

OPEN RUSSIA — VIETNAM SEMINAR ON POWER INDUSTRY



Participants of the Russia — Vietnam seminar «Experience exchange in T&D — Presentations of Russian producers»

On 21 March 2018, Izolyator held an open seminar «Experience exchange in T&D — Presentations of Russian producers» together with leading Russian electrical engineering companies with representatives of Russian export center and Russian Federation Trade Mission in Vietnam.

THE KEY OBJECTIVES OF THE EVENT:

- development of integrative ties between the national and regional energy systems of Russia and Vietnam in the framework of Memorandum of comprehensive cooperation in power industry between the Federal grid company of Russia FGC UES and the state power grid company of Vietnam EVN NPT;
- expansion of international activities in the International Council on Large Electric systems (CIGRE), including invitation of new Russian and Vietnamese specialists to contribute to the activities of the Russian National Committee — RNC CIGRE;
- experience sharing between Russian and Vietnamese companies - manufacturers and operators of power equipment;
- best practice exchanges with Russia's leading power equipment manufacturers for modernization of power system of Vietnam;
- development of business contacts and formulating proposition to co-operation expansion between Russian and Vietnamese electrical engineering companies and power grids.

HISTORY OF COOPERATION DEVELOPMENT

Russia and Vietnam have traditionally maintained friendly relations and a close cooperation in all areas. In 2010, the countries signed an Inter-Government Agreement on cooperation in energy, which makes provisions for realization

of common projects in various sectors of fuel and energy complex, including power industry.

Development of the dialogue between power men and manufacturers of power equipment of Russia and Vietnam became another step in interstate partner relations.

Over several years, Izolyator has been initiator, organizer and participant of integrative processes that bring together experience and interests of power and industrial companies of Russia and Vietnam.

The natural development of relations between the countries in power industry led to the meeting of the Chairman of the Board of FGC UES PJSC Andrey Murov and the Chairman of the Board of the state power grid company of Vietnam EVN NPT Dang Phan Toung, which took place in in October 2016 in Moscow.

The return visit of FGC UES management to Vietnam took place in August 2017. It ended with signing of the Memorandum of Understanding with EVN NPT for development of an all-round cooperation in power industry. The signing of memorandum became a major step towards development of the partnership between the leading power grid companies of Russia and Vietnam.

Another principal factor of cooperation development is that Russia is an active contributor to the International Council on Large Electric Systems CIGRE. The Chairman of the Board of FGC UES PJSC Andrey Murov is the leader of the Russian National Committee of CIGRE (RNC CIGRE) and Izolyator and a leading science and technology partner to RNC CIGRE in D1 sector research «Materials and Emerging Test Techniques». The Vietnamese colleagues are actively engaged in CIGRE activities, however there is no national committee formed yet. So, coordination in the CIGRE framework opens new opportunities for scientific and technical exchanges between specialists of the two countries.



SEMINAR PREPARATION

Beginning from December 2017, Izolyator together with Vietnamese and Russian partners has done a large organizational and technical preparatory work, which resulted in a business visit agenda for representatives of Russian industrial companies to Vietnam.



IVAN PANFILOV,
Commercial Director,
1 Deputy CEO,
Izolyator

«A series of Russia — Vietnam meetings, held in 2016—2017 with a common result of a fruitful cooperation set up between the power grid companies EVN NPT and FGC UES, has formed a firm foundation for the successful development of a large-scale cooperation between the companies and promotion of Russia's advanced power equipment technologies on the market of Vietnam. The open Russia – Vietnam workshop for Vietnamese specialists with participation of the leading Russian electrical engineering companies became a natural follow-up activity for sharing experience and bringing together interests of power and electrical engineering companies of the two countries».

The agenda included the following events:

- meeting with EVN NPT management;
- joint open workshop for specialists of Vietnamese companies;
- visit to EEMC transformer plant.

The Russian side was represented by leading manufacturers of power equipment: Izolyator, SVEL Group, Uncomtech Holding and VO Elektroapparat JSC.

Izolyator was represented by Ivan Panfilov, Commercial Director and Andrey Shornikov, Head of International Business Development.



ANDREY SHORNIKOV,
Head of International
Business Development,
Izolyator

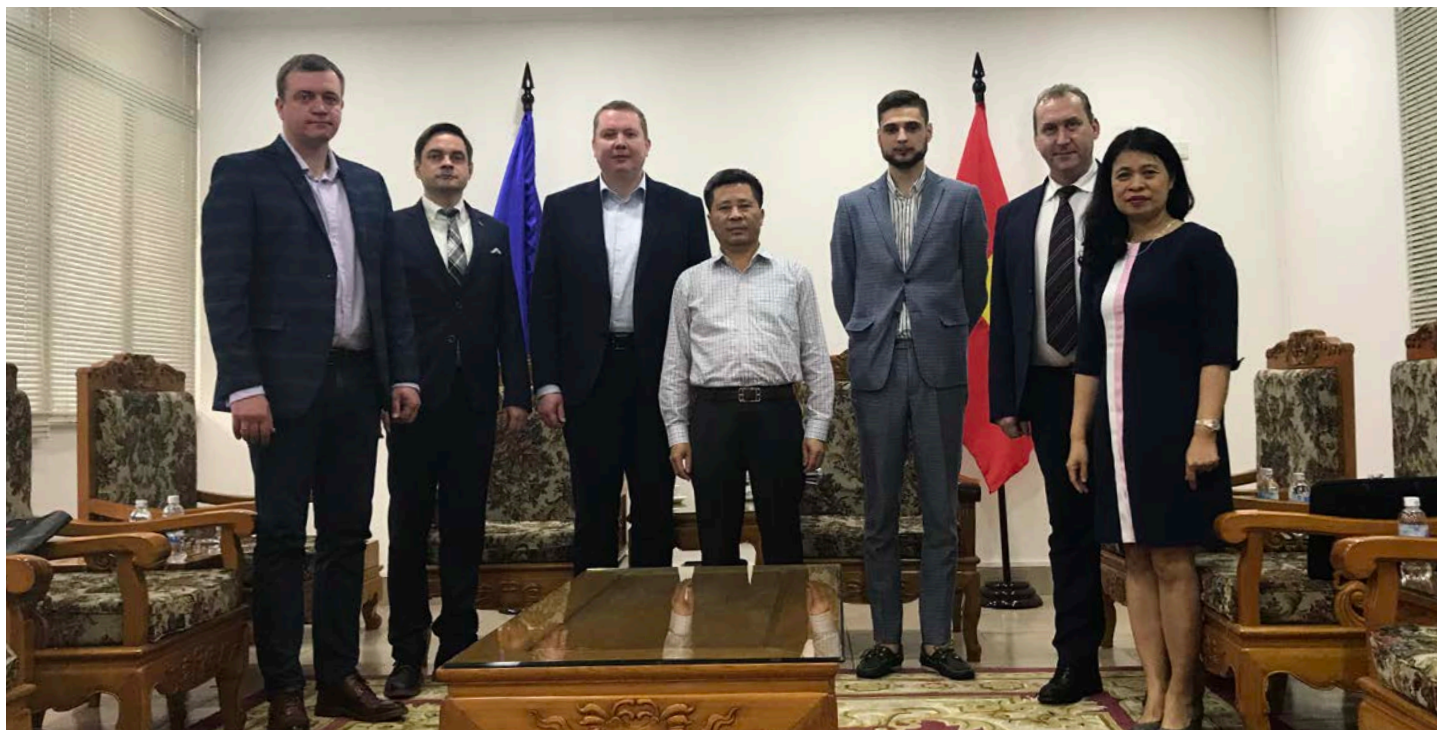
«Our joint activities with the leading electrical engineering plants of Russia in promotion of innovative domestic products to Asian and European markets allow us to set up constructive business ties with partners in various countries, participate in modernization of national power systems and position the Made-in-Russia brand on the global market».

MEETING WITH EVN NPT MANAGEMENT

On 20 March 2018, representatives of Russian electrical engineering companies were received by the Chairman of the Board of Directors of EVN NPT Dang Phan Tuong.

The meeting participants discussed the planned open seminar and informed about the key topics of Russian manufacturers' presentations.

On his side, Dang Phan Tuong spoke about the key trends on the power equipment market in Vietnam, mentioned the primary modernization tasks and development priorities of the power complex in Vietnam, and expressed interest in further cooperation development with Russian manufacturers of electrical products and the Federal Grid Company of the Unified Energy System.



The Chairman of the Board of Directors of EVN NPT Dang Phan Tuong is receiving representatives of Russian companies



The state power company of Vietnam EVN National Power Transmission Corporation (EVN NPT) was founded in 2008 as result of reorganization of activities of four transmission companies: Power Transmission Company No.1, 2, 3, 4 and three power project management offices — Northern, Central and Southern.



Public limited company Federal Grid Company of Unified Energy System (FGC UES PJSC) was founded in the result of power industry reform with the purpose of the national power grid management for its preservation and development.



Russian National Committee Association of International Council on Large Electric Systems (RNC CIGRE) occupies one of the leading positions within CIGRE both by number of members and advanced level of research in power industry ensured by the sustainable operation of the unique unified energy system of Russia.

OPENING OF SEMINAR

On 21 March 2018, an open seminar Experience Exchange in power transmission and distribution — electrical equipment in Russia took place.



Russian representatives are welcoming seminar participants



Registration of seminar participants

From the side of Vietnam, EVN NPT management and more than 100 professionals from generating, power grid and industrial companies and R&D specialists participated.



All is ready for the opening of the representative international event



Audience of the seminar

Alexander Kardo-Sysoev, Deputy Trade Representative of the Russian Federation in the Socialist Republic of Vietnam and Robert Kurilo, the Russian Export Center representative in Vietnam took part in the seminar.



ALEXANDER KARDO-SYSOEV,
Deputy Trade Representative of Russian Federation in the Socialist Republic of Vietnam

«The Russia — Vietnam cooperation is getting stronger on all levels. The trade turnover between our countries exceeded 5 bln USD last year, while the volume of bilateral investment reached 4 bln USD. Our government has set a target to increase Russia — Vietnam trade to 10 bln USD. This seminar falls in line with the concept of Russia — Vietnam relations development. It helps to strengthen business and economic ties between our countries».



Alexander Kardo-Sysoev, Deputy Trade Representative of the Russian Federation in the Socialist Republic of Vietnam is pronouncing a welcome address



ROBERT KURILO,
Russian Export Center Representative in Vietnam

«Power industry is a priority of Russian foreign activities in Vietnam. The Russian Export Center is prepared to render an all-round support to electrical companies of both countries in setting up a productive dialogue and promotion of highly advanced products to the market of Vietnam. When organized on such high level, such seminars work as indicators of a strong interest of Vietnamese manufacturers and power companies in modern Russian power equipment».



Welcome address of the Russian Export Center representative in Vietnam Robert Kurilo

WELCOME ADDRESS FROM EVN NPT

EVN NPT Vice-President Tran Quoc Lam addressed the audience with a welcome speech. He emphasized the huge importance of the event for the development of Russia — Vietnam relations in general and wish everyone a successful and productive work.



Welcome speech of EVN NPT Vice-President Tran Quoc Lam



Tran Quoc Lam emphasized the importance of the event for development of relations between the two countries

The workshop organizers prepared presentations, videos and other visual aids about Russian companies' activities in Vietnamese.



Ivan Panfilov is opening the seminar's business program

BUSINESS AGENDA OF SEMINAR

Ivan Panfilov, Commercial Director of Izolyator opened the seminar's business program. He made a broad overview of the power complex in Russia.



Ivan Panfilov is introducing key facts and trends of power industry development to the audience

He named the key factors and trends of power industry development by directions: generation, transmission and distribution. In his report, he also sound-ed production potential estimate as regards the output of the Russian electrical engineering companies that manufacture modern power equipment and, of course, passed to introduction of the leading Russian manufacturer of high-voltage bushings — Izolyator activities in detail.

Andrey Shornikov, Head of International Business Development of Izolyator familiarized the guests with Izolyator product range, namely high-voltage bushings with solid RIP insulation, pointing out their advantages and giving arguments for the company's complete transition to the production of RIP bushings only.



Andrey Shornikov is familiarizing the audience with Izolyator innovative products



Andrey Shornikov paid a special attention to advantages of high-voltage bushings with solid RIP insulation

Presently, all the power grids of the world, including Russia and Vietnam, are mostly operating the bushings, which were made on the obsolete oil-in-paper insulation (OIP) technology, with their service life already significantly exceeded. In their reports, Ivan Panfilov and Andrey Shornikov summarized the practical experience of application and maintenance of OIP bushings in the power systems of various countries and gave an account of the international principles of risks evaluation in OIP bushings operation.

Taking into account the world's lengthiest outstretch of power lines, operated by the Federal Grid Company of Russia, and, consequently, the biggest park of high-voltage bushings of all rated voltages that operate in highly diverse climate condition, and also taking into account FGC UES's experience and other related factors, such as index of technical condition of bushings, the speakers presented the key principles of evaluation of further operation risks, types of scheduled measurements, need to additional diagnostics and principles of decision-making about OIP bushings replacement.

With its priceless, decade-long experience, Izolyator together with the Federal Grid Company are openly offering to use it with the purpose of ensuring a fault-free operation of the power complex of Vietnam. Also, based on the experience of Izolyator and FGC UES's transition to RIP technology exclusively, the speakers presented the key advantages, benefits and economic feasibility of a transition to high-voltage bushings with solid RIP insulation.

SUGGESTIONS ON COOPERATION DEVELOPMENT

The speakers pointed out the unique mass-use application experience of HV RIP bushings in Russia and especially on FGC UES facilities, with exempling on the parallel trend of transition to the RIP insulation worldwide on the instance of the leading global power grid companies.



The developing trend of transition to HV RIP bushings worldwide was mentioned in Izolyator representatives' reports

As an initiative to develop an open dialogue with EVN NPT further, Izolyator made a suggestion to develop and implement a project of independent evaluation of operated high-voltage bushings, operating on power facilities of Vietnam and assessment of reliability of the power equipment».

An independent expertise would offer an overview of condition of the entire park of installed high-voltage bushings of all types and voltages, currently used on the power infrastructure of EVN NPT. The condition, working efficiency and wear degree of the power equipment will be assessed in strict accordance with requirements of international standards and best practice.

In the result of that work, the service provider will present its findings of the risks for substation high-voltage equipment that use existing obsolete equipment and schedule timely replacements for prevention of possible dangerous and accidental situations on power facilities, form an emergency stock as well as other important for EVN NPT regulations.



Izolyator representatives' reports were received with interest and attention



Izolyator made a suggestion to develop a project to assess technical condition of high-voltage bushings and power equipment, operating in Vietnam

SEMINAR'S AGENDA CONTINUED

SVEL Group made a presentation of modern oil transformer, produced by the company.



ANTON TUGOLUKOV,
Deputy General Director
of SVEL Group JSC

«One of the key topics of the seminar is studying a possibility of obsolete equipment replacement in the power system of Vietnam. The majority of questions from our partners to SVEL are concerned with SVEL's approach to solving the problem of electrodynamic withstand of our oil transformers. For the all-round evaluation of that problem, we seriously improved materials and technologies selection and perfected transformer design. So we are pleased to offer these solutions to our Vietnamese colleagues at this seminar, organized with support from Russian and Vietnamese power grid companies».



Anton Tugolukov, Deputy General Director at SVEL Group JSC is making a report



Dmitry Egorov, Deputy Export Director at Uncomtech Holding is at the rostrum

The presentation of Uncomtech Holding was dedicated to the innovative designs of uninsulated and insulated wires for aerial power lines.



DMITRY EGOROV,
Deputy Director
of Exports,
Uncomtech
Holding

«The most important objectives for the power industry of Vietnam are not only connected with a gradual replacement of 10 kV cable lines with oil-in-paper insulation by the cable lines with cross-linked polyethylene insulation, but also with maintenance of old operating oil-in-paper cable lines. Uncomtech plants make cables of both types, so this seminar is an excellent opportunity for promotion of our products on the market of Vietnam».

VO Electroapparat JSC presented its high-voltage gear for the companies of the industry.



ILYA ARSENIYEV,
Head of Sales,
VO Electroapparat JSC

«In connection with the explosive development of Vietnam's power industry, the key topic of this meeting for us is delivery of high-voltage equipment for the reconstructed and greenfield facilities in Vietnam as well as replacement of the equipment, delivered in the 80s, by new one. We are pleased to see the high interest of our Vietnamese colleagues in the Russian equipment and believe such events to be a highly important groundwork for further cooperation».



The report of Ilya Arseniev, Head of Sales at VO Electroapparat JSC



SVEL Group is a leading power equipment manufacturer in Russia. The company boasts one of the impressive growth modernization rates in the industry.



Uncomtech Trading House, Public listed company Uncomtech Managing Company, Irkutskcable JSC and Kircable JSC for a holding, engaged in production and sale of cabling products. The plants are among the largest cables and wires manufacturers of Russian Federation.



VO Electroapparat JSC is the largest manufacturer of high-voltage gear for 35-500 kV rated voltages for the power industry in the North West of Russia: thermal and hydroelectric power plants, large metallurgical and refining enterprises.

ON THE SIDELINES

During the coffee-break, participants shared impressions and vigorously discussed the received information.



Opinions exchange concerning the reports



Introductions and setting up of business contacts



Open dialogue at the seminar



Seminar participants are actively discussing presented materials



In the forefront - representatives of Russian companies, which participated in the seminar

CLOSING ADDRESS

In conclusion, Tran Quoc Lam summarized the workshop activities and thanked all the participants for the fruitful work, expressing hope for further development of the dialogue between Russian manufacturers of electrical equipment and Vietnamese power engineers.



Tran Quoc Lam is summarizing the work of the Russia – Vietnam seminar



Tran Quoc Lam is sharing hopes of active dialogue development between Russian and Vietnamese companies

The Russia – Vietnam seminar has marked a new stage in development of Russia – Vietnam economic relations: leading Russian manufacturers of power products, required for modernization and development of the power sector of Vietnam, are entering the market.

Izolyator will carry on with the open workshops practice to share experience between Russian manufacturers and Vietnamese power and industrial companies, information on innovative Russian power products including advantages of application and maintenance of high-voltage bushings with solid RIP insulation.

We appreciate the specialists and management of the state power grid company of Vietnam EVN NPT, the Russian companies: Uncomtech Trading House Ltd, SVEL Group and VO Elektroapparat JSC as well as representatives of the Trade Mission of the Russian Federation in the Socialist Republic of Vietnam and the Russian Export Center for participation in the open workshop on experience sharing in transmission and distribution of electric power.



Representatives of the Russian companies are satisfied with the organization, execution and results of the event

GALA DINNER

At the end of the event, all participants were invited to the gala-dinner, where they continued to discuss cooperation in an informal atmosphere.



Seminar participants at the closing event of the day - gala dinner



Informal networking is an attribute of successful business cooperation

VISIT TO EEMC TRANSFORMER PLANT

Izolyator and SVEL Group representatives paid a business visit to have a meeting with the management of Dong Anh Electrical Equipment Corporation (EEMC) during their visit to Vietnam.

EEMC plant is an old business partner of Izolyator. The representatives of the two transformer plants made their acquaintance and proceeded to trilateral talks.

The sides discussed advantages of high-voltage bushings with solid RIP insulation and possibilities of completing EEMC power transformers with them. EEMC and SVEL Group shared experience. SVEL are successfully using Izolyator RIP bushings on their transformers.

The meeting was found very useful by all the participants, with the sides agreeing to develop further cooperation.



Talks of Izolyator and SVEL Group representatives with EEMC plant management



Participants of the meeting of Izolyator and SVEL Group representatives with EEMC plant management



Dong Anh Electrical Equipment Corporation (EEMC), founded on the basis of Dong Anh power equipment repair and maintenance plant, has years of tradition and experience of design, manufacture, supply and maintenance of electrical equipment for the national power sector.

RESULTS OF THE VISIT

The key results of the events that took place in Vietnam are:

- ✓ there is a strong interest, shown to Russian innovative designs and modern approaches to construction of power systems from the Vietnam side,
- ✓ the sides outlined directions of further cooperation and intensification of exchanges between EVN NPT and FGC UES,
- ✓ Izolyator is recognized and marked as initiators, organizer and active contributor to interactions between power companies and Made-in-Russia brand promotion on power markets of Vietnam and other countries,
- ✓ Izolyator sounded a suggestion about an independent assessment of high-voltage bushings that are in operation on power facilities of Vietnam and reliability of high-voltage equipment in order to schedule timely replacement and prevent possible dangerous and emergency situations on power facilities,
- ✓ Izolyator confirmed its readiness to arrange necessary meetings, seminar and discuss an possibility of a trial replacement of OIP with RIP bushings on the critical in terms of risks facilities of EVN NPT and announced about its preparedness to run a pilot project of RIP bushings installation on the transformer equipment of Dong Anh Equipment Corporation (EEMC).

ACKNOWLEDGEMENT

We appreciate all Russian and Vietnamese partners, who took part in the events, for their productive input and a large contribution in the strengthening and development of the Russia — Vietnam relations!

We would like to give our special thanks to EVN NPT and the Chairman of the Board of Director Dang Phan Tuong for cooperation and organization of the event on the highest international level.

Our special thanks for the all-round support in organization and execution of the seminar.

From the Vietnam side:

- **Mr. Tran Quoc Lam**, Vice-President, EVN NPT;
- **Mr. Nguyen Minh Thang**, Member of the Board of Director, EVN NPT;
- **Ms. Luong Lan Dung**, Director, International Relations, EVN NPT;
- **Ms. Thi Anh**, Assistant Director, International Relations, EVN NPT.

From the Russian side:

- **Alexander Kardo-Sysoev**, Deputy Trade Representative of Russian Federation in the Socialist Republic of Vietnam;
- **Rober Kurilo**, Head of Representation of the Russian Export Center JSC in Vietnam;
- **Anton Tugolukov**, Deputy General Director SVEL Group JSC;
- **Dmitry Egorov**, Deputy Export Director, Uncomtech Holding;
- **Ilya Arseniev**, Head of Sales, VO Electroapparat JSC.