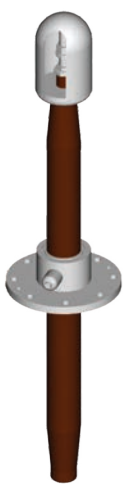
Izolyator designs, makes, services and repairs high voltage bushings on alternating and direct current in the voltage range 12–1200 kV with Oil – Air, Oil – Oil, Air – Air, SF₆ – Air, Oil – SF₆, Liquid nitrogen – Air applications.

The solid internal insulation, which has a higher reliability and durability, is used in the majority of produced bushings.

There are bushings with two types of solid insulation: RIP and RIN. The RIN insulation possesses extremely high hydrophobicity and resistance to atmospheric moisture, virtually eliminating any moistening of insulation. Porcelain sheds, polymer insulation directly applied on the internal insulation, composite housing with external silicone ribbing are used for external insulation.



Oil – Air bushings for oil switches
Voltage: 40,5–252 kV
Current: 1000–3150 A
Insulation: RIP or RIN



Oil – Oil bushings for cable connection of transformers
Voltage: 72,5–550 kV
Current: 630–1000 A
Insulation: RIP or RIN



Oil – SF₆ bushings for cable connection of transformers
Voltage: 72,5–550 kV
Current: 630–1000 A
Insulation: RIP or RIN



Air – Air wall bushings
Voltage: 72,5–252 kV
Current: 2000–4000 A



Oil – Air bushings for power transformers and shunt reactors
Voltage: 12–1200 kV
Current: 315–5000 A
Insulation: RIP or RIN (up to 550 kV)



SF₆ – Air bushings for switchgear
Voltage: 252 kV
Current: 2000–3150 A



Oil – Air – Air for DC systems
Voltage: 110–820 kV
Current: 1800–5400 A



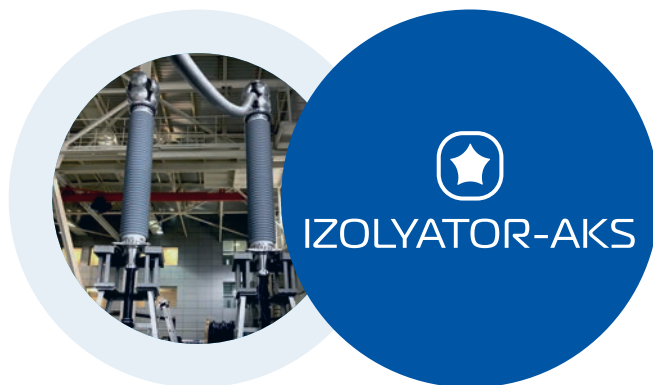
Liquid nitrogen – Air bushings for superconductive current limiter
Voltage: to 252 kV
Current: to 1250 A



Oil – Air detachable bushings for power transformers
Voltage: 24–40,5 kV
Current: 6–20 kA

CABLE ACCESSORIES OF IZOLYATOR-AKS

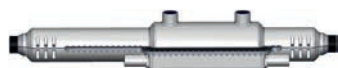
126–252 kV
CABLE
ACCESSORIES



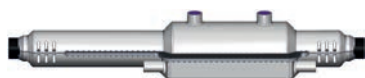
Izolyator-AKS designs and makes high-voltage cable accessories in the 126 to 252 kV voltage range for cable cross-sections from 185 to 2500 mm². It is a new business line of Izolyator. All types of cable accessories are produced for XLPE insulated cables: cable connectors for connecting a power cable to

a gas-insulated switchgear or transformer, outdoor terminations with a silicone insulator for transitioning an overhead power line to a cable line, joints with a direct connection of screens and with separation of screens (transposition type).

CABLE JOINTS



ISM(R)-126/172
Max operating voltage 126/172 kV
Cross-sections of cable conductors, with which the accessories are used 185–2000 mm²



ISM(R)-252
Max operating voltage 252 kV
Cross-sections of cable conductors, with which the accessories are used 400–2500 mm²

OUTDOOR TERMINATIONS



**IKM-126/172
ISKM-126/172**
Max operating voltage 126/172 kV
Cross-sections of cable conductors, with which the accessories are used 185–2000 mm²



**IKM-252
ISKM-252**
Max operating voltage 252 kV
Cross-sections of cable conductors, with which the accessories are used 400–2500 mm²

CABLE CONNECTORS

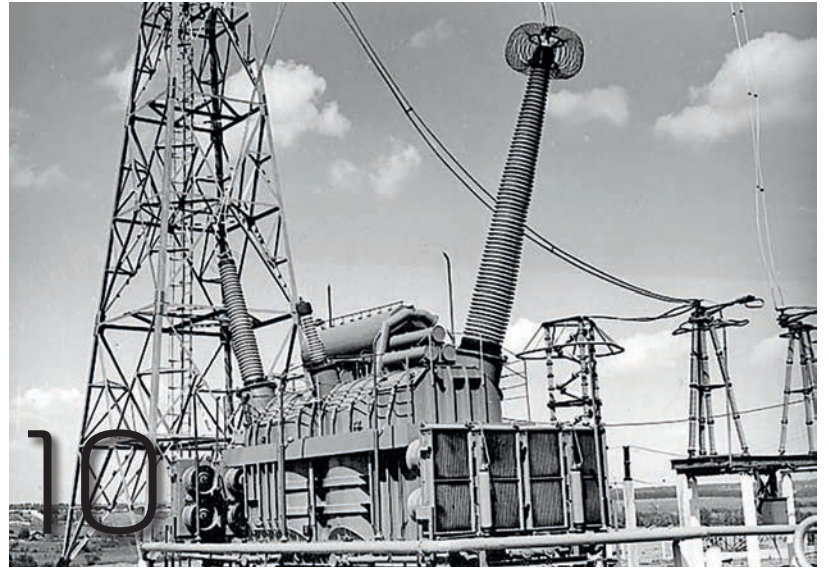


IKV-126/172
Max operating voltage 126/172 kV
Cross-sections of cable conductors, with which the accessories are used 185–2000 mm²



IKV-252
Max operating voltage 252 kV
Cross-sections of cable conductors, with which the accessories are used 400–2500 mm²

CONTENTS



From the first person

6 Goals: we set, we deliver, we achieve!

The head of the Izolyator Group Alexander Slavinsky speaks about key outcomes of H1 2022.

Feature story

8 A 1200 kV bushing with RIP insulation created first time in Russia

10 Long distance or Going beyond a million volts

Izolyator is experienced with the largest and ambitious projects.

Working for the future

14 Strategic Development Department of the Izolyator Group

Forums

16 On the sidelines of the industry events: sharing experience, trends and prospects

Cable

accessories

18 New milestones of Izolyator-AKS

The first stage of development of a unique transition cable joint completed.

Izolyator — partner of RNC CIGRE

22 Activities of DI RNC CIGRE in H1 2022

A point of view

24 The key criterion is development of the partner

Commercial Director of Izolyator Group Ivan Panfilov is sharing the priority in the sales division's work.

Geography

of deliveries

26 Global cooperation in H1 2022

Power Industry of Russia

28 No time to rest

The power grid complex of Russia as the most important line of work.

30 Keeping up the pace

Meetings at power generation enterprises.



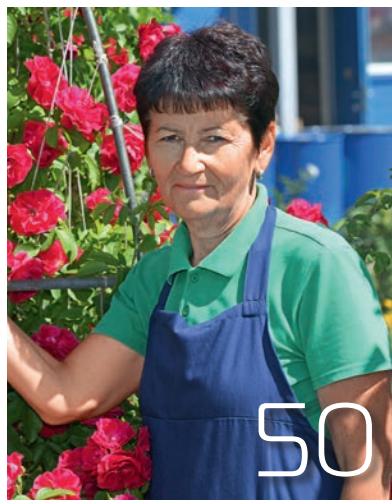
36



42



38



50



52

Electrical engineering
32 In constant dialogue

Shipments to the power sector of Russia
34 HI 2022 results

Exports
36 Planning is key to success
 New projects in neighboring countries.

38 Developing the power industry of Uzbekistan
 The first practical results of operation of the Representative office of Izolyator Group in Uzbekistan.

40 The first!
 The first shipment of the Massa — Izolyator — Mehru Russian-Indian JV has been sent.

Corporate University
42 Youth is no hindrance to experience

The staff of the Izolyator Group is getting younger every year.

Pulse of the company
46 Events of the corporate life

Talks in the Meeting with the CEO format have become regular.

Congratulations on the Anniversary!
48 Alexander Slavinsky has turned 60 years old

Company in person
50 The blooming garden, grown with soul

The passion of one person gives beauty to the whole team.

Sport
52 Sport makes the friendship stronger

We are receiving a sports team of Pavlovskaya Sloboda meat-packing plant.



The Corporate Edition of Izolyator Group

Biannually

Editor's office:
 Massa LLC
 77, Lenin street, Pavlovskaya Sloboda, Istra municipality, Moscow region, Russian Federation, 143581

Tel: +7 (495) 727-33-11

E-mail: mosizolyator@mosizolyator.ru

Web: <http://www.mosizolyator.com>



GOALS:

WE SET,
WE DELIVER,
WE ACHIEVE!

Dr. Alexander Slavinsky

Head of Izolyator Group, Chairman of the Board of Directors of Massa Izolyator Mehru Pvt. Ltd. a Russian-Indian Joint Venture, Head of CIGRE National Study Committee DI, Head of the Department of Physics and Technologies of Electrical Materials and Components of the Institute of Electrical Engineering and Electrification of the National Research University 'Moscow Power Engineering Institute', Professor.

Dear colleagues!

Six months having passed, we can see the first successes of the multi-product Izolyator Group after rebranding.

Of course, interaction with partners remains our top priority — it is important to stay in constant contact on any issues. We strive to increase speed and scale not only in the growth of production, in the improvement of technologies, but also in interaction with customers and suppliers. To that end, a special unit was created — the Strategic Development, Supply and Logistics Service.

For the first time in Russia, a 1200 kV bushing with internal RIP insulation was created and successfully tested at the Production Complex of the Izolyator Group. This advanced development created scientific, technical and production reserve, which will be in demand at further stages of development of the Unified National (All-Russian) Power Grid (UNPG) and the future integration of the UNPG into the global supergrid, parts of which are already being formed in various regions of the world. The bushing is certified for compliance with the technical requirements of Rosseti.

The active work on the development of another division of the Izolyator Group — Izolyator-AKS plant of high-voltage cable accessories is also worth mentioning. Now, we are creating a unique product in accordance with the technical assignment for research and development — a transition cable joint for connecting high pressure oil-filled cable and cable with XLPE insulation. Being engaged in unique projects, in parallel we carry out the current work: already now we can proudly say that the pre-qualification tests of 252

kV cable accessories have been completed and the corresponding certificates have been received.

In the first half of the year, we continue to actively develop international relations. In the South Asian region, the Russian-Indian joint venture Massa — Izolyator — Mehru is promoting cooperation, in the countries of Central Asia that work is carried out by the Representative Office of the Izolyator Group in Uzbekistan.

Besides our input in a stable and reliable power supply, we see our mission in helping employees to develop their potential. We pay a lot of attention to working with youth. Today, that activity has acquired a comprehensive and consistent character, with every stage using its own approaches and tools.

Within the social responsibility workscope, we organize educational tours to the group's enterprises, specialized quests, and offer internships for school and university students.

Based on the results of the completed internships, we select the best trainees and offer them jobs. Our working with the younger generation is not confined in the shopfloor. We provide the opportunity to study on the job at our corporate university, form a talent pool of promising young people offering them guidance of experienced mentors. We help young people to integrate into the work of the group's enterprises through corporate events such as the 'Meeting with the CEO', corporate festivals, various sports competitions and other events to promote team spirit and corporate values.

We have always built ambitious plans and see the results of continuous development in all areas of activity of the Izolyator Group!



IZOLYATOR

g r o u p



PRODUCTION AND SALES

Izolyator Production
Complex

Russian-manufactured, factory repair and sales of alternating and direct current high-voltage bushings, including ultra-high-voltage.

Russian — Indian JV
Massa — Izolyator — Mehru

Production and testing of high-voltage bushings in India, sales and aftersales technical support in the South Asian countries.

Izolyator-AKS Plant
Representative office
of Izolyator Group
in Uzbekistan

Design, production, testing, sales and technical support of 126–252 kV cable accessories, including development of custom designs to suit individual requirements.

Sales of high-voltage equipment of the Izolyator Group and cooperation development in the Central Asian countries.



SERVICE

SVN-Service Dpt

Aftersales technical support of Izolyator high-voltage bushings at all product lifecycle stages, diagnostics of HV equipment of other OEMs.



SCIENCE

R&D Center

Design, production of prototypes and mastering new high-voltage bushings in serial production, including the development of advanced technologies and unique designs to meet individual requirements.



TESTING

Izolyator test
center of high-voltage
equipment

Tests of AC and DC Izolyator high-voltage bushings, testing of HV equipment of other OEMs in accordance with the scope of accreditation by the Federal Agency on Technical Regulating and Metrology.



UNIVERSITY

Izolyator Corporate
University

Advanced training of employees of the Izolyator Group and partner companies in person and remotely on the basis of a license from the Ministry of Education of the Moscow Region.

A 1200 kV bushing with RIP insulation created first time in Russia

Initially the 1200 kV oil-air bushing with RIP insulation was set as the topic of the graduation project, which was brilliantly defended by Artem Semenov, a graduate of the National Research University 'Moscow Power Engineering Institute' (MPEI).



Installation of external insulation of the bushing — composite housing



The designer of the 1200 kV RIP bushing, Designer at R&D Center of the Izolyator Production Complex Artem Semenov

The full-fledged development was continued and successfully completed by Artem already in the status of a design engineer of the research and development center of the Izolyator Production Complex and postgraduate student of the Department of Physics and Technologies of Electrical Materials and Components of the Institute of Electrical Engineering and Electrification of the MPEI, which is headed by the CEO of the Izolyator Group Dr., Prof. Alexander Slavinsky.

During the development process, all the experience accumulated by Izolyator plant in creating insulating equipment for ultra-high voltage classes, the experience of mass operation of high-voltage bush-




Machining of the internal insulation of the 1200 kV bushing on a lathe with numerical control to give the insulation the required geometry

ings with solid insulation, as well as the results of the latest research and development work, were fully incorporated.

The external insulation of the bushing is of a combined type, which is a glass-epoxy cylinder with polymer ribbing cast directly on its surface. The space between the cylinder and the internal RIP insula-

tion is filled with a compression insulating gel specially designed for high-voltage bushings.

The high-voltage bushing has been assembled and successfully passed acceptance testing at the Production Complex of the Izolyator Group. 



Filling the bushing's cavity with a dry filler — compression gel



Installation of the bushing on the test tank for acceptance testing

Long distance or Going beyond a million volts

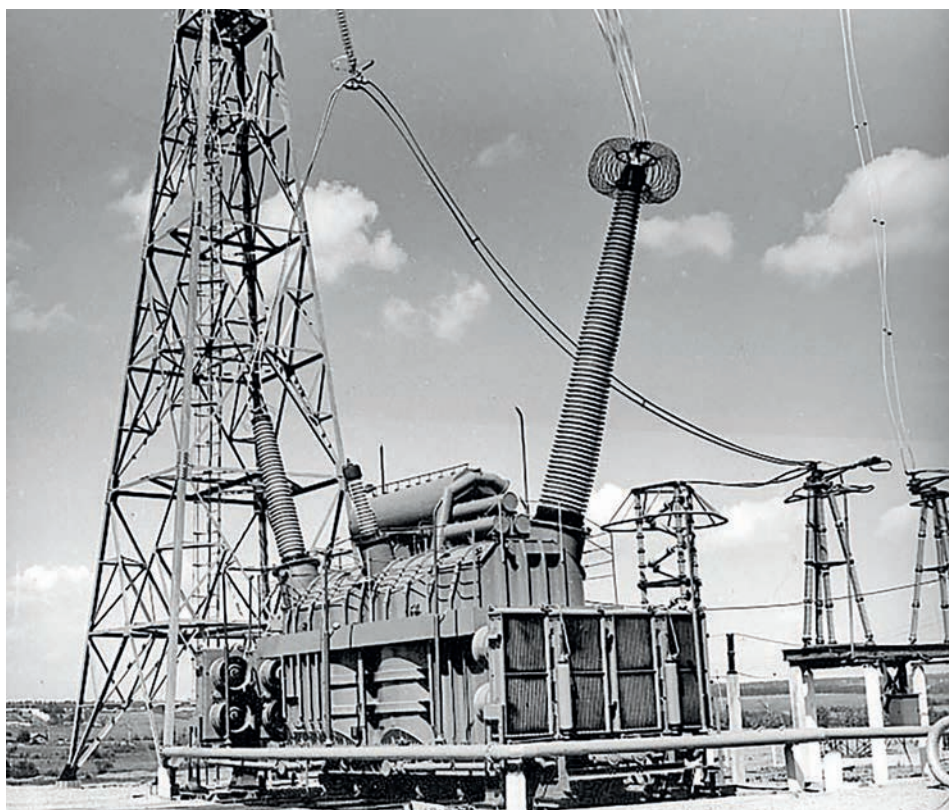
Izolyator Group possesses a truly unique experience in designing and manufacturing high- and ultrahigh-voltage bushings getting involved with the largest and ambitious programs of the country's power complex development.

By the mid-1960s, the USSR began to master the 750 kV voltage class, and the next two decades were marked by the mass construction of 750 kV power transmission lines.

The pilot 750 kV power transmission Konakovo — Moscow, the first industrial 750 kV power transmission line Leningrad — Konakovo, uniting the power systems of the Center and the North-West, 750 kV trans-Ukrainian main line Donbass — Western Ukraine, 750 kV lines for power supply from nuclear power plants, 750 kV interstate power transmission to Hungary, Poland, Romania and Bulgaria — high-voltage



A group of 750 kV single-phase power autotransformers with 1251 MVA rated power at the 750 kV Gribovo substation of the Main Power Systems of Center, one of the substations of the power distribution scheme of power unit 4 of the Kalininskaya NPP (photo: Rosseti FGC UES)



A 667 MVA 1150 kV single-phase autotransformer, which is installed on the Kazakhstan section of the Siberia-Kazakhstan-Ural transit route (Photo: Mosenergo archive)

bushings for power equipment of all those and other extra-high voltage power lines were developed and made by the Izolyator plant.

In 1977 based on the significant success achieved in the development of 500 and 750 kV power transmission lines, a decision was made to build a super-powerful 1150

kV transit Siberia — Kazakhstan — Urals, an ultra-high voltage power bridge for transmitting electricity from the Ekibastuz power hub and power plants in Siberia to the industrialized regions of the European part Russia.

In 1980 the development of high-voltage bushings was completed for a part of the transit — the world's first 1150 kV power transmission line Ekibastuz — Kokshetau — Kostanay, the commercial operation of which began in 1989.

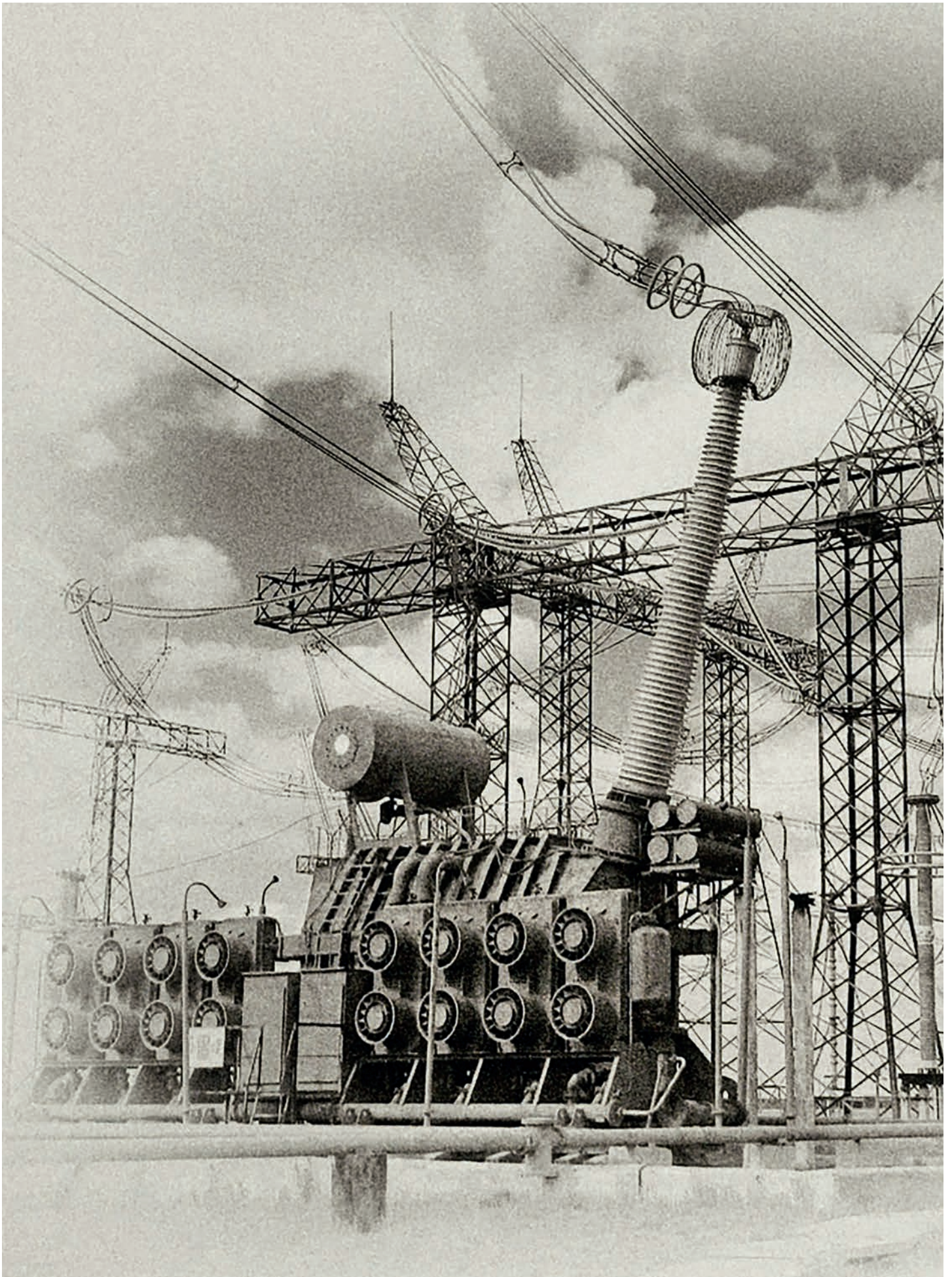
Prototypes of 1150 kV bushings with oil-in-paper insulation were tested at the All-Union Electrotechnical Institute named after V. I. Lenin and the All-Union Institute of Transformer Engineering (VIT) in Zaporozhye.

In total 42 1150 kV bushings were manufactured for single-phase transformers and shunt reactors during the project.

Successes in creation and operation of 1150 kV power equipment made it possible to move on to development work in the next class of AC power transmission voltage — 1800 kV.

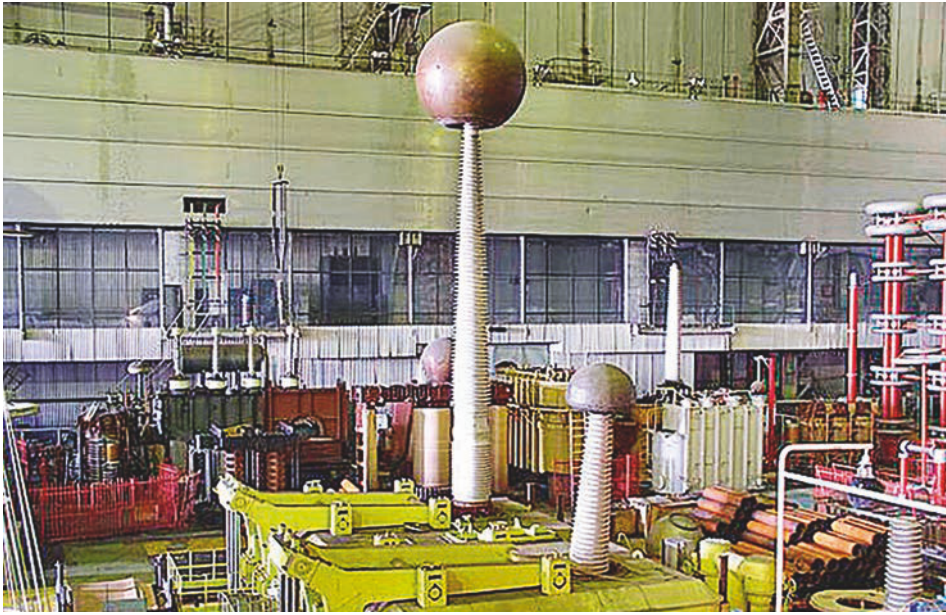
At the Izolyator plant a 1800 kV pilot bushing was made specifically for testing at the VIT. It was designed by Sergey Migunov, an employee of the design bureau of the plant.

Izolyator successfully applies the experience accumulated over decades in the field of ultrahigh voltage in its modern history.



Phase of a 300 MVA 1150 kV shunt reactor at an Ekibastuz — Kokshetau — Kostanay transmission substation (Photo: Victor KZ Ekb)

FEATURE STORY



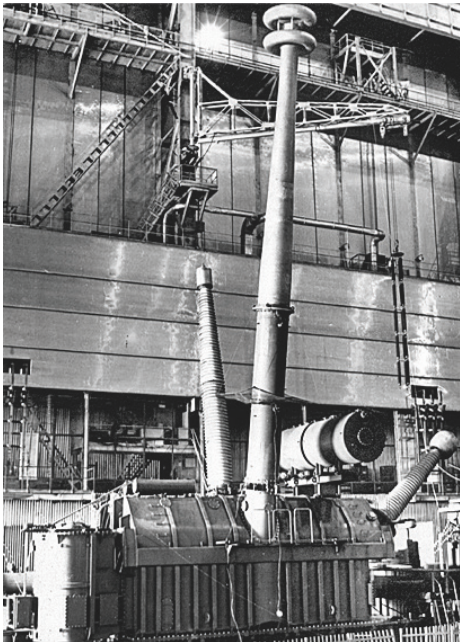
Model of a 1800/500 kV autotransformer phase in the high-voltage hall of the All-Union Institute of Transformer Engineering in Zaporozhye (Photo: All-Union Institute of Transformer Engineering)

Donetsk coal basin, were developed and manufactured by the plant.

In the 1970s UHV bushings were created for the 1500 kV (± 750 kV) direct current transmission Ekibastuz — Center, used to transfer energy from the Ekibastuz state district power station to the power system of Center.

From 2007 to 2010 by order of the largest power equipment manufacturers from Europe and Asia, Izolyator manufactured and successfully tested over 50 DC bushings with internal RIP insulation, including an ± 800 kV transformer bushing and an ± 820 kV wall bushing.

Thus today's achievement has become a natural result of a well-thought-out technical strategy of the Izolyator Group, based on a long-term forecast of the sector development, a powerful research and production potential of the enterprise, rich and successful historical experience with advanced technologies. 📍



Testing of a 320 MVA transformer for 1500 kV (± 750 kV) direct current transmission Ekibastuz — Center (Photo: All-Union Institute of Transformer Engineering)

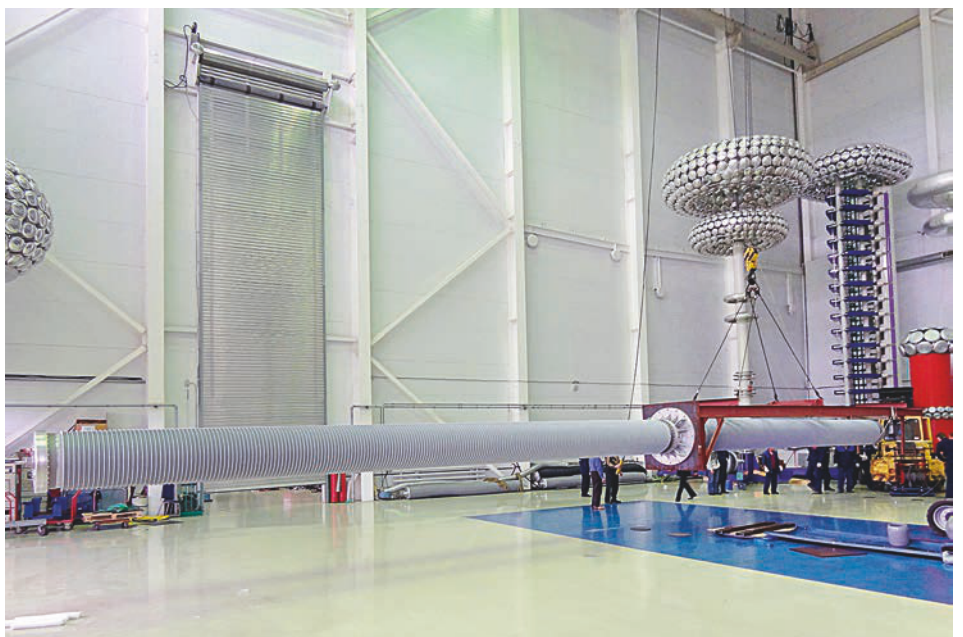


Successful completion of testing of the 800 kV Izolyator bushing at the Indian Central Power Research Institute

Thus in 2019, under the order of the Indian state power grid company Power Grid Corporation of India Limited, an 800 kV transformer bushing with internal RIP insulation was manufactured, which successfully passed a full range of type tests at the Indian State Power Research Institute (Central Power Research Institute — CPRI).

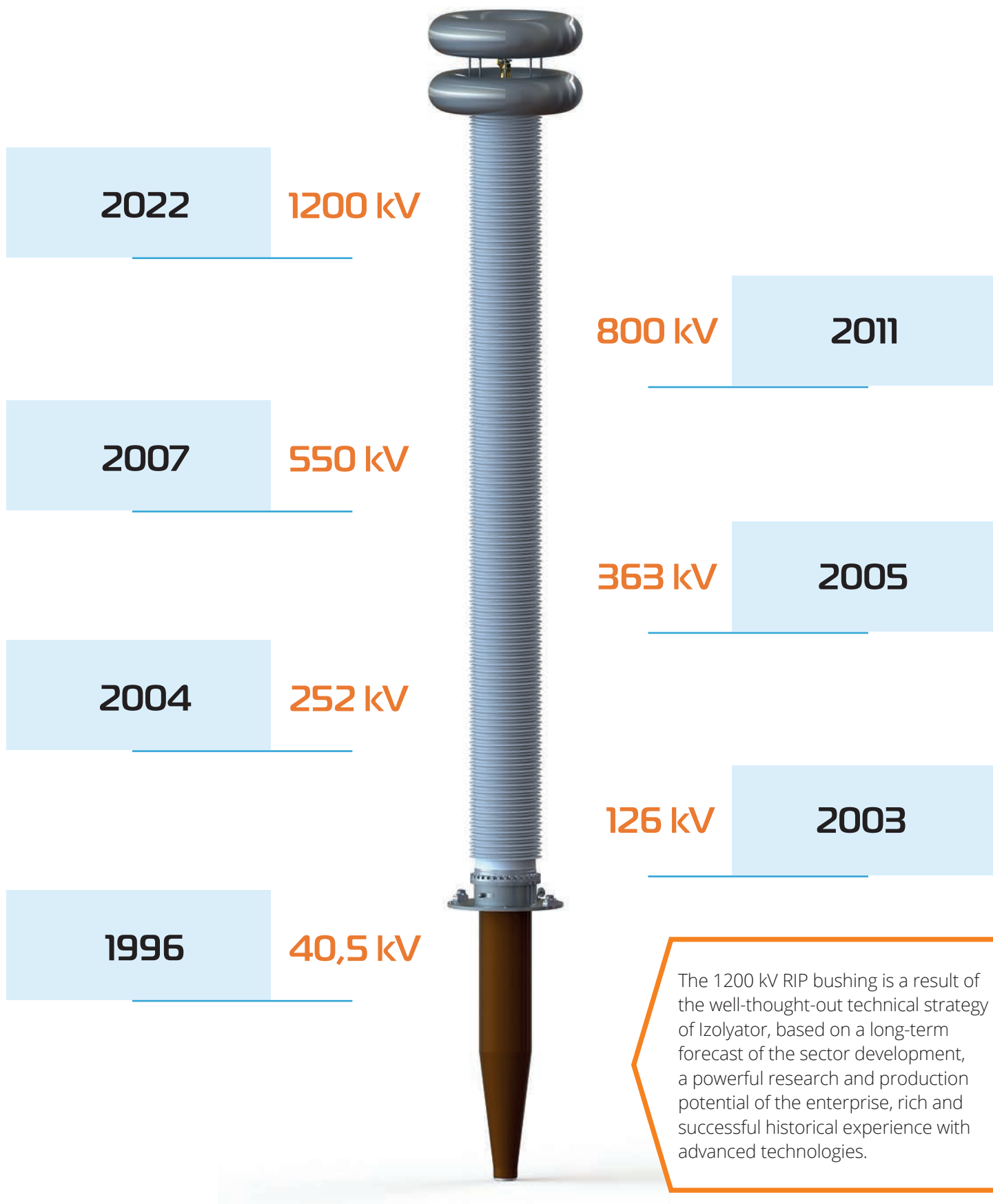
Izolyator's involvement in the development and creation of main DC transmission systems also has a long and successful history.

800 kV (± 400 kV) high-voltage bushings for industrial direct current power transmission Volgograd - Donbass, put into operation in 1962–1965 and designed for reverse transmission between the power systems of the Middle Volga and the



± 820 kV DC wall bushing at the test center of the Izolyator Production Complex

Timeline of creation of Izolyator bushings using the RIP technology



WORKING FOR THE FUTURE

STRATEGIC DEVELOPMENT DEPARTMENT OF THE IZOLYATOR GROUP

We have always strived to ensure that the manufactured product is high-tech. However without the use of modern raw materials, such an approach is simply impossible. For five years McKinsey & Company has been studying the relationship between purchasing performance and overall organizational performance.

Based on research and responding to the changing geopolitical agenda, a service was created, consisting of experienced employees of the Izolyator Group who understand the importance and value of suppliers. They are building the whole process: from development of a strategy to the moment of purchasing specific raw materials.

Their professionalism helps to optimize procurement processes, quickly respond to new requests from customers, or offers and conditions from suppliers.

The department has actively started on key tasks, including the uninterrupted supply of production and reducing the cost of materials and components, as well as increasing the pool of suppliers for scarce positions.

Employees of the service worked out the channels of interaction for the supply of materials and components from European suppliers and tested the parallel import of a number of components for the production of high-voltage bushings and cable joints. ●



Yaroslav Sedov

Strategy Director, Deputy CEO



Natalia Shornikova

Head of Strategy Department



Andrey Pavlov

Head of Logistics Department



Dmitry Karasev

Head of Purchasing Department

WE ARE BUILDING MUTUALLY BENEFICIAL AND LONGTERM RELATIONS WITH SUPPLIERS

GOALS:

1. Uninterrupted supply of production with materials
2. Material cost reduction
3. Increase of the pool of suppliers for scarce positions in modern conditions



FOREIGN SUPPLIERS SHARE

+15% WITHIN DIVERSIFICATION PROJECT

FIRST HALF-YEAR 2022

WHAT'S DONE



DIRECT CONTRACTS WITH PLANTS

+8 SUPPLIERS

+12 SUPPLIERS FOR APPRAISAL

+13 ALTERNATIVE SUPPLIERS



LOGISTICS

RUSSIAN OPERATIONS

362 SHIPMENTS ORGANIZED

294 SHIPMENTS BY OWN FREIGHT TRANSPORT

INTERNATIONAL OPERATIONS

23 SHIPMENTS SENT

28 CUSTOMS OPERATIONS



COMPLETED PROJECTS

+25 NEW COMPANIES FOR ALTERNATIVE MATERIAL SUPPLY

-5% MATERIAL COSTS DECREASE

- ✓ DEFICIT ON CRITICAL POSITIONS BRIDGED: RESIN / PAPER / SEALING PARTS / NONFERROUS MILL PRODUCTS

CONTRACT WITH CUSTOMS BROKER CONCLUDED:

- ✓ RECEIPT AND CUSTOMS CLEARANCE OF CARGOES SEALED BY CUSTOMS BROKER

4 DELIVERIES CARRIED OUT

- ✓ **>2** OPERATIONAL COSTS DECREASED MORE THAN TWICE

- ✓ AVAILABILITY OF CUSTOMS OPERATIONS AND CARGOES RECEIPT AT ANY CUSTOMS POST IN RUSSIA

/where the customs broker is registered/

16 | On the sidelines of the industry events: sharing experience, trends and prospects

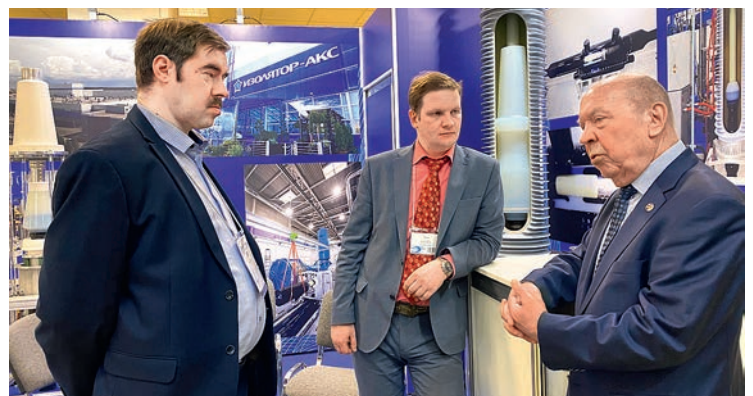
▶ Participants of the conference 'Diagnostics and operation of the equipment of the power grid complex' within the business program of the X Russian International Energy Forum in St. Petersburg



◀ Power Grids International Forum 2022 in Moscow



▲ The 30th International Exhibition Electro in Moscow



▲ Chairman of the Board of Directors of the Russian Cable Scientific Research and Development Institute Dr. Gennady Meshchanov (R) at the stand of the Izolyator-AKS plant at the 20th Cabex International Exhibition of Cable and Wire Products in Moscow



◀ Meeting of the Expert Council on Power Engineering, of the electrical and cable industry on the topic "On the current situation at the enterprises of power engineering, electrical and cable industries" in the State Duma

▶ Meeting of chief engineers of Rosseti Group in the Chelyabinsk Region on current issues of production operations



▲ Working meeting of the Council of Diagnosticians of Power Electrical Equipment at the UralErgoEngineering Center. Chaired by Alexey Uteпов



New milestones of Izolyator-AKS

Viktor Pshennov

Technical Director at Izolyator-AKS plant

The first stage of works to create a unique transition cable joint for connecting high-pressure oil-filled cable and cable with XLPE insulation was completed.

Izolyator-AKS high-voltage cable accessories plant, which is part of the Izolyator Group, carries out the development of the cable joint under the contract for research and development work (R&D), concluded with Rosseti Moscow Region.

The contract was concluded in the result of a tender won by Izolyator-AKS for the implementation of R&D project 'Development of a transition cable joint for connecting an oil-filled 126–252 kV high-pressure cable and a 126–252 kV cable with XLPE insulation'.

The pre-qualification tests of Izolyator-AKS 252 kV cable accessories were successfully completed. They were carried out at the testing center of the All-Russian Research, Design and Technological Institute of the cable industry.

The first stage of the development of a unique transition cable joint has been completed

According to the terms of the R&D technical assignment, at the first stage of work, an overview of domestic and foreign experience in methods of connecting an oil-filled high-pressure cable with a cable with XLPE insulation was made, and technical requirements were developed for the implementation of a method for connecting an oil-filled high-pressure cable and a cable with XLPE insulation.

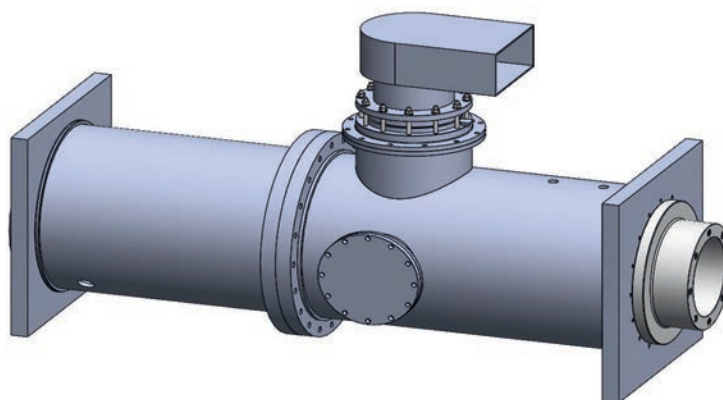
The customer was offered several designs for selection. Based on the results of Rosseti Moscow Region's consideration, one of the options of the design of the transition cable joint was adopted, developed by the Izolyator-AKS plant itself, which has no counterparts in the world.

The construction of oil-filled high-pressure cable lines was stopped more than 20 years ago due to the ceased production of high-pressure oil-filled cable and the transition to the technology of cable production with XLPE insulation.

The vital importance and relevance of the development of the transition cable joint is determined by the fact that today the Moscow High-Voltage Networks, a branch of Rosseti Moscow Region, operates more than 100 km of 126–252 kV oil-

filled cable lines. The emergency reserve for the repair of those lines is minimal, and for a cable with a cross section of 1200 mm², it is in fact completely exhausted, and its replenishment is not possible.

It is worth mentioning that the customer has already repeatedly made attempts to create a transition cable joint, which allows to connect domestic high-pressure oil-filled cable, produced back in the Soviet era, and a modern cable with XLPE insulation. However, all of them failed due to the lack of a qualified developer and manufacturer of innovative products in the field of high-voltage cable accessories on the market.



A sketch of the locking-transition joint for the transition from an 252 kV oil-filled cable

The Izolyator-AKS' transition cable joint created in the result of the development works will make it possible to quickly perform emergency recovery works and plan the rerouting of sections of 126–252 kV oil-filled high-pressure cable lines. Moreover, the presence of such a construction design will also significantly reduce the uncertainty factor in the risk of failure of existing high-pressure oil-filled lines and ensure their gradual transition to new generation cable lines.

The second, experimental design stage of R&D has begun — the development of a set of documentation and the manufacture of a prototype. ●

Tests of 252 kV cable accessories completed successfully



Pre-qualification tests of Izolyator-AKS IKM-252 cable terminations in the testing center of the Russian Cable Scientific Research and Development Institute

IKM-252 terminations, IKV-252 cable connectors and ISMR-252 shield separation (transposition) cable joint, manufactured by the Izolyator-AKS plant of the Izolyator Group, were tested for compliance with the requirements of GOST R IEC 62067-2017, clause 13.2 — pre-qualification testing of the cable system.

The tests were carried out during the year in the laboratories of the VNIIEP test center — the central laboratory in Moscow and the high-voltage test center in Podolsk, Moscow Region.

The cable joints and connectors were tested as part of a cable system, which also included a cable with a cross section of 2500 mm² manufactured by

the Kirskabel plant of the Uncomtech Holding.

The supervision of the installation of the cable system was carried out by the Head of the service center of the Izolyator-AKS plant Sergey Kodemaskin.

The VNIIEP testing center has drawn up a protocol containing a complete description of the procedure and the results of prequalification tests.

The Test Center of the Russian Cable Scientific Research and Development Institute (VNIIEP) was established as a unique professional center for testing and research of cabling products and materials of cable production.

The modern technical base of the test center allows one to tackle such tasks as a comprehensive assessment of the fire safety of cable products, diagnosing the residual service life of cable products in operation, assessing resistance to external influencing factors, confirming the compliance of cables with the requirements of current regulatory documentation.

The test center exercises a unique system approach, beginning with microscopic study of materials and ending with long-term full-scale testing of industrial samples.

Izolyator-AKS plant is a designer and manufacturer of all types of cable accessories for voltage from 126 to 252 kV for cable cross-sections up to 2500 mm² (cable joints and outdoor terminations, dry pluggable connectors).

The enterprise was founded in April 2019 as a result of the production diversification of Izolyator, which has a century-long experience in the creation and production of high-voltage insulating equipment.

The first products were released in the second quarter of 2020. Since September 2021, Izolyator-AKS has been an authorized member of the Non-Commercial Partnership of Cable Products Manufacturers International Association 'Electrocable'.

The production of cable accessories is carried out on the most advanced and unparalleled injection molding machines.

All manufactured products are tested on unique equipment in a specially created in-house laboratory.

A multifunctional service center operates as part of the Izolyator-AKS enterprise.

The plant is part of the Izolyator group of companies. 



Izolyator-AKS IKV-252 cable connector during testing

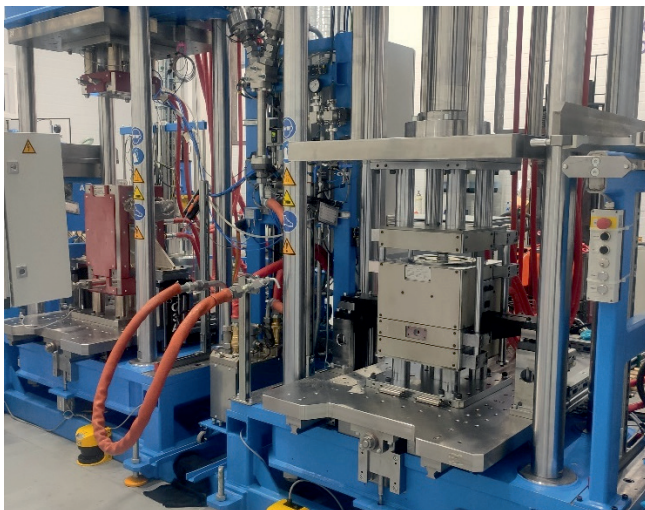
IZOLYATOR-AKS



Die-casting machine for deflector production



The degassing station



Casting machine for making of the stress cones and control bodies of cable joints

The plant carries out own development and optimizes designs of cable accessories taking into account the market demand and requirements. The production of semi-conductive elements (deflectors) and the insulating parts — silicone stress cones and control bodies is done by trained highly qualified personnel using the most advanced injection molding machines that ensure higher quality and reliability of items thanks to preparation of materials in vacuum.

A high localization of completing parts has been achieved in heavy competition of suppliers to ensure world class quality of products and substantially decrease impact of sanctions or other political and economic risks.

Using the newest technologies helped obtain decreased weight and dimensional characteristics of control bodies of cable joints having raised their reliability in operation.

The expertise and multifaceted approach to design and manufacture of cable accessories has allowed our company to:

- optimize product pricing;
- decrease production and delivery terms;
- simplify installation and decrease associated construction works' costs.

All stress cones of terminations and cable glands as well as control bodies of cable joints undergo acceptance high voltage proof testing with measurement of partial discharge level — to stay within 5 pC — at the company laboratory boasting the most advanced equipment.

ADVANTAGES OF IZOLYATOR-AKS CABLE ACCESSORIES

The company has established a multifunctional service center for:

- seminar and trainings organization for the staff of customers and installation organizations as concerns cables termination and installation of Izolyator-AKS cable armature (cable joints and outdoor terminations, cable connectors in 126–252 kV range);
- supervision over the cable preparation and accessories mounting processes;
- mounting of all types of produced items;
- technical support of partners, customers, designers, installation organizations and operators using the Izolyator-AKS cable accessories.

The IKV family cable connectors are intended for cable connection of 126, 172 and 252 kV power lines to switchgear and transformer cells.

The outdoor terminations with composite insulator of the IKM family are leaktight terminations intended designed for air connection of 126, 172 and 252 kV cable lines to components of power supply systems.

Cable joints with direct connection of shields of the ISM family and shield separation (transposition) cable joints of the ISMR family are used for connecting 126, 172 and 252 kV cables with XLPE insulation.



Laboratory for acceptance testing of cable accessories



Test bench for 126–252 kV armature



Semi conductive silicone deflectors

Activities of CIGRE National Study Committee D1 in H1 2022



▲ Participation in the III International online conference "High-voltage overhead and cable power lines: current issues and trends"

▲ Participants in the defense of the dissertation for the degree of Doctor of Technical Sciences at Kazan State Power Engineering University



◀ The expert commission of the Student League and League of young specialists' Finals in the Electric power complex of SO UES section of the X season of the Case-in International Engineering Championship, Moscow



▲ Participants of the conference 'Diagnostics and operation of power grid equipment' as part of the business program of the X Russian International Energy Forum in St. Petersburg

► Meeting participants of the 'Bushings' work group on the basis of the Izolyator Production Complex to revise the National Standard of the Russian Federation GOST R 55187-2012 'Bushings insulated for rated voltage over 1000 V AC. General specifications'



◀ The VII Russian conference on lightning protection in St. Petersburg



▲ Technical Director of the Izolyator-AKS plant of high-voltage cable accessories Cand. Sc. Viktor Pshennov is presenting the products of the plant at the 18th annual Dimrus conference on the topic 'Methods and means of monitoring the insulation of high-voltage equipment' in Perm



▲ The 25th All-Russian scientific and technical conference 'Radiation resistance of electronic systems' — 'Radioresistance 2022', Moscow region



The key criterion is development of the partner

Ivan Panfilov

Commercial Director of Izolyator Group

The first six months of active positioning of the Izolyator brand in its new capacity have passed. Today, it is an international multi-product group of companies offering a wide range of products and services in the market of high-voltage electrical equipment.

At the same time, a fundamentally important result of repositioning is not only organizational and technological development, but also a modern approach to interacting with partners.

Cooperation has gained a complex nature, based on the diversity and synergy of new opportunities. The diversification of production and services offered has dramatically expanded the spectre of ties with partners, made relations more flexible and even stronger and more reliable.

H1 outcomes in brief

The operations of the Izolyator Group's sales division within the framework of the new brand philosophy gave their practical

results in the first half of 2022.

The team continued an active cooperation with both Russian and foreign

partners in the regional markets, including meetings with top executives of major energy and industrial companies.

For instance in the power grid segment, our cooperation with one of the largest distribution grid companies in Russia, Rosseti Moscow Region, has become even closer and more diversified. Izolyator Group took part in important events of Rosseti Center.

In regard to generation an agreement was signed on the supply of high-voltage bushings to the Smolensk Nuclear Power Plant.

Prospects of the use of bushings with moisture-resistant RIN insulation were presented at a meeting of chief engineers of power plants of the Far East Generating Company.

There were a number of productive meetings with the management of the major Russian transformer equipment OEMs: PMTT, High-Voltage Solutions, Togliatti Transformer, ERSO Holding, SVEL Group, Uralelectrotyazhmash and others.

Important decisions have been made in regard to international cooperation. At negotiations with the management of the UZEA Group from Uzbekistan, the representative office of the Izolyator Group in this country is actively working to promote the Group's products in the

The portfolio of the commercial service includes many joint projects from Russian and foreign energy companies and power equipment OEMs — there is ongoing daily purposeful work involving the entire range of capabilities of the Izolyator Group.

Together

We set common goals, join efforts,
build trusting relationships in the process of
continuous open dialogue, only
together we achieve
SUCCESS
and make new plans

countries of Central Asia. There was also a meeting with the founder and chairman of the Supervisory Board of the Kazakh Group of Companies Alageum Electric.

The first delivery of products to one of the largest Indian industrial companies became a remarkable milestone in the history of the Russian-Indian joint venture Massa — Izolyator — Mehru.

The complex approach in action

The role of integration ties both within the Group and with its partners is best seen in the example of the dynamic development of a relatively young enterprise of the Group — the Izolyator-AKS high-voltage cable accessories plant.

The company operates at full capacity, producing innovative and demanded products. Efficient interaction between the commercial service of the Izolyator Group and the management of the Izolyator-AKS plant has been established. Experienced specialists of the commercial division professionally built a campaign to promote the latest generation of cable accessories relying on close partner ties in the market.

Among the results of this wholly customer-oriented policy, there are successfully completed by the Izolyator-AKS plant the first stage of research and development work to create a unique transition cable joint commissioned by Rosseti Moscow Region, the first contract for the supply of cable accessories to Belarus, and deep interest in the supply of innovative cable accessories from the UZEA Group of companies.

The portfolio of the commercial service includes many joint projects from Russian and foreign energy companies and power equipment OEMs — there is ongoing daily purposeful work involving the entire range of capabilities of the Izolyator Group.

We combine all the best

A characteristic feature of the Izolyator Group, its corporate style of cooperation with partners is the accumulation of all the best, which strengthens and develops relations, makes them stable and long-term in any economic realities.

Together we set common goals, join efforts, build trusting relationships in the process of continuous open dialogue, only together we achieve success and make new plans.

The practical implementation of those principles is entrusted to the commercial service, which personifies the entire Izolyator Group in the eyes of partners. The specialists of the division, actively interacting with all businesses of the Group, use the entire range of communications: on-site and remote technical seminars and presentations, organizing tours of the Group's enterprises, visits to partner companies and familiarization with production, regular personal meet-

ings with partner companies' executives, technical support hotlines on all products of the Group, educational program for partners.

This is not remotely a complete list of tools that ultimately allow us to have stable feedback, quickly and accurately respond to any wishes and requests of our customers.

By the way the employees of the commercial service themselves constantly improve their skills, undergoing training under the targeted programs of the Izolyator Corporate University.

Everything is built around the partner

As a result of the repositioning of the Izolyator brand, we have created the foundation of a business ecosystem, in the center of which is our partner, his vision and plans for further development.

This key factor determines the development vector of the ecosystem itself, which will integrate all new interconnected products.

The past six months once again demonstrate the ability of the commercial service to establish an open dialogue and organize effective cooperation with partners around the world, the highest professionalism at all levels of management of the Izolyator Group and the coherence of interaction between all departments when working towards a common result.

A more detailed presentation of the practical results of the commercial division's work is given in the relevant sections of this issue of Izolyator edition, where the region heads and sector managers of the commercial service talk about the most significant events of the first half of the year and share plans for the near future.

The goal — is to create
a comfortable environment for the
comprehensive
satisfaction
of the needs
of partners
in modern innovative equipment
and a full range of associated services

IZOLYATOR group





S U I A

GEOGRAPHY OF DELIVERIES

first half-year

2022



No time to rest

Alexander Savinov

Sales and Business Development Director (Russia)

The development of the power grid complex throughout its history has consisted of challenges, test of reliability and efficiency, and, accordingly, a strive to create the safest and most productive system.

Today, these issues are particularly relevant, and over the past year, we have been actively involved in their solution.

The Power Grid International Forum PGIF 2022, held at the end of March in Moscow, became a high-profile event. Among the key issues that the participants actively discussed was setting up interaction for the implementation and automation of business processes.

In the first half of 2022 we have witnessed that we are looking in the same directions together with our partners. Several productive meetings are a proof to that.

The enterprises of the Izolyator Group were visited by representatives of the branches of the Rosseti Moscow Region distribution grid company: Northern Electric Grids, Moscow High-Voltage Grids,

Eastern electrical networks. The agreement with the distribution grid company Rosseti Moscow Region on the creation of a unique transition cable box marked an important stage in cooperation.

Indeed the victory of the Izolyator-AKS plant in the competition is a clear result of the diversification of the production of Izolyator, which has a century of experience in the creation and production of high-voltage insulating equipment.

In July the first contract was also signed for the supply of cable accessories — terminations — manufactured by Izolyator-AKS.

In spring a meeting of leading electrical equipment manufacturers with the CEO of Rosseti Center PJSC was held, discussing further cooperation. The meeting went along with the task of timely completion of the repair program by branches of PJSC Rosseti Center. And we also met with United Energy Company JSC.

At the meeting of chief engineers of the companies of the Rosseti Group, we discussed current issues of production operations.


In the spotlight - prospects of development of Rosseti North West

Heads of departments of the interregional distribution grid company Rosseti North-West paid a visit to Izolyator Group.

During the meeting, the experience of Izolyator high-voltage bushings operation and replacement of obsolete bushings with their modern counterparts was mainly discussed.

In the development of this topic the advantages and prospects for the use of bushings with RIN insulation, which have improved technical and operational characteristics due to the low level of water absorption of the main insulation, were considered for the power complex of Rosseti North-West.

The sides also discussed possibilities for developing the professional competencies of technical specialists of Rosseti North-West in connection with in-depth study of the design and operational features of high-voltage insulating equipment.

At the end of the talks the guests visited the enterprises of the Izolyator Group. 



Visit of representatives of the interregional distribution grid company Rosseti North-West to the Izolyator Group: Deputy Head of the Department - Head of the Operations Service of the Department of Technical Re-equipment and Reconstruction, Maintenance and Repair of Electric Grid Facilities Grigory Kuzmenko (center right), Head of the Technological Development Department and Innovations Vladimir Kopylov (center left) and Chief Specialist of the Operations Service of the Department of Technical Re-equipment and Reconstruction, Maintenance and Repair of Electric Grid Facilities Roman Besedin (left)



◀ Deputy Head of the Directorate for Logistics and Procurement at Rosseti Center Alexander Bordunov (R) on a tour of the high-voltage bushing insulation manufacturing shop in Izolyator Production Complex

▶ Management representatives of the Eastern electric networks, branch of the distribution grid company Rosseti Moscow Region in the test center of the Izolyator Production Complex



▲ Representatives of the management of the Moscow United Energy Company on a tour of the Izolyator-AKS high-voltage cable accessories plant

Keeping up the pace

Oleg Bakulin

Head of Partner Relations

In life as in sports, it is always important to keep up to the rhythm, stick to the program and established standards. Especially when it comes to such an important sector as energy. Whatever events took place in the world — we were convinced of that even with the onset of the coronavirus pandemic — we are responsible for ensuring that contracts are executed on time.

A highlight of the first half of the year was the conclusion of contracts for the supply of 550 and 800 kV bushings to the Smolensk Nuclear Power Plant. Smolensk NPP is a branch of Rosenergoatom — a city-forming, leading enterprise, the largest in the fuel and energy balance of the region.

Meetings with partners is one of the most important components of our work. I would especially like to note the presentation of the Izolyator Group and its products at the meeting of chief engineers of power plants of the Far East Generating Company (FEGC) in Khabarovsk.

The focus of attention was directed to the technical and operational advantages of high-voltage bushings with moisture-resistant solid internal RIN-insulation, the prospects for their application at FEGC facilities.

Compliance with delivery terms remains one of the priority tasks.

We are convinced that no disruption to repair programs is expected and all equipment will be delivered in accordance with the terms of the contracts.



A meeting with power engineers of Far East

A presentation of the Izolyator Group and its products was held at the Far East Generating Company in Khabarovsk.

The presentation took place at a meeting of chief engineers of FEGC's power plants, where representatives of the Izolyator Group were invited.

The meeting was chaired by First Deputy CEO, Chief Engineer of FEGC Valentin Tenikhovskiy and Deputy Chief Engineer at FEGC Vitaly Andriyanov.

In the first part of his presentation Partner Relations Director of the Izolyator Group Oleg Bakulin, presented the Group and its enterprises as a result of the repositioning of the Izolyator brand due to the diversification of production and expansion of its presence in the global electrical market.

The second part of the presentation was devoted to the technical and operational advantages of high-voltage bushings with a moisture-resistant solid internal

RIN-insulation, the prospects for their use at FEGC facilities.

Head of the SVN-Service Department of the R&D Center of the Izolyator Group Alexey Pilyugin made a presentation on "Peculiarities of High-Voltage Bushings Operation at Power Plants of Far East Generating Company".

At the end of the report an interested dialogue took place, during which detailed answers were given to all the questions of the technical managers of the FEGC power plants. ◉



Presentation of the Izolyator Group and its products at a meeting of chief engineers of power plants from the Far East Generating Company, Khabarovsk

► Representatives of the electric power T Plus Group during a visit to the Izolyator Group: Head of Department Andrey Vorobyov (center right) and Chief specialist in the operation of electrical equipment Gennady Poltoratsky (center left)



◀ Visit to Izolyator Group museum



▲ Getting familiar with the technology of internal insulation making of bushings



▲ A tour of the Izolyator-AKS plant of high-voltage cable accessories



In constant dialogue

Maxim Zagrebin

OEM Sales Director

New economic realities are creating challenges that almost no one has faced in full, but by joining efforts we are developing a common position to overcome them. We are constantly updating solutions: the more we communicate with partners, discuss optimal conditions, the more options for interaction we form.

In the first half of 2022, we held several important meetings and events.

We had talks with the Togliatti Transformer plant.

We visited the Production Complex of HC Elektrozavod of ERSO Holding in Moscow to have negotiation, and then paid a visit to the Ufa Transformer Plant of ERSO Holding (UTP). It should be noted that long-term planning of cooperation between our enterprises has a solid foundation and a broad perspective. The production complex of the Izolyator Group has been supplying high-voltage bushings to UTP since its launch in 2010.

We also had meetings with long-term reliable partners, such as the SVEL Group.

Separately I would like to note the meeting with the management of Uncomtech Engineering LLC on the issues of concluding contracts for the supply of cable joints manufactured by Izolyator-AKS.

PMTT plant

CEO of transformer plant PMTT. High-Voltage Solutions (PMTT) Alexander Mayorov visited Izolyator Group enterprises.

At the Izolyator Production Complex all the stages of production of high-voltage bushings with RIP and RIN insulation and, first of all, bushings for transformer equipment were demonstrated to the guest.

At the Izolyator-AKS plant the guest made acquaintance with the production of 126–252 kV cable accessories.

Alexander Mayorov highly appreciated production potential of the enterprises of the Izolyator Group.

During the return visit Maxim Zagrebin met with the management of PMTT. 




CEO of PMTT. High-voltage solutions Alexander Mayorov is getting familiarized with assembly processes of 252–1200 kV bushings



Representatives of the ERSO Electrotechnical Holding during a visit to the Izolyator Group: Technical Director Alexander Osyka (center), Director of the Procurement Department Alexander Makarov (right), Deputy Chief Designer Dmitry Vareshein (second left)

ERSO Holding

Since January we have held a number of meetings with ERSO representatives. The main topic of the negotiations was the strategy for developing cooperation between ERSO and Izolyator. One of the key goals is to equip all transformers manufactured by the Production Complex of Holding Company Elektrozavod with Izolyator high-voltage bushings.

In June we visited the Ufa Transformer Plant of ERSO Holding, where we discussed the possibilities of production in connection with sanctions, new certification standards and participation in joint projects. ERSO representatives suggested that we consider the possibility of producing low-voltage bushings. ERSO is ready to assist in the development of design solutions and recommendations. 

► The management of the Izolyator Group at Ufa Transformer Plant of ERSO Holding (UTP), second from left - technical Director of UTP Andrey Makarychev, further: Alexander Slavinsky, Executive Director of UTP Sergey Sentemov and Maxim Zagrebina



◀ Maxim Zagrebina at the Joint Stock Company of high-voltage equipment Elektroapparat (JSC VO Elektroapparat) in St. Petersburg: in the center - Head of Sales Department at JSC VO Elektroapparat Ilya Arseniev, on the right - Innovation Director at JSC VO Elektroapparat Andrey Karpov




▲ Acceptance of bushings by a Siemens Power Transformers Ltd representative




▲ Head of the Automation Group and Switching Devices of the Department of chief designer of transformer and reactor equipment of Uralelectrotyazhmash plant Stanislav Zverev on a tour of the Izolyator Production complex

POWER INDUSTRY OF RUSSIA

1 HALF
2022



MEDIUM
26.5 – 40.5 KV
401



HIGH
72.5 – 252 KV
1139



ULTRA HIGH
363 – 800 KV
60

85%

TRANSFORMER PLANTS OF RUSSIA
HAVE PURCHASED IZOLYATOR HIGH-VOLTAGE BUSHINGS



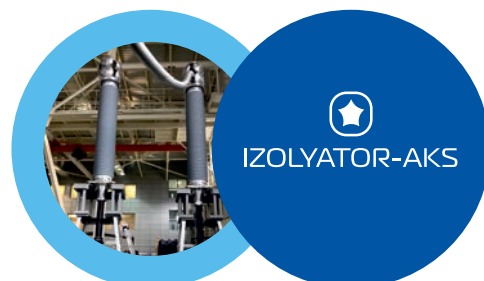
320 BUSHINGS SUPPLIED
TO NEIGHBORING COUNTRIES



voltage classes
40.5 – 363 KV

126 – 252 KV
HIGH-VOLTAGE ACCESSORIES

for cable cross-section
from 185 to 2500 mm —new line
of business Izolyator Group





Rostovskaya NPP of Rosenergoatom — partner of Izolyator Group



Planning is key to success

Maxim Osipov
Neighboring Countries Sales Director

Experience gained during the coronavirus pandemic has shown that much of success depends on effective planning. We know that our partners appreciate the punctuality and reliability of deliveries of Izolyator products, and for us it is extremely important to make every effort not to deceive these expectations.

In the first half of 2022 we continued our systematic work, actively meeting with partners, participating in conferences and receiving guests at the enterprises of Izolyator Group, where we introduced them to advanced technologies for the production of high-voltage bushings and cable accessories. In August of this year the first contract for the supply of cable accessories to Belarus was signed.

The long path of development that our company has passed firmly convinced us that in the core of the progress of our company there lies success of our partners. So in May we were lucky to be at the grand presentation of a new enterprise of the Kazakh Alageum Electric Group of Companies — the Petropavlovsk Electrotechnical Plant, which produces energy-saving distribution transformers and packaged transformer substations (photo report from the event is on the 37th page). With all my heart I am happy with the success of my colleagues and I am sure that the plant has a great future.

UZEА Group and Izolyator Group discussed joint projects

Izolyator Group was visited by Vladimir Royuk, CEO of the Uzbek electrotechnical enterprise Uzelectroapparat-Electroshield, Head of the UZEА Group of Companies, Uzbekistan.

At the Izolyator Group the guest was received by Head of the Group Alexander Slavinsky and Neighboring Countries Sales Director Maxim Osipov.

The leaders of both companies discussed the economic conditions of activity, due to the prevailing geopolitical factors, as well as the latest trends in the regional markets for electrical products.

The key topic of the negotiations was the current agreements and promising joint projects to equip the products of the UZEА Group with Izolyator high-voltage bushings, as well as products of the new business line of the Izolyator Group — high-voltage cable accessories developed and manufactured by the Izolyator-AKS plant, which is part of the Group.

In continuation of the topic of talks a tour around the Izolyator-AKS enterprise was given, where the products of the plant and the most advanced techno-



Vladimir Royuk, CEO of the Uzbek electrotechnical enterprise Uzelectroapparat-Electroshield, head of the UZEА Group (R) at the talks at the Izolyator Group

logical equipment for the production and testing of high-voltage cable accessories were presented to the guest.

The UZEА Group is a long-standing and reliable strategic partner of Izolya-

tor. The new direction of joint activities will further strengthen the partnership between the two companies, will expand the boundaries of their successful cooperation and open up new perspectives. **Q**

Presentation of the Petropavlovsk Electrotechnical Plant of the Alageum Electric Group in Kazakhstan

► Representatives of the Izolyator Group at the presentation of the Petropavlovsk Electrotechnical Plant, R-L: Maxim Osipov, Alexander Slavinsky, founder of the Alageum Electric Group of Companies Saidulla Kozhabaev and Sultan Ilyasov



▼ Participants of the presentation of the Petropavlovsk Electrotechnical Plant of the Alageum Electric Group of Companies



▲ A tour of the shops of the Petropavlovsk Electrotechnical Plant



▲ At the festive dinner, congratulations and wishes to the hosts of the celebration continued



Developing the Power Industry of Uzbekistan

Artur Nazarov

Director of the Representative office of Izolyator Group in Uzbekistan

The Representative Office of the Izolyator Group in Uzbekistan organized and conducted presentations at leading enterprises of Uzbekistan, such as: Alma-lyk and Navoi mining and metallurgical plants, Navoiyazot industrial and production complex, Navoiuran State Enterprise, Joint-Stock Company for the extraction and sale of coal Uzbekcoal, state company Uzbekistan Railways.

An online conference with National Power Grids of Uzbekistan JSC was organized in 12 regions of the country to discuss the topic: 'Replacement of obsolete high-voltage bushings with modern high-voltage bushings with solid RIP and RIN insulation'.

The first practical result of the Representative Office operations was the replacement of the bushings on the 110 kV transformer of the enterprise for the production of cable and wire products Uzskabel.

The Izolyator Group has established itself as a manufacturer of modern and reliable equipment, which allows the Group to be the leader in the supply of electrical equipment for all sectors of the economy of Uzbekistan.

The first modernized transformer

In April 2022 Izolyator high-voltage bushings were installed at the substation of the Uzskabel cable and wire production enterprise — the first practical result of the Representative Office operations of the Izolyator Group in Uzbekistan.

High-voltage bushings with solid internal RIP insulation were installed on a 126 kV three-phase transformer with 16 MVA rated power to replace outdated counterparts with OIP insulation.

The installed bushings increase the reliability of the transformer and reduce the complexity of substation maintenance.

Delivery and installation were the result of extensive and multifaceted activities to develop cooperation with enterprises of Uzbekistan and other countries of Central Asia, which is carried out by the Representative Office of the Izolyator Group under the leadership of its director Artur Nazarov.



The 126 kV Izolyator RIP bushings installed on the transformer of Uzskabel substation instead of outdated counterparts

The substation of the Uzskabel plant is one of many in the 126 kV voltage class serving large enterprises in Uzbekistan. Consistent modernization of the equipment of those substations will be continued.

Uzskabel is the largest all-around manufacturer in the Central Asian region — a cable and wire products enterprise.

Modern technological equipment ensures the release of high-quality products that meet the standards of the Republic of Uzbekistan and the Russian Federation.

The production capacity of the plant allows to produce 3,000 standard sizes, which are used in energy, geology, railway transport, communications, mechanical engineering, mining, agriculture and other industries.

The main part of bare wires and cable products is exported to the CIS countries and overseas. ●



◀ Presentation of the Izolyator Group products at the Almalyk Mining and Metallurgical Complex

▶ Participants in the presentation of Izolyator Group products at the Uzbekistan Railways State Joint-Stock Company, (L-R): Artur Nazarov, Head of the Operations Department of the Head Office of the Uzbekistan Railways Zhalol Kholmatov, Head of the Technical Department of the Head Office of the Uzbekistan Railways Alexander Suknin and Timur Khuziyakhmetov



▲ Negotiations in the Navoiyazot chemical industrial and production complex in Uzbekistan (L-R): Leading Engineer of the Navoi Mining and Metallurgical Company Farkhod Mukhamedgaliev, Chief Power Engineer of the Navoiyazot enterprise Alisher Saliev, Artur Nazarov and Timur Khuziyakhmetov



▲ Meeting at the exhibition stand of the Representative Office of Power Machines in Uzbekistan (L-R): Head of the Supply Group of the Representative Office Roman Radionov, Deputy General Director of the Representative Office Bobur Latypov, General Director of the Representative Office Andrey Mokrousov, Maxim Osipov and Artur Nazarov



The first!

Dmitry Orekhov

Head of Sales — Asia & America

Development of the joint venture between Izolyator and the Indian company Mehru Electrical & Mechanical Engineers (P) Ltd. Massa — Izolyator — Mehru (MIM) is one of our key tasks. And the more honorable and joyful it is to see how the company achieves its first victories.

Thus, the first delivery of products of the Russian-Indian joint venture Massa-Izolyator-Mehru, which manufactures high-voltage bushings in India, took place. The 145 kV bushings will be used as components in the production of single-phase shunt reactors at the Indian industrial company Transformers & Rectifiers (India) Limited.

The supplied high-voltage bushings are assembled entirely from parts and assemblies made in India, with the exception of insulating cores delivered from Russia, which are manufactured at the Izolyator Production Complex using RIP technology of our own design. The cooperation does not end there: a unique shunt reactor developed and manufactured by Transformers & Rectifiers (India) Limited., equipped with Izolyator high-voltage bushings, was put into operation.

The key value for us remains the constant desire to fulfill our obligations clearly and on time. In the first half of the year, we delivered to BHEL and Toshiba Transmission & Distribution Systems (India) Pvt. Ltd 252 kV and 420 kV bushings respectively. I am sure that there are still many steps ahead, which will be taken for the first time to make the beginning of a new path!

The symbol of the century-old friendship of peoples of India and Russia

A Russian corner was opened in the office of the Russian-Indian joint venture Massa — Izolyator — Mehru in the city of Bhiwadi.

Russian paraphernalia is used to remind guests not only of the origins of the joint venture, but also of the traditionally friendly relations between the two countries that developed many centuries ago.

On the occasion of the opening of this symbolic particle of Russia in India, a small tea party was held in the office of the enterprise, in which the following colleagues took part:

Vice-Chairman of Massa Izolyator Mehru Pvt. Ltd. Dr. Ashok Singh;

DGM Operations of Mehru Electrical & Mechanical Engineers (P) Ltd. Chanchal K Sharma;

Ivan Mikoyan, Project Management Specialist of the Izolyator Group;

Assistant Manager of Mehru Electrical & Mechanical Engineers (P) Ltd. Anup Pattnayak.

The opening of the Russian Corner was timed to coincide with a significant



The Russian Corner in the office of the Russian-Indian joint venture Massa - Izolyator - Mehru in Bhiwadi, India

event in the history of the enterprise — the beginning of the assembly of a trial 420 kV bushing, which will be tested in August this year.

The Massa — Izolyator — Mehru joint venture received an order for such bush-

ings from one of the largest companies in the energy and industrial sectors of India — the state-owned power grid company Power Grid Corporation of India Limited and the manufacturer of power equipment Bharat Heavy Electricals Ltd. ●



◀ A tea party on the occasion of the opening of the Russian corner in the office of the Russian-Indian joint venture Massa — Izolyator — Mehru (L-R): Assistant Manager, Mehru, Anup Pattanayak; Deputy General Director of Mehru Chanchal K Sharma and Vice-Chairman of the Board of Directors of Massa-Izolyator-Mehru Joint Venture Dr. Ashok Singh



▲ Deputy General Manager of Mehru Electrical & Mechanical Engineers (P) Ltd. Chanchal K Sharma and Project Management Specialist of Izolyator Group Ivan Mikoyan at the opening of the Russian Corner at the office of Massa — Izolyator — Mehru joint venture



▲ Deputy General Manager of Mehru Chanchal K Sharma and Vice-Chairman of the Board of Directors of Massa — Izolyator — Mehru Joint Venture Dr. Ashok Singh at the opening of the Russian Corner at Massa — Izolyator — Mehru office



Youth is no hindrance to experience

Julia Turina

HR Director

In modern conditions the problem of increasing labor productivity and efficiency is becoming more and more acute. The solution of these tasks is impossible without qualified specialists and workers in place.

Izolyator Group pays special attention to the personnel policy in regard to advanced training and assessment of professional competencies. In the first half of the year, the final stage of the introduction of professional standards was completed and more than 70% of workers increased their grades, many receiving additional payments. An analysis of the staffing table for working professions at the Izolyator Production Complex revealed the absence of some professional standards in the approved register. Specialists of the Izolyator Corporate University together with the insulation making shop developed the professional standard "Specialist, impregnation of electrical products." The document is under approval now.

Employees of the enterprise regularly undergo training both at the Corporate University and at accredited centers.

Professional standards already in place

In 2022 the company completed the final phase of professional standards introduction.

Let us recall that in Russia professional standards have replaced the Unified rating and skills classifier for jobs and occupations of manual workers and Managers, specialists and workforce qualification reference book. Unlike the above documents, professional standards offer a set of advantages:

1. the functional duties of the employee are clearly defined;
2. qualification requirements are indicated;
3. shows the dependence of the pay level on the level of qualification and its improvement for the purposes of professional growth.

The Izolyator Corporate University specialists did a lot of work to assess competencies and confirm qualification of the team. After transition to professional standards, workers were assigned qualification grades, 28% of workers confirmed their qualifications; 73% increased their grades, 61% out of those received an increased pay for raising their grade. The specialists of the company who enter the talent pool went through assessment procedures for managerial competencies.

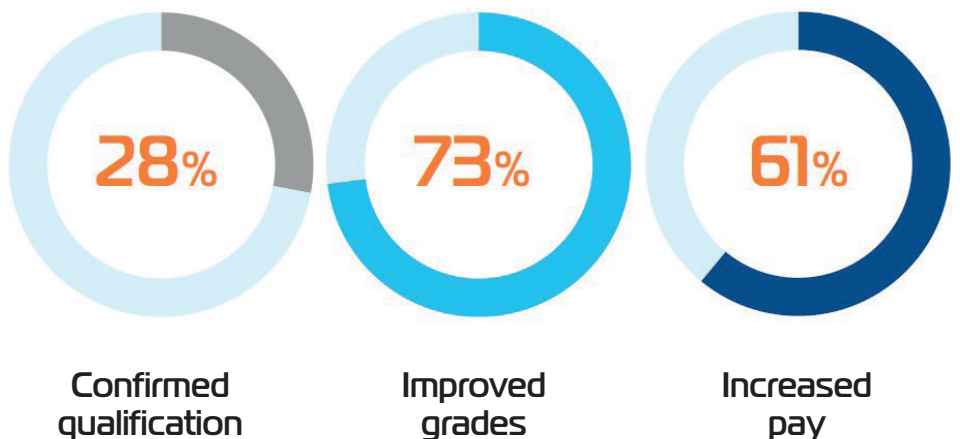
Profiles of managerial positions were developed, including the required knowledge, set of skills and functional duties of the employee.

Thus the company employees felt the attention of the management, were able

to demonstrate their qualifications and receive cash bonuses for quality work.

The introduction of professional standards has had a beneficial effect on increasing the level of labor productivity and the quality of products. ●

Professional standards implementation in 2021-2022



On-the-job training

It is no secret that in an era of intensive technological development, the role of constant learning and development is growing. According to some sociologists, in the 21st century, 80% of the technologies and equipment used is to become obsolete in 10 years. As a result, skills and qualifications may become obsolete for most employees who were educated 10 years ago if they do not self-educate and improve their skills, following the principles of a life-long learning strategy.

Employees of the enterprise have the opportunity to improve their skills on the job, undergo retraining and compulsory training at Izolyator Corporate University.

Training is conducted in a format convenient for employees: full-time, remote, combined (full-time practical classes, distance-theoretical). For courses requiring practical orientation, an experienced mentor is assigned. During their free time, employees can remotely take

coursework, improving qualifications or obtaining a related profession.

Due to the fact that Federal Law No. 311 came into force on March 1, 2022, which amends a number of provisions of the Labor Code regulating relations in labor protection, all Izolyator employees were trained and got acquainted with the changes in legislation.


In the first half of 2022 the most popular courses were:

- "Safe operation of warehouse equipment and technical certification";
- "Safe methods and techniques for performing work at height";
- "The operator of the crane, controlled from the floor, with the right to hook loads on the crane hook";
- "Slinger";
- "Measurements and tests in electrical installations up to and above 1000 V".

In order to expand the catalog of distance courses and create conditions for improving the competencies of workers

and specialists, the following distance programs and courses have been created since the beginning of the year:

- "Organization and technology of installation of cable accessories manufactured by Izolyator-AKS";
- "Testing of high-voltage bushings at the manufacturing plant and in operation";
- "Safe methods and techniques for performing work at height";
- "Measurements and tests in electrical installations up to and above 1000 V";
- "Turner";
- "Mechanic of mechanical assembly works";
- "Mechanic-repairman".

It is worth noting that the corporate training system, which has been operating in the company for 2 years, allows specialists to develop in accordance with the company's goals, and workers to acquire new qualification skills without leaving their main job. 



613 people
were trained at CU in
I half of 2022



42 persons
Safe operation of warehouse
equipment



23 persons
Operator of the crane,
controlled from the floor



100%
Occupational safety and
testing knowledge of labor
protection requirements



28 persons
Safe methods and
techniques for performing
work at height"



3 persons
Slinger

Experience is the best teacher

In any activity the best teacher is your own experience. No wonder folk wisdom says: "To learn something, you need to work hard." For modern students this saying takes on another meaning: in order to gain work experience, you need to search very well for a company that will be ready to provide a place for an internship, and in the future, with good performance, get a job.

Students of MPEI, MAI and Krasnogorsk College do not have to make much effort to find a place for internship since Izolyator is a social partner. For operators of machine tools with program control and students from the Department of High-Voltage Engineering and Electrophysics, there will always be a place at Izolyator.

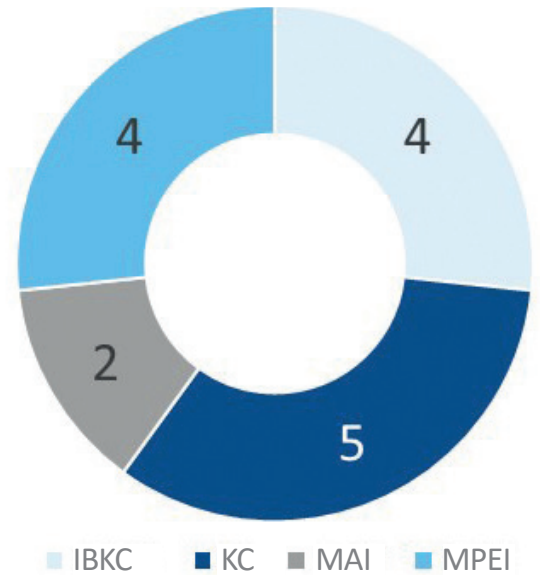
Since the beginning of 2022 the company has trained:

- 4 interns from the National Research University 'Moscow Power Engineering Institute' (MPEI);
- 2 students from Moscow Aviation Institute (National Research University) (MAI);
- 5 students from Krasnogorsk College (KC);
- 4 students from the Istra branch of the Krasnogorsk College (IBKC).

For students industrial practice opens up excellent prospects for developing professional skills.

The Izolyator management sees positive aspects in partnership with educational institutions and actively contributes to the process of rejuvenation of the team thanks to yesterday's students. ◻

Student interns



Year by year we are getting younger

Over the century of its existence, Izolyator has developed a professional friendly team. The company management maintains long-term traditions, honors labor dynasties, listens to the opinion of the plant's veterans. Yet the high-speed rhythm of the digital age requires an instant reaction to the situation, non-trivial solutions to the most complex tasks, and alternative approaches to understanding problems.

Only the young, energetic and creative employees could be in power to maintain such pace.

Over the past five years, the company has been pursuing a personnel policy to attract young professionals from among yesterday's students, or professionals who'd have some previous work experience.

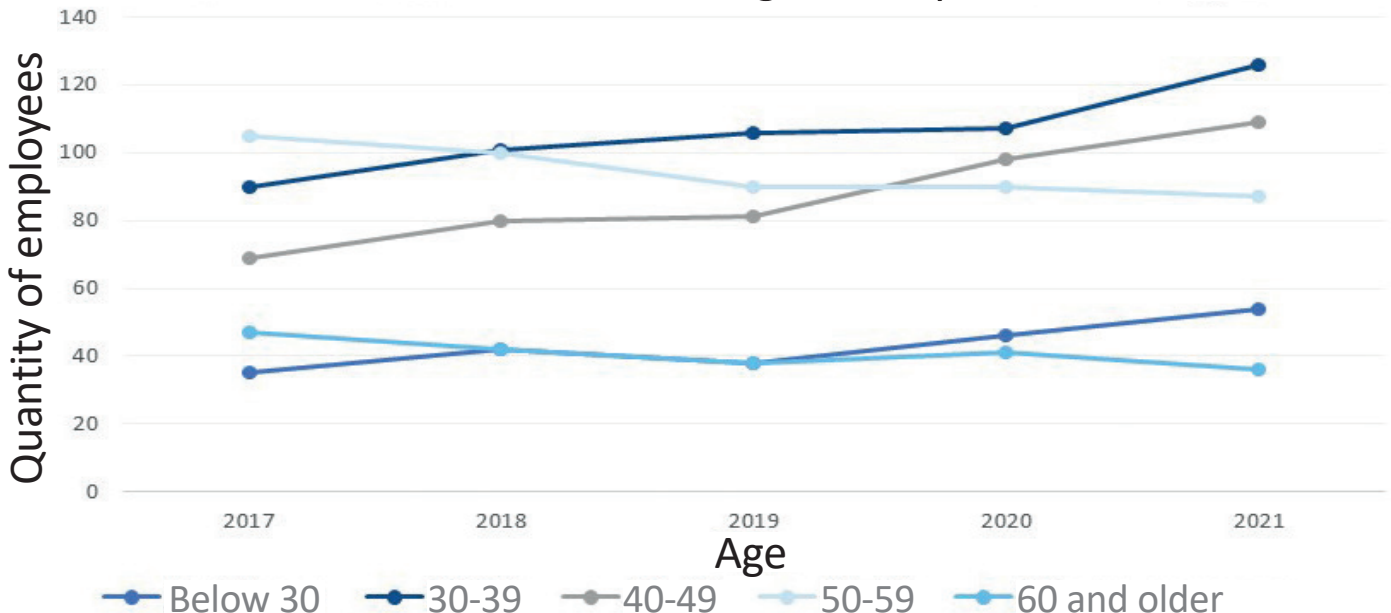
In 2021, graduates of Krasnogorsk College Kirill Gusev and Ivan Krikov, MAI graduate Ekaterina Kiryukhina, MPEI

graduate Maria Maksimova, St. Petersburg Mining University graduates Kirill Rotar and Vladislav Bityukov and others joined the company.

The chart clearly shows two upward lines: age from 30 to 39 years and age from 40 to 49 years.

And that means that young people, with their arrival, bring in mobility, flexibility, and innovation to production processes. The company is getting younger and continues to increase production capacity. ◻

Staff members's age at Izolyator





◀ Excursion of students of the Moscow Aviation Institute (National Research University) at the enterprises of the Izolyator Group

▶ Students of the Department of Physics and Technologies of Electrical Materials and Components of the Institute of Electrical Engineering and Electrification of the National Research University 'Moscow Power Engineering Institute' are passing a test after their internship at production



▲ Evgenia Kononova, a second-year student of the Krasnogorsk College, is taking an internship in the profession 'Welder, manual and partially mechanized welding (surfacing)'



▲ Study tour for students of the Department of Certification and Analytical Control of the College of Environmentally Sound Technologies & Engineering of the National University of Science and Technology MISIS

Corporate life events

Talks about the main things in profession

There is a regular activity Meeting with the CEO at Izolyator Group, where Alexander Slavinsky talks with the newly hired team members.

The purpose of the meeting is a clear understanding by new employees of the role and place of Izolyator Group in the development of the domestic and global electric power industry, a sense of belonging to the glorious history of the enterprise from the very first working days, first introduction to corporate values and traditions, awareness of the importance of one's work for achieving a common result, a clear vision of prospects and ways of improvement in the chosen profession. ◉



"Meeting with the CEO" in the Izolyator Group



The first supervisory audit of the integrated quality, environment, health and safety management system at the Izolyator Production Complex in a remote format

The auditors praised the team work of the enterprise's staff

The Izolyator Production Complex successfully passed the first supervisory audit of the integrated quality, environment, health and safety management system.

The purpose of the audit, which took place remotely, was to confirm the compliance of the IMS with the established requirements.

The auditors noted the teamwork and the good level of preparation of the enterprise for the first IMS supervisory audit, the motivation, involvement and commitment of the enterprise's personnel to ensure the effective operation of the IMS, which functions at a high level appropriate to the world's leading companies. ◉

The evacuation drill went with good organization and pace

Izolyator Group had the next evacuation drill.

The purpose of the exercise is to increase the level of skills for the evacuation of employees of the enterprise in case of a fire hazard.

At the end of the exercise the person in charge of the facility, the CEO of Massa LLC Sergey Moiseev assessed the actions of employees and managers. In particular he noted with satisfaction that the personnel of the enterprises of the Izolyator Group complied with the time limit during evacuation from the building. ◉



The exercise on evacuation in the Izolyator Group



CORPORATE UNIVERSITY IZOLYATOR

BUILD YOUR CAREER WITH US

An optimal and efficient staff training program can be developed specially for you. We offer further personnel development recommendations as you completed the course.

Compulsory programs

- Labor protection
- Basics of fire safety
- General industrial safety (A1, B.9.31)
- Electrical safety (III electrical safety group)
- First aid regulations

Retraining

- Professional teaching staff
- Human resource management

Advanced training

- Installation of high-voltage bushings on power equipment
- Power transformers and high-voltage bushings
- MS Excel. Quick start
- MS Word. Working with templates
- MS Power Point. Not only presentations
- Cloud technologies. Working in a team

- ! License to carry our educational activities



7 REASONS TO STUDY WITH US

1 ON-THE-JOB TRAINING

3 TRAINING FROM HIGHLY QUALIFIED PRACTITIONERS

5 BALANCE OF FULL-TIME AND DISTANCE EDUCATION

2 AN OFFICIAL CERTIFICATE OF PROFESSIONAL TRAINING

4 QUALITY TRAINING IN A SHORT TIME

6 UNIQUE ENGINEERING TRAINING PROGRAMS

7 FLEXIBLE SYSTEM OF DISCOUNTS

77 Lenin street,
Pavlovskaya Sloboda,
Istra city district, Moscow region,
Russian Federation, 143581

phone: 8 (495) 727 22 09
WhatsApp: +7 903 582 97 34
e-mail: zayavka@mosizolyator.ru
site: mosizolyator.ru/about/university/



CONGRATULATIONS ON THE ANNIVERSARY!

Life has taught that out of 24 hours a day you work at least 18 hours, and you have a little time left to sleep. I can absolutely calmly work 18 hours a day with travel, flights.

Ambition is one of the main driving principles of any person, and let it be excessive than having none at all. Otherwise, how else to find in yourself internal reserves, some new opportunities, abilities. How to develop yourself and move on, if not for the sake of ambition and moving on.

About human nature: unclaimed energy, as you know from physics, including high voltage technology, can turn into parasitic phenomena.

Human dignity should be primary, because if it is not there, then it will be in last place.

For engineers, whose evening form of training combines work from morning to evening and from evening to the next evening, there is a synergistic effect that “yields” high-quality engineers. Of course, with sufficient motivation and ability to work.

In engineering and research work, in design, in production, every day you need to discover something new for yourself anyway. Even if off topic, not necessarily in production and science: a new movie, a new book, a new meeting, new impressions. Daily discovery is the main condition for interest in life.

I like to drive a car and I don't like to fly, because I drive a car myself, and I don't pilot a plane.

Driving a car is the only form of rest I can afford myself every day. It is my hobby.

My greatest happiness and pride lies in the fact that I lead a company that inherits all the good and famous that has been created before us, and I watch

with a tremendous pleasure what we are doing now. Moreover, I am sure that the coming future will only develop and improve what we have today.

Three qualities that I would use to describe myself: a sense of work, a sense of humor and a sense of interest in what is happening, the search for something new.

60 years

On 26 August, the CEO of
Izolyator Group Alexander
Slavinsky turned

We all work together, we celebrate together, we all grieve together, we rejoice together. Most often, of course, we rejoice.

In ordinary life we no longer notice the role of electricity. Just like we don't notice the air we breathe. But when suddenly the air ends or the light goes out, it becomes clear who is the most important here.

What is the secret of such an active longevity of our plant? The answer is obvious. In people!

In people who not only worked, but put their souls into the plant. In labor dynasties, which today are already continued by the great-grandchildren of former employees. This is genetic technological memory!

The whole world is made up of moving particles. Wind carries sand, waves are drops of water moving in the seas and rivers, snow is frozen drops of water carried by the wind. Everything in the world is moving. Movement is life!

The plant is a race, it is a process that is constantly in motion.

The team must be able to work and rest. People should feel comfortable working together and relaxing together.

The closer the current student is to the real sector of the economy, the more qualified and developed the future engineer will be. I want to try to introduce this at the university within the framework of the training programs that I have been assigned to conduct.

Mankind will not have the shortest path to the heights of perfection of conductors and semiconductors. These studies will give birth to new brilliant scientists along the way. And these minds will themselves move forward all of humanity!

Those who say that an artist must be hungry are mistaken. I do not believe that poems do not come to mind on a full stomach. If the talent of versification is given, then it doesn't matter what kind of person you are - well-fed, sober, hungry - all the same, poems will come to mind. Another thing is that there will be no pen to write them down, should there be no instrument - you will not play music. All your talent will go nowhere.

A. Z. Slavinsky (c)



The blooming garden, grown with soul

It's no secret that flowers have a beneficial effect on people. Their contemplation allows you to achieve harmony between man and nature, creates a positive psychological attitude, improves emotional health and gives you a boost of energy for the whole day.

That is why since ancient times people have cultivated ornamental gardens.

There is such an amazing corner on the adjacent territory of the Izolyator Production Complex in Pavlovskaya Sloboda.

Here, in a small area, more than 150 ornamental plants coexist, which at the time of flowering show a variety of colors and shapes, reminiscent of the famous Moscow "apothecary garden", only in miniature.

The flowers here are chosen so that they delight the eye from early spring to late autumn.

The author of this annual flower extravaganza is Irina Malakhova, an employee of the insulation making shop, a passionate and tireless flower grower.

The garden is practically the same age as the Izolyator Production Complex: the first plants, marigolds, were planted in 2008, following the year the enterprise was launched.

Over time the landing was replenished with new representatives of flowering plants, until it turned into a bright fragrant garden.

Today there are familiar roses and lilacs which coexist with such exotic plants as stag-horned sumac, Buldenezh viburnum, chaenomeles, Hakuro Nishiki willow and many others.



Irina Malakhova, whose passion and golden hands cultivated the garden

According to Irina Nikolaevna, she treats her pets with all her heart. Plants feel it and take root perfectly to the delight of all grateful visitors to the garden.

During the lunch break employees of the enterprise enjoy the beauty of the results of Irina Nikolaevna's work with great pleasure, stop by the garden to enjoy the delicate primroses where snow lay only a week ago, a little later - the aromas of lilacs and peonies, to consider all the stages of flowering hydrangeas.

Some employees turn to Irina Nikolaevna to get professional advice on caring for certain plants.

The ornamental garden is not the only green space on the territory of the Izolyator Production Complex. Every year, the apple orchard bears fruit, fir trees and ornamental shrubs planted along the Alley of Labor and Military Glory are pleasing the eye. Amber honey is donated by the corporate apiary.

Thus a comfortable working environment in the adjacent territory of the Izolyator Production Complex is maintained and developed not only by the constant care of the management, but also by voluntary associates from among the enthusiastic employees of the enterprise who are in love with nature. 🌱





▲ Plants always respond to care and solicitous hands



▲ Lilies

▶ Hydrangea



◀ Sweet william

Sport makes the friendship stronger

In the sports hall of Izolyator Group, friendly volleyball matches were played with the participation of the team of the neighboring enterprise — Pavlovskaya Sloboda Meat Processing Plant.

The hosts of the ground were represented by two teams: Izolyator 1 and Izolyator 2.

There were three games, according to the results of which the Izolyator 1 team won.

However neither the points scored, nor the positions on the podium were of paramount importance. The key thing was friendly communication, the unifying passion for sports, the joy of movement and positive emotions.

Those were not the first games in the sports hall of Izolyator with the participation of the Meat Processing Plant teams: the acquaintance and the first series of friendly matches in volleyball and futsal took place last autumn.

We are always happy to receive our good neighbors, to spend a bright and unforgettable holiday of sports and have a healthy lifestyle together. ◉



▲ The first game of the friendly series: Izolyator 1 - Velcom



▲ Match Izolyator 2 - Velcom



▲ Match Izolyator 2 - Velcom



▲ Companionship is the most important result of the games

Stronger and stronger!

In Izolyator #4/2017, we already introduced you to the head of the Izolyator plant's finished goods warehouse Konstantin Konstantinov and his many years of passion for strength sports. Today - a story about new achievements and plans of the athlete.

For Konstantin the challenges to himself are perhaps the most serious. To "pump" 200 kilograms is a new goal!

The passion for "metalware", as the athlete himself calls it, came to him at the age of 15. Since then, professionalism has grown, muscles have grown stronger, while directions have changed. "For example, I only learned about powerlifting in 2010," shares Konstantin. - Then I changed the gym and it turned out that the guys in the new gym train and compete together.



▲ Bench press 180 kg at Biohazard 2019 sports festival



◀ Bench press 200 kg at Biohazard 2021 sports festival

Two years later, I already went with them to a week long championship. I didn't win, but I didn't get lost in the standings either, and showed quite a decent result."

In May 2021 Konstantin showed a truly impressive result at the Biohazard sports festival as part of the WPF (World Powerlifting Federation) Open Championship of the Moscow Region in bench press and deadlift, where he took 1st place in the weight category up to 110 kg and 3rd place in the absolute category among all participants.

The key to success is regular exercise. Here's what Konstantin says: "Prior the start, you begin to prepare at least three months in advance, the progression is increasing and, accordingly, the weight should increase every week."

Now the plans are to achieve a result of 200 kg - the previous recorded standing was "only" 195 kilograms. We will follow Konstantin's success at the Oksky Bogatyr's competition, which will be held in the fall in Serpukhov, Moscow Region. ◉

▶ Apollo Axel deadlift (grip strength exercise) with a 190 kg barbell at the Armlifting Championship



PARTNERS

GLOBAL PARTNERSHIP



Dear colleagues!

Next year, our corporate edition will celebrate its first serious anniversary — 10 years!

The magazine has come a long way over the years. From brochures aimed at corporate news, we have evolved into a magazine that covers the top news and major trends in the power industry.



The creation of each issue would be impossible without the assistance from our partners. Every meeting held, every plant visit or excursion become parts that form the overall picture of a great coordinated work.

To further improve our communication, exchange of news and opinions, we invite you to join the creation of a new issue! Please send us your news and events during the second half of 2022 - we will be happy to share them with our readers!

We are looking forward to your news, suggestions, and queries at a.serpuchenko@mosizolyator.ru

Together we will make the magazine even more interesting and resonant!

