

Centuries-old traditions – state-of-the-art technologies

## REFERENCES

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Power Generation

Thermal, nuclear and hydro energy



### Power Transmission

Long distance, regional, municipal power lines



#### Power Consumption

Industry, transportation, oil and gas

## Centuries old traditions – state of the art of technologies



Izolyator is a major Russian manufacturer of high-voltage bushings with over 110 year-long history. Our century-long existence on the market has proved the fact that our company's success is the success of our clients. In conditions of rapidly developing power market we stay focused on our customers' growing requirements and sensitive to their needs in – sometimes – very difficult situations.

In late 2007, we completed a large-scale project to transfer production facilities from Moscow city territory and Istra region of Moscow region. This allowed for a complete production renovation and process efficiency improvement with the use of modern equipment making it possible to achieve significant lead time reduction together with capacity increase.

Izolyator is a permanent leader in the field of high-voltage bushing manufacturing and sales in Russian Federation. One of our key principle is the constant product quality improvement. As of this moment, the plant boast a unique of its kind in Russia Test Center that allows to run full cycle electric tests of AC and DC HV bushings. Our entire product range is put for testing at the facility.

Nowadays, our product quality not only conforms to all international requirements and quality standards, but also has been confirmed by audits of such world-known transformer manufacturers as Siemens, Crompton Greaves, Alstom. Operational convenience, flexible cooperation terms and customer orientation have been confirmed by many favorable references and letters of recommendation from our clients and partners.

Our aim is to be a world leader in development, production and implementation of modern technologies in power engineering, creating the foundation for a stable and sustainable power supply for the society in the whole and for every individual! It is our strategic goal and mission!

> Alexander Slavinsky Chairman of the Board of Directors of Izolyator Doctor of Engineering Science

#### Our mission





#### Social responsibility

Izolyator forms a social policy on the basis of harmonized interests of the company owners and personnel, local community and society with strict adherence to the laws of Russian Federation.



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Kuzbassenergo-RES – branch of MRSK Siberia Plc	
Krasnoyarskenergo – branch of MRSK Siberia Plc Altaienergo – branch of MRSK Siberia Plc	
MRSK Center and Privolzhye	
MRSK Center and Phyot2hye MRSK North-West	
References from transformer plants of Russia and the CIS countries	
Energomash CJSC	
SVEL Group CISC	
Togliatti Transformer Ltd	
Power Machines – Toshiba. High-voltage transformers Ltd	
Zaporozhtransformer Plc	
Kentau Transformer plant JSC	
References from enterprises of Power Industry and Heavy Industry	
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Thermal Power Plant-22 – branch of Mosenergo JSC	
Republican unitary enterprise Vitebskenergo	
Republican unitary enterprise Minskenergo	
Republican unitary enterprise Mogilevenergo	
RETO JSC – subsidiary of MOESK JSC	
Achinsk Refinery	
Sibirskaya Power Installation Company CJSC	
Uralenergoremont JSC	
International consumers' references	
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Elering AS	
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## Izolyator in numbers









# More than **550 000**

**bushings produced** Including over 500 000 OIP and over 50 000 RIP insulated bushings

installed at FSK UES facilities

**40 000** Izolyator bushings With 20 000 pcs in non-stop operation over 35 years



Sole production in Russia to make bushings in the range From 10 to 1150kV

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Products meet GOST R 55187-2012 and IEC 60137:2008

## Izolyator

#### DESIGN, PRODUCTION, TESTING, SERVICE

#### Advanced engineering design office

- Creation of new bushings designs
- Advanced production technologies development
- Research and development works
- Mass produced series modernization

#### Production

- The most advanced technological equipment from the best OEMs
- Patented RIP technology
- Patented external polymer insulation production technology
- Internal insulation with length up to 12 and diameter up to 750 mmм

#### **Test Center**

- Test under 1200 kV
- Test under 1600 kV+/-, AC
- Test under full and chopped lightning impulse 1.2/50 mcs
- Test under switch impulse 250/2500 mcs
- Insulating materials and prototype tests
- Certified by Federal Agency on Technical Regulation and Metrology under IEC 17025-2006 (ISO/IEC17025:2005)й

#### Service Center

- Qualified technical service support
- Complex diagnostics
- Warranty and post warranty maintenance
- Customer service and hot line for technical divisions in client companies

## PRODUCTS



## Partners

Izolyator customers are world known international and Russian companies operating in the field of power Generation, Transmission and Distribution; Construction of large power facilities; Production of power equipment.

We aim to be a global leader in design, production and implementation of modern technologies in power industry.



#### Among company partners

ETD Transformatory	Hyundai Heavy Industries Co.	e-on	Grid Company	Russian Railways JSC	Zaporozhtransformator PJSC
GGAZPROM	GMOSENERGO			HIGH-VOLTAGE TRANSFORMERS	Vijai Electricals Ltd.
Gazprom	Mosenergo JSC	Alstom	Lukoil	Power Machines Toshiba High-Voltage Transformers LLC	Vijai Electricals Ltd.
ROSSETI	<b>@</b> Fortum	😝 RusHydro	SIEMENS	G	Ē
Russian Grids JSC	Fortum	RusHydro Group	Siemens	Crompton Greaves	Tolyattinsky Transformator JSC
Статито акционения оканство	(415)		nel 💥	OETM	אזר-2
Bashkirenergo	Chirchiq Transformer Plant	ELEKTROZAVOD H Company	olding Enel	Energomash (Ekaterinburg) Uralelectrotyazhmash JSC	
Grid Company of Unified Energy System		INTER	🔅 RAOUES	FILE ADVECTOR OF ADVECTOR ADVECTOR OF ADVE	<b>JJST</b> transformateurs
Federal Grid Company of Unified Energy System	Imefy		Inter D Group	Irkutskenergo	JST
$\bigcirc$	KOC MUNICIPAL AND	ETRR	111.9 KONGAR D&ST	NOVOSIBIRSK <mark>energo</mark>	TAMINİ
Kentau Transformer Plant	KES		Končar – Distribution and Special Transformers Inc.	Novosibirskenergo	TRASFORMATOR S71
GOGK-2	पावरग्रिड	ROSENERGOATOM	Электрощит	СИБИРСКАЯ ГЕНЕРИРУЮЩАЯ КОМПАНИЯ	SVEL
OGK-2	Power Grid	Rosenergoatom Concern	SES	SGC	SVEL Power Transformers Plant

## Power grid system in Russian Federation



#### Rosseti Public Joint Stock Company

**(Russian Grids)** is a power grid operator in Russia and one of the largest grid companies in the world.



Rosseti is a holding company that manages subsidiaries and affiliated Interregional distribution grid companies (MRSK) and Federal Grid Company of Unified Energy System (FGC UES).



FGC UES Plc manages and develops the Unified national (all-Russia) power grid. The unified power system of Russia is a national asset and guarantee of energy security. FGC UES Plc is the largest in the world public grid company.



MRSK – is a foundation of power distribution structure in Russia. MRSK competences include power supply to the public, large industrial consumers, transport, agriculture and social facilities including technological connection of consumers to power grids.









ЗАКЛЮЧЕНИЕ АТТЕСТАЦИОННОЙ КОМИССИИ ОТ 14.01 2015 No 13-7/15



## Rosseti Plc, certificate for GKT type bushings for 24–172 kV voltage range

№ 13-4/15

Manufacturer/Applicant

Izolyator plant / Massa Ltd (Moscow Region, Pavlovskaya Sloboda)

#### Equipment

High-voltage GKT bushings for high voltages from 24 to 172 kV, in O-type climatic execution, 1 application category compliant to TU 3493-001-31317133-2008 (except 27 kV GKT type bushings) Complies with Technical requirements and is recommended for application on subsidiaries and branches facilities of ROSSETI Plc (approved by attestation board on 14 January 2015 #I3-4/15).

First Deputy General Director at Rosseti Plc R.N. Berdnikov

## Rosseti Plc, certificate for GK type bushings for 252–550 kV voltage range

№ 13-7/15

Manufacturer/Applicant Izolyator plant / Massa Ltd (Moscow Region, Pavlovskaya Sloboda)

#### Equipment

High-voltage GK bushings for high voltages from 252 to 550 kV, in O-type climatic execution, 1 application category compliant to TU 3493-002-31317133-2008 Complies with Technical requirements and is recommended for application on subsidiaries and branches facilities of ROSSETI Plc (approved by attestation board on 14 January 2015 #I3-7/15).

First Deputy General Director at Rosseti Plc R.N. Berdnikov





директора ПАО «Россети»

## Rosseti Plc, certificate for GKV type bushings for 40.5–252 kV voltage range

№ 13-6/15

Manufacturer/Applicant Izolyator plant / Massa Ltd (Moscow Region, Pavlovskaya Sloboda)

#### Equipment

High-voltage GKV bushings for high voltages from 40.5 to 252 kV, in O-type climatic execution, 1 application category compliant to TU 3493-003-31317133-2008 Complies with Technical requirements and is recommended for application on subsidiaries and branches facilities of ROSSETI Plc (approved by attestation board on 14 January 2015 #I3-6/15).

First Deputy General Director at Rosseti Plc R.N. Berdnikov

## Rosseti Plc, certificate for GKL type bushings for 72.52–252 kV voltage range

№ 13-5/15

Manufacturer/Applicant Izolyator plant / Massa Ltd (Moscow Region, Pavlovskaya Sloboda)

#### Equipment

High-voltage GKL bushings for high voltages from 72.5 to 252 kV, in O-type climatic execution, 1 application category compliant to TU 3493-005-31317133-2009 Complies with Technical requirements and is recommended for application on subsidiaries and branches facilities of ROSSETI Plc (approved by attestation board on 14 January 2015 #I3-5/15).

First Deputy General Director at Rosseti Plc R.N. Berdnikov



Att. of Power Grid Corporation of India Ltd., Saudamini, Piot No.-2, Sector-29, Gurgaon-122001, Haryana, India Tel. +91-124-2571700-19 (Extn. 2348/3325); Fax.: +91-124-2571831

TO WHOM IT MAY CONCERN

Dear Gentlemen!

In the course of many decades, from the moment of appearance of Electrical Power Sector in Russian Federation and up to the present day Massa LLC – IZOLYATOR factory remains our regular supplier of high-voltage bushings for the needs of our Company. Below herewith we are kindly informing You on the list of HV bushings, rated 500kV/315A, 500kV/1600A, 500kV/2500A, 800kV/315A, with internal solid resin impregnated paper (RIP) insulation which have been developed, designed, manufactured, type tested, supplied , installed by Massa LLC at the facilities of subdivision companies of JSC Federal Grid Company of Unified Energy System (JSC FGC UES): MES of Northwest, MES of Urals, MES of East, MES of Center, MES of Volga, MES of Siberia, MES of West Siberia, MES

Type of Bushing	Factory drawing	Year of commissioning	Factory Serial No.	Q-ty.	Total Q-ty
500kV/315A (for reactors)	ИВУЕ.686355.129	2009	D-21771 D-21881 D-19941 D- 20497 D-21234 D-21273	6	10

		2010	П-26489 П-26834 П-27972 П- 25751 П-21928	5	
		2011	П-32977 П-33077 П-34093 П- 34178 П-23848 П-24355 П-25186 П-31691	8	
		2012	II-35175.II-42418	2	
		2013	П-34038, П-49089, П-53515 П-53516, П-54083, П-50548 П-50547, П-53439, П-49051 П-49050, П-49759	11	
500kV/1600A	ИВУЕ.686355.173	2011	II-39608 II-39738	4	
(transformer)		2012	П-45051, П-46608, П-46654 П-44984, П-48212, П-43386 П-40566	7	
		2013	II-40271	1	
500kV /2500A	ИВЕЮ 686354.001	1999	4-48461	1	_
(transformer)	ИBEЮ 686354.002	2005	4-89899	1	
	ИВУЕ.686355.172 ИВУЕ.686355.146-01	2008	П-06227 П-10840 П-12457 П- 13488 П-15598 П-16544 П-08181 П-13764 П-12832 П-12741	10	
		2009	П-19736 П-19098 П-19461	3	
		2010	II-24454 II-26803 II-22900	3	
		2011	П-13380 П-39932 П-40061 П- 40647 П-22158 П-22850 П-24228	7	
		2012	П-42246, П-40867, П-40614, П-41067, П-41215, П-40933, П-41427, П-39607, П-42008 П-41368, П-41639	11	
		2013	П-54603, П-50428, П-54432 П-54433, П-51960, П-49090 П-52074, П-52210, П-48863 П-43036, П-52018, П-50281	12	
800kV/315A	ИBYE 686356.165	2013	II-52993, II-52372	2	
(for reactors)		2014	D-46179	1	98

We confirm hereby the high quality of the supplied products by Massa LLC, as well as a complete compliance with the requirements of IEC 60137 standard, GOST 10693 standard and normative documents. All high-voltage bushings mentioned above have passed successfully all type and routine tests and are successfully operating up to the present time since their commissioning. There have not been occurred any problem with installation, commissioning and maintenance.

A successful experience in development of the partnership relations between Massa LLC and JCS FGC UES allows to recommend Massa LLC - Izolyator factory as a reliable partner for manufacturing and supplies of the bushings for high (110, 220, 330) and extra-high voltage levels (420, 550, 800 etc.).

JSC FGC UES confirms herewith that Massa LLC - Izolyator factory is a strategical partner, wishing You prosperity and further innovative development of Energy Transmission and Distribution in Russia and Worldwide!

Your sincerely,

Deputy Chairman of the Board chief engineer

P. Dikoy
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#### FGC UES reference letter on high-voltage bushings by Izolyator

On 3 July 2015, FGC UES JSC sent a reference letter to Indian PowerGrid Corporation of India Limited concerning Izolyator 550 and 800 kV RIP-insulated bushings that are operated in regional grids, branches of FGC UES. In the document, FGC UES confirms a high quality of Izolyator products and recommends the company as a reliable strategic partner.

> Sincerely, V.P. Dikoi Deputy Chairman of the Board, Chief Engineer





In the course of many decudes, from the moment of appearance of Electrical Power Sector in Russian Federation and up to the present day Massa LLC - IZOLYATOR factory remains our regalar supplier of high-veltage bushings for the needs of our Company. Below herewith we are kindly informing Yeu on the list of HV bushings, rated 500(XV156A, 500(XV160A), 500(XV250A), with internal solid resin impregnated paper (RIP) assulation which have been developed, designed, manufactured, type tested, supplied , installed by Massa LLC at the facilities of subdivision companies of JSC Federal Grift Company of Unified Energy System (JSC FGC UES); MES of Northwest, MES of Urals, MES of South.

Type of Bushing	Factory drawing	Year of commissioning	Factory Serial No.	Q-ty, pcs.	Total Q-ty
500kV/315A (for reactors)	ИВУЕ.686355.129	2009	R-21771 R-21881 R-19941 R-20497 R-21234 R-21273	6	
		2010	П-26469 П-26634 П-27972 П-25751 П-21928	5	]
		2011	П-32977 П-33077 П-34093 П-34178 П-23848 П-24355 П-25186 П-31691	8	
500kV/1600A		2011	II-39608 II-39738	4	
(transformer)					
500kV /2500A	ИВЕЮ 686354.001	1999	4-48461	1	
(transformer)	MBEIO.686354.002	2005	4-89899	1	1
	ИВУЕ.686355.172	2008	П-06227 П-10840 П-12457 П-13488 П-15598 П-16544 П-08181 П-13764 П-12832 П-12741	10	
		2009	П-19735 П-19098 П-19461	3	1
		2010	II-24454 II-26803 II-22900	3	1
		2011	П-13380 П-39932 П-40061 П-40647 П-22158 П-22850 П-24228	7	48

We confirm hereby the high quality of the supplied products by Massa LLC, as well as a complete compliance with the requirements of IEC 60137 standard, GOST 10693 standard and normative documents. All high-voltage buthings mentioned above have passed successfully all type and routine tests and are successfully operating up to the present time since their time.

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#### **Reference letter of FGC UES**

In the course of many decades from the moment of appearance of Electrical Power Sector in Russian Federation and up to the present day Massa LLC – Izolyator factory – remains our regular supplier of high-voltage bushings for the needs of our Company. Below herewith we are kindly informing You on the list of HV bushings, rated 500kV/315A, 500kV/1600A, 500kV/2500A, with internal solid resin impregnated paper (RIP) insulation which have been developed, designed, manufactured, type tested, supplied, installed by Massa LLC at the facilities of subdivision companies of JSC Federal Grid Company of Unified Energy System (JSC FGC UES): MES of North West, MES of Urals, MES of East, MES of Center, MES of Volga, MES of Siberia, MES of West Siberia, MES of South.

We confirm hereby the high quality of the supplied products by Massa LLC as well as complete compliance with the requirements of IEC 60137 standard, GOST 10693 standard and normative documents. All high-voltage bushings mentioned above have passed successfully all type and routine tests and are successfully operating up to the present time since their commissioning. There have not been occurred any problem with installation, commissioning and maintenance.

A successful experience in development of the partnership relations between Massa LLC and JSC FGC UES allows to recommend Massa LLC – Izolyator factory as a reliable partner for manufacturing and supplies of the bushings for high (110, 220, 330) and extra-high voltage levels (420, 550, etc.).

JSC FGC UES confirms herewith that Massa LLC – Izolyator factory is a strategical partner, wishing You prosperity and further innovative development of Energy Transmission and Distribution in Russia and Worldwide!

> Yours sincerely, Deputy Chief Engineer of JSC FGC UES A.M. Epifanov







Att. of Power Grid Corporation of India Ltd., Sautamini, Piot No.-2, Sector-29, Gurgaon-122001. Haryana, India. Tel. +91-124-2571700-19 (Extn. 2348/3325); Fax.: +91-124-2571831.

POINT STOCK COMPANY "POC USS" In AL CHEMPINE IF, 117625 Motors, Puma More, 47 495 753 5555, fax: 47 495 710 9555

TO WHOM IT MAY CONCERN Date: 18th June 2014

Dear Gentlemen!

In the course of many decades, from the moment of appearance of Electrical Power Sector in Russian Federation and up to the present day Massa LLC – LZOLYATOR Restery remains our regular supplier of high-voltage bushings for the needs of our Company. Below herewith we are kindly informing You on the list of HV bushings, rated 5004V70315A, 5008V1600A, 5004V2000A, 5004V2010-2500A, 7508V21015-1000A, and 11508V1125A with internal oil - improgranted paper (IOP) insulation which have been developed, designed, manufactured, type tested, supplied, installed by Massa LLC during the last 30 years at the facilities of subdivision companies of JSC Federal Grid Company of Unified Energy System (SCF EGC UES): IMES of Northwest, MES of Urals, MES of East, MES of Center, MES of Volga, MES of Siberia, MES of West Siberia, MES of South.

Type of Bushing	Factory drawing	Year of commissioning	Factory Serial No.	Q-ty, pcs.	Tota Q-ty
500kV/315A	2013.800.034	1972	C-41081	1	
(for reactor)	ИВЕЮ.686344.006-02	1983	58741	1	1
	ИBEIO.686344.029	1985	T-45495	1	1
	ИBEЮ.686345.004	1988	T-91118 29552 57733	3	1
	ИBEIO.686341.004-06	1996	4-57642	1	1
		2000	4-70257 4-13851 4-72576 4-71799	4	1
		2001	Ч-71685 Д-83895	2	1
		2002	4-49759(93r.s.) 4-63207 4-74155 4-71993 4-76710 4-78380 4-78935 4-76385	8	
		2003	4-24197(90r.s.) 4-82659 4-83167 4-57640 T-1543 4-81608 4-91689	7	1
		2004	4-81799 4-84058 4-84993 4-60252 4-95518 4-87251 4-87936	7	
		2005	4-90319 4-92523 4-90714 4-39793 4-39282(91r.e.) 4-91214 4-69635 4-83759 4-82035 4-82293 4-83524 4-91688 4-89650 4-89682 4-89650 C-98445(75r.e.)	16	
		2006	4-95976 4-98960 4-96195 4-82653 4-94921 4-86180 4-98021 4-96309	8	1
		2007	Ч-59988 (95г.в.) Ч-93511 П-05679 73140 Ч-04527	5	1
		2008	4-89909 4-93467 П-15148 П-15344 П-16494 4-95519 П-07814 48921 73141 П-07994	10	
		2009	П-17704 П-18015 П-18358	3	80

		2010	П-18942 П-17047	2	-
		2012	Π-18178	1	
500kV/1600A	29/3 800.011	1983	2529 38594 78787 88349	4	-
(transformer)	2/13/800.011	1985	T-49198 T-49199	4	-
(transionner)	2111.800.085	1985	T-53124 T-53168 T-54674 T-64193	4	-
	2LLL 800.085-01	1988	T-72897 T-79328 T-95308 T-95309	6	-
	200.095-09	1.000	T-38593 T-80204	×	
	ИВЕЮ.686344.025-02	1989	T-75459 T-90265 T-95551 T-98471	4	1
	MBEIO.686344.030	1991	4-16902 4-23692	2	1
	0.0110.020.000.000.000	1992	4-16804 4-29371	2	1
		1994	4-25899 4-53032	2	1
		1997	30660 30662 59237	3	1
		1998	4-43958	1	1
		2000	Д-37461 Ч-31711 Т-93040 Д-79349	4	
		2001	Д-358879 Т-99613 Ч-76701 131299 131300 131301 П-10200 С-90910 Ч-56096	9	
		2002	Д-38700 Д-55328 Д-65996 Ч-79516 Ч-79845	5	1
		2003	Д-33850 Д-67951 Т-14008 Т-69927 Ч-34905 Ч-82410	6	
		2004	4-85728 4-81882 4-31709 T-83370 4-86626	5	
		2005	4-80007 <b>Д-26690(78r.m.) Д-</b> 27929(78r.m.) 4-90038 4-90040 4- 91657 4-92136 89993 T-39096 4- 58869 <b>D</b> -7832	11	
		2006	T-63294(86r.m.) T-19738 4- 59185(95r.m.) 4-93403 4-96029 4- 95822 4-96030	7	1
		2007	П-04187 П-04293 П-05711 Ч-88270 T-55402 T-66899 C-84385(73r.n.) П-05710 T-49578	9	1
		2008	D-03886	1	90
		2009	4-55375 4-6953 IT-07776	3	30
		2005	400010 40000110/110		
500kV/2000A	ИBEK0.686344.005	1988	56838	1	
(transformer)	ИBEIO 686344.005-09	1995	4-58007 4-58348	2	1
	ИBEIO 686344.010	1998	4-66623	1	1
	ИBEЮ 686344.028	2000	4-73836 4-71528	2	1
		2001	4-74998 4-77747 4-77361 4-74634	4	1
		2002	4-76125 4-76745 4-78556 4-80112 4-80375 4-80469	6	]
		2003	4-77360 4-83182 4-77360 4-83182	2	
		2005	4-45689 4-83508 T-70602(95r.m.) 4-89833 4-83508	4	
		2006	4-94922 4-80111 4-88884 4-94922 0-02466 0-02989 0-03062 0-07555	3	-
		2007	П-02400 П-02909 П-03002 П-07555 П-04495	5	34
500kV /	ИВЕЮ 686344.028(-	2002	D-01914	1	-
2000-2500A	01,-02)	2002	4-82135 4-83183 4-83550 4-81323	4	1
(transformer)	ИВЕЮ 686344.010 (-	2003	4-62135 4-63165 4-63566 4-61323	2	
	01,-02)	2005	4.92972 4.90660 4.89939 4.85622 4.89636 4.89941 4.80849 4.89839 4.90281 4.91213 4.96827 4.89848 489692	13	
		2006	499982 4-94472 4-97052 4-97053 4-97695 4-98339 4-98699 4-99116 4-99146	30	69

#### **Reference letter of FGC UES**

In the course of many decades from the moment of appearance of Electrical Power Sector in Russian Federation and up to the present day Massa LLC – Izolyator factory – remains our regular supplier of high-voltage bushings for the needs of our Company. Below herewith we are kindly informing You on the list of HV bushings, rated 500kV/315A, 500kV/1600A, 500kV/2000A, 500kV/2000-2500A, 750kV/315-1000A and 1150kV/1250A with internal oil impregnated paper (OIP) insulation which have been developed, designed, manufactured, type tested, supplied, installed by Massa LLC during the last 30 years at the facilities of subdivision companies of JSC Federal Grid Company of Unified Energy System (JSC FGC UES): MES of North West, MES of Urals, MES of East, MES of Center, MES of Volga, MES of Siberia, MES of West Siberia, MES of South.

We confirm hereby the high quality of the supplied products by Massa LLC as well as complete compliance with the requirements of IEC 60137 standard, GOST 10693 standard and normative documents. All high-voltage bushings mentioned above have passed successfully all type and routine tests and are successfully operating up to the present time since their commissioning. There have not been occurred any problem with installation, commissioning and maintenance.

A successful experience in development of the partnership relations between Massa LLC and JSC FGC UES allows to recommend Massa LLC – Izolyator factory as a reliable partner for manufacturing and supplies of the bushings for high (110, 220, 330) and extra-high voltage levels (420, 550, etc.).

JSC FGC UES confirms herewith that Massa LLC – Izolyator factory is a strategical partner, wishing You prosperity and further innovative development of Energy Transmission and Distribution in Russia and Worldwide!

> Yours sincerely, Deputy Chief Engineer of JSC FGC UES A.M. Epifanov

**ROSSETI** 

			4-99147 4-93332 4-53934 4-97756 4-97015 4-97916 4-98341 4-98659 4-98701 4-98355 4-98700 4-93933 494021 4-98458 4-98700 4-93933 494021 4-98458 4-98760 4-9759 7-73942 4-97760 4-97696 4-97759 4-98310 4-98340		
		2007	П-00956 П-03019 П-01935 П-03017 4-99769 П-01913 П-02465	7	
		2008	П-13159 П-12832 П-02467 П-13381 П-13727 П-13862 П-10840 П-12457	8	1
		2009	II-19264 4-48842	2	1
		2011	II-13380	1	1
750kV /	2/13.800.021	2002	С-87937 Д-33757	2	
315A	2ШЦ 800.072	2003	4-72041 T-53098	2	
(reactor) -	VBYE 586345.004	2004	4-81800 4-84882	2	
1000A	ИBVE.686345.005	2005	4-78380 4-83378	2	
(transformer)		2008	4-80470 4-87460 4-92085	3	1
		2010	4.94579	1	12

We confirm hereby the high quality of the supplied products by Massa LLC, as well as a complete compliance with the requirements of IEC 60137 tandard, COST 10693 tandard and normative documents. All high-voltage bashings monitored above have passed successfully all type and rootine tests and are successfully operating up to the present time since their commissioning. There have not been occurred any problem with installation, commissioning and maintenance.

A successful experience in development of the partnership relations between Massa LLC and JCS FGC UES allows to recommend Massa LLC - Izolyator factory as a reliable partner for manufacturing and supplies of the bushings for high (110, 220, 330) and extra-high voltage levels (420, 550, etc.).

JSC FGC UES confirms herewith that Massa LLC - Izolyator factory is a strategical partner, wishing You prosperity and further innovative development of Energy Transmission and Distribution in Russia and Worldwide!

Your sincerely,

Deputy Chief Engineer of JSC FGC UES

\$.E A.M. Epifanov



Main Power Transition lines of Western Siberia (MES West Siberia) is a branch of FGC UES operating on the territory of Ural Federal District. 3 federal states with 3.5 mln population enter the service area of the company.





Вое поставки были осуществлены в крагчайшие срокт, качестик поставленией продукции ООО «Масса» (Завод «Изолитор») соответствуе гробованиям и обладает положительным заключением вттестационной комиссией ОАО «ФСК ЕЗС».

За время сотруднячества ООО «Масса» зарекомендовало себя как надежный партнер.

Заместитель гланного ниженера, Дярактор по организация эксплуатация основного оборудования	<i>[[50]</i> М.А. Бизяса
Кирсенкова (3462) 77 73 79	
	Вход. Не <u>1997</u> - <u>19</u> - <u>10</u> 20 <u>1</u> г. подлись

#### **MES West Siberia Reference letter**

Our company contracted Massa Ltd under long term agreements #26-12/p dated 20 April 2012, #53-13/p dated 20 June 2013 and #65-13/p dated 17 September 2013 for high-voltage bushings supply for our maintenance program and the emergency reserve of the FGC UES – MES West Siberia branch.

In accordance with the agreement of 24 October 2013 we received 18 transformer and circuit-breaker bushings of 110–330 kV class.

All shipments were received within the shortest period of time. Massa ltd (Izolyator plant) products meet our quality requirements and have been certified by FGC UES.

Massa ltd has proved a reliable partner throughout our cooperation.

Deputy Chief Engineer Director of main equipment operation and maintenance A.M. Bizyaev





**Main Power Transmission Lines of Center (MES Center)** is a branch of FGC UES operating in Central, North-Western and Southern federal states. There are 19 federal subjects of Russian Federation with over 40 mln population in the service area of the branch.





#### Уважаемый Александр Зиновьевич!

В рамках пятилетнего договора № 52-2012 от 02.04.2012 ООО «Масса» в 2013 году поставило 40 высоковольтных вводов для реализации программы ТОИР и комплектования аварийного резерва филиала ОАО «ФСК ЕЭС»- МЭС Центра.

Также МЭС Центра заключил договор от 20.05.2014 №75-2014 с ООО «Масса» на поставку 74 вводов 110-750 кВ.

. Все поставки были осуществлены в установленные сроки, качество продукции ООО «Масса» соответствует требованиям и обладает положительным заключением аттестационной комиссии ОАО «ФСК ЕЭС».

За время сотрудничества ООО «Масса» зарекомендовало себя как надежный партнер,

Директор по организации эксплуатации основного оборудования МЭС Центра

Camps 2813

A.B. Fonfiv

#### Reference Letter of MES Center, branch of FGC UES

Under the five-year contract #52-2012 dated 2 April 2012 Massa Ltd supplied 40 HV bushings for the maintenance and replacement program in 2013 and emergency reserves replenishment of the branch of FGC UES – MES Center.

MES Center also contracted Massa Ltd (agreement #75-2014 dated 20 May 2014) for delivery of 74 bushings of 110-750 kV voltage classes.

All shipments met delivery time; the product quality meets our requirements and has been certified by FGC UES.

Massa ltd has proved a reliable partner throughout our cooperation.

Director of main equipment operation and maintenance MES Center A.V. Gorbunov

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**Main Power Transmission Lines of South (MES South)** is a branch of FGC UES operating in Southern and North Caucasus federal states. There are 11 subjects of Russian Federation with over 19 mln population in the service area of the branch.





## Reference Letter of MES South, branch of FGC UES

MES South has purchased Izolyator's (Mass ltd) modern technology HV bushings with RIP insulation for implementation of our maintenance and replacement programs and emergency reserves replenishment.

From 2012 to 2014 our purchase volumes totaled 214 pcs in various voltage classes within 110–500 kV intended for transformer/ reactor equipment and oil switches with large oil volumes.

During operation time at PS MES South the above listed equipment proved reliable and able to perform in varying climatic conditions. We have no quality claims to this date.

This equipment has a high operational reliability and we see no obstacles for using it in our programs in future.

MES South expects to purchase 10 bushings of various voltage classes in 2015.

1 Deputy General Director Chief Engineer G.N. Kovtun





Main Power Transmission Lines of North-West (MES **North-West)** is a branch of FGC UES operating in North Western federal state.

There are 11 federal subjects of Russian Federation with over 14 mln population in the service area of the branch.





Председателю Совета директоров ООО «Масса» А.З. Славинскому

Об оттрузке вводов

#### Уважаемый Александр Зиновьевич!

В рамках долгосрочного договора поставки №1930/с от 20.03.2012 ООО «МАССА» было привлечено для выполнения поставок высоковольтных вводов в рамках программы ТОИР и комплектования аварийного резерва Филиала ОАО «ФСК ЕЭС» - МЭС Северо-Запада. В соответствии с договором на 18.10.2013 была осуществлена поставка 129 трансформаторных и выключательных вводов классами напряжения и поста 20.000 классами напряжения и выключательных водов классами напряжения

10кв-ээбкв. Все поставки были осуществлены в крагчайшие сроки, качество поставленной продукции ООО «Масса» (Завод «Изолятор») соответствует требованиям и обладает положительным заключением аттестаниемием требованиям и обладает положительным заключением аттестационной комиссией ОАО «ФСК ЕЭС». За время сотрудничества ООО «МАССА» зарекомендовало себя как

надежный партнер.



#### **Reference Letter of MES North-West**, branch of FGC UES

Under the long-term contract #1930/c dated 20 March 2012 Massa Ltd supplied HV bushings for the maintenance and replacement program and emergency reserves replenishment to the branch of FGC UES – MES North-West.

By 18 October 2013, in accordance with the agreement the supplier delivered 129 transformer/switch bushings of 110-330 kV voltage classes.

All shipments met strict delivery deadlines; Massa Ltd (Izolyator plant) products guality corresponds our requirements and has been certified by FGC UES.

Massa ltd has proved a reliable partner throughout our cooperation.

> Deputy General Director on Economy and Finance O.E. Shakirov





There are 3 technical centers and 22 ETL areas within the structure of **Kuzbassenergo-RES**, **branch of MRSK Siberia JSC.** They ensure power supply to almost 3 million people on the territory of 96.5 square kilometers.





#### **Reference Letter of Kuzbassenergo-RES**

In reply to your letter #073 of 7 February 2013 concerning feedback on product quality please be informed that Kuzbassenergo-RES purchased Massa Ltd-made HV bushings from Innovations and Business in Power Industry CJSC:

- GKVIII-60-126/2000 01 (IVUE.686352.132) bushing 4 pcs
- GKTIII-60-126/800 01 (IVUE.686352.103) bushing 3 pcs

We have no quality claims on the above mentioned equipment.

Deputy General Director – Branch Director A.Yu. Grin





Today Kranoyarskenergo, branch of MRSK Siberia JSC, is the largest regional grid company in Siberia. The company services territory of one of the largest federal subjects of Russian Federation - Krasnoyarsky kray with 2 339.7 thousand square kilometers (1/7 of Russia) area and 3 mln population.





Красноярсканерго 31.01. 2013 No 1.3/38/1288- 44

му директору ЗАО «Новации и бизнес в нергетикез К.А. Руденко

О предоставлении инфо

Уважаемый Константин Александрович!

Настоящим сообщаю, что начиная с 2011 года филиалом ОАО «МРСК Сибири» – «Краспотрескиертом было куплено и введено в эксплуатанию вводов производства ООО «Масса» в количестве 118 шт., из инх выключательные до 35 кВ в количестве 42 шт., трансформаторные 110 кВ в количестве 38 шт., выключательные 110 кВ в количестве 29 шт. и линейные 110 кВ в количестве 9 шт. До настоящего времения претензий по данной продукции нет.

Заместитель начальника департамента логистики и МТО А.А. Ранский Врачник В.Н. (391)259-37-74+ни3-348 No 038416

#### **Reference Letter of Krasnoyarskenergo**

Herewith we inform that since 2011 Krasnoyarskenergo, branch of MRSK Siberia JSC, has purchased and put into operation 118 HV bushings of Massa Ltd production, among those:

- Switch type bushings up to 35kV 42 pcs
- Transformer type bushings 110kV 38 pcs
- Switch type bushings 110 kV 29 pcs
- Line bushings 110 kV 9 pcs

There are no quality claims on our side in the present moment.

Deputy Logistics and Procurement Director A.A. Ransky





**Altaienergo** – branch of MRSK Siberia Plc is a regional power company that ensures power supply in Altai Region and the Republic of Altai. Altai power system is almost 800 MW of power and 3500 Gcal of thermal capacity, about 70 000 km ETLs of all voltage classes (one of the lengthiest in Russia).





Филиал ОАО «МРСК Сибири» - «Алтайзнерго» 656002, Российская Федерация, Алтайский край, с Барнаул, ул. П.С. Кулагина, д.16 гел.: 8 (3852) 56-83-50, факс: 8 (3852) 36-09-28

Генеральному директору ЗАО «Новации и бизнес в энергетике» К.А.Руденко ул.Заводская, д. 1, г.Южиоуральск, Челябинская обл., 457040

Отзыв о качестве

продукция

Уважаемый Константин Александрович!

Настоящим сообщаю, что филиалом ОАО «МРСК Сибири» -«Алтайэнерго» в период с 2011 г. по 2012 г. закуплено у ЗАО «Новации и бизиес в энертетике» высоковольтных вводов производства ООО «Масса» в количестве 127 штук. Претензий по качеству не выявлено, отказов продукции не зарегистрировано.



#### **Reference Letter of Altaienergo**

Herewith please be informed that Altaienergo, branch of MRSK Siberia JSC, purchased 127 Massa Ltd-made high-voltage bushings from Innovations and Business in Power Industry CJSC within 2011–212:

We have not registered equipment failure or any quality claims on the equipment as of today.

> Head of Logistics and Procurement Division O.V. Tubolets





**MRSK Center and Privolzhye JSC** is one of Russia's largest Interregional distribution grid companies – a natural monopoly with pricing regulated by Federal Tariff Service and local Regulatory Bodies.





#### **Reference letter of MRSK Center and Privolzhye JSC**

Massa Ltd has been a regular supplier of 35–110 kV bushings to the branches of MRSK Center and Privolzhye in a number of years.

The products delivered by the plant of Massa Ltd are of invariably high quality and meet modern standards and requirements of normative and technical documentation having passed all necessary testing and certification.

> Deputy Chief Engineer on Maintenance V.A. Gorev





**MRSK North West** manages distribution complex of seven territories of the North Western Federal District of Russia: Republic of Karelia, Republic of Komi, Arkhangelsk region, Vologda region, Murmansk region, Novgorod region, Pskov region.





#### **Reference Letter**

In response to Your letter ref. No. 01/312 of 08.11.2013, I inform You that disturbances in work of MRSK of North-West equipment during St. Jude storm in October of 2013 were not accompanied by damage of the bushings. There is no necessity in free supply of Your products, i.e. high-voltage bushings.

I'd like to express our gratitude for Your help in work aimed to eliminate disturbances caused by adverse weather condition in October of 2013.

Deputy General Director for technical matters, Chief Engineer A.Yu. Gorokhov

# Transformer-building plants and other consumers in Russia and in CIS countries





**Power Machines – Toshiba. High-voltage transformers Ltd.** (Saint Petersburg, Russia)



**Manufacturing plant of Electrozavod JSC** (Moscow, Russia)

**BSIEMENS** 

**Siemens Transformers Ltd.** (Voronezh, Russia)



**Togliatti Transformer** (Togliatti, Russia)



**Ufa Transformer Plant, Electrozavod JSC** (Ufa, Russia)



# •SV<u>F</u>I

**SVEL – Power Transformers plant, SVEL Group** (Ekaterinburg, Russia)



## ●ATEF 斧

**ATEF Group of companies** (Baku, Azerbajan)

© (Y}

**Chirchiq transformer plant JSC** (Tashkent, Uzbekistan)

#### 

Kentau transformer plant JSC (Kentau, Kazakhstan)

Uralelectrotyazhmash (Ekaterinburg, Russia)



**Energomash CJSC (Ekaterinburg) – Uralelectrotyazhmash (UETM)** is the largest Russian manufacturer of power equipment for generation, transmission, distribution and consumption of electricity.

As of today Uralelectrotyazhmash produces more than 2000 items for 3000 consumers in Russian Federation and abroad.



За время сотрудничества условия и сроки поставок были строго выдержаны, вопросы по согласованию технических характеристик, спецификаций к договору проводились оперативно, что указывает на высокий профессионализм руководства, менеджеров службы продаж и технических специалистов ООО «МАССА».

Надеемся на дальнейшее развитие сотрудничества и увеличение объёмов выпуска продукции.



#### **Reference letter of Energomash CJSC**

Elmash Ltd (UETM) expresses gratitude to Massa Ltd for a positive cooperation experience in regard to delivery of high quality transformer bushings.

We have selected your company in the open tender on 5–29 April 2013 considering price level and terms of delivery.

Capacitance bushings with RIP type internal insulation and polymer or ceramic external insulation – GKT and GKTP III and IV grades – have undergone acceptance tests to verify technical characteristics and type tests on transformers since 2011.

The products that we received over entire period of cooperation accurately corresponded to the technical features specified in the manufacturer's certificate of quality and had no defects.

Quality claims or reclamations from operating facilities never occurred.

The supplier also adhered to the delivery time and conditions, timely technical issues coordination and contract specifications, which points out a high professionalismof the managing team, commercial and technical experts of Massa Ltd.

We are looking forward to continued cooperation with higher volumes of product output.

Commercial Director S.A. Serov



**Direction of «SVEL RosEnergoTrans» Plant** (that has been manufacturing dry-type transformers and current limiting reactors since 2003) at the end of 2008 created the Management Group «SverdlovElectro» (common brand «SVEL» Group).

The reason of diversification is the start-up of a new plant, manufacturing oil-immersed transformers «SVEL Power Transformers» and also the setting up of a new direction «Engineering». Under the brand of «SverdlovElectro» Group» at present two large production sites work: «SVEL RosEnergoTrans» and «SVEL Power Transformers».

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#### **Reference Letter**

Group SVEL CJSC thanks Massa Ltd for a positive cooperation experience concerning supply of high quality transformer bushings.

All Izolyator products met technical characteristics of the manufacturer's certificate of quality and came without defects. We confirm the smooth running of the commissioned facilities.

Within cooperation timeframe, our partners have promptly coordinated any issues concerning technical features, contract specifications, which proves a high professionalism of Massa Ltd team.

We sincerely hope to develop our cooperation and see our equipment production volumes grow.

General Director of HC of Group SVEL CISC A. Yu. Kishko

#### **Reference Letter**

For several years, OOO Massa is a regular supplier of high-voltage bushings for OOO SVEL – Power Transformers.

The products supplied by Your company always have high quality, comply with requirements of GOST, international standards and specifications.

We don't have any complaints regarding delivery terms, configuration and quality of high-voltage bushings made by Your company.

Head of material and equipment procurement department.

Head of material and equipment procurement department S. A. Skorinov



**Togliatti Transformer Limited Liability Company** is one of the largest designers and manufacturers of electro-technical equipment in Russia and CIS countries. Our enterprise was founded in June 1956. In 1961, the first transformer of voltage class 110 kV, capacity 5600 kVA was manufactured.

As of today, manufacture of power high-voltage transformers is one of the main lines of activities of our enterprise. The transformers under the trade mark of «Togliatti Transformer» LLC are operating at power plants, in power grids of federal and regional level, in power supply systems of industrial enterprises, in ferrous and non-ferrous metallurgy, on electrified railway lines, in agriculture and in other economic entities in Russia and CIS countries. Electro-technical equipment manufactured by Togliatti Transformer is reliably operating in more than 50 countries all over the world, including East and West Europe.

Atm J.J. Ob. 73.7. No. 445.7. [35:46] 45000. Prome. Towarm Greepoel add.op. 190   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 4500.7. [35:46]   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 53:46.7. [30:37]   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 53:46.7. [30:37]   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 53:46.7. [30:37]   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 53:46.7. [30:37]   Atm J.S. Ob. 73.7. No. 4450.7. [35:46] 53:46.7. [30:37]   Atm J.S. Ob. 73.7. [35:46] Atm J.S. Ob. 75.7. [35:46]   Atm J.S. Ob. 73.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.7. [36:46]   Atm J.S. Ob. 75.7. [36:46] Atm J.S. Ob. 75.	ТРАНСФОРМАТОР	
ООО «Массав А. 2. Спанинскому Важнемый Алексанар Зановьсения Имассая (Завод «ИЗОЛЯТОР»), постипленые в адрес ООО Токы понеформатора, соответствуют пасокому качеству, поветов собсолошила вы еписрики. Вопрось по еоставованно технических карактеристик, спецификаций к риводиансь оперативно, что гохорит о высоком профессионалазме родки сущинско оперативно, что гохорит о высоком профессионалазме родки опрущинско оперативно, что токорит о высоком профессионалазме родко портириско оперативно, что гохорит о высоком профессионалазме родко портириско оперативно, что гохорит о высоком профессионалазее родко портириско оперативно, что гохорит о высоком профессионалазее родко портириско слава продках и технических дарактеристик, спецификация и к ропользованности портира, производителя и поставилика высоков водо. 300 «Масса" как выдежного партира, производителя и поставилика высоков водо.		TeA.: (007) (8482) 75-99-09, 75-9 Факс: (007) (8482) 25-93-00, 73-9 ОКПО 15352615 ОГРН 103630110- ИНН 6323072765 КПП 63105( E-mail: tt@tmasformator.com.ru
Нестоящим письмом подтверждаем, что высоковоллятные полы проятнолся массав (Завод «ИЗОЛЯТОР»), поставленные в адрес ООО "Тольки раноформатор», соответствуют высокому качеству, помот все веобходицые пас ранофикаты. Вопросы по согласованию технических характернстик, спецификаций и то роводнятьсь оперативно, что гохорит о высоком профессионализме руко отуриннов остава продока и технических характернстик, спецификаций и то роводнятьсь оперативно, что гохорит о высоком профессионализме руко мориново остава продока и технических характернстик, спецификаций и роводнятьсь оперативно, что гохорит о высоком профессионализме руко моде «ИЗОЛЯТОР» и ООО "Тольктгинский Тринсформатор" пололовите реком ЮО "Масса" как вадежного партнера, производителя и поставника высоков водов. Зам. Генерального директора		
Массая (Завод «ИЗОЛЯТОР»), постпаляемые в адрес ООО "Толян рансформатора, соответствуют высокому качеству, имеют все исобходяные пак ергиефикати. Вопрось по согласованною технических характеристик, спецификаций и д раводикись, оператляно, что гохорит о высоком профессионализме руко отрудником отдала продлек и технических специалистов ООО «Масса». Успединай многологиий оныг развития партнерских отпошений между ООО Завод «ИЗОЛЯТОР») и ООО "Тольяттинский Тринсформатор" полологиет рекова ЮО "Масса" как вадежного партнера, производителя и поставшика высоков водов. Зам. Генерального директора А.В. Росликов	Увяжаемь	ай Александр Зановьевич!
	ривфикаты. Вопросы по согласованию техни	ческих характеристик, спецификаций к догово
	Успецинай многолетний опыт раза под «ИЗОЛЯТОР») и ООО "Тольятт ОО "Масса" ках вадежного партнера	х специалистов ООО «Масса». истия партнерских отношений между ООО «Масса ниский Трансформатор" позволяет рекомендова
	Успецинай виогологиий опат реал вод «НЗОЛЯТОР») и СОО "Гольятт ОО "Масса" как вадежного партнер 2008. Зам. Генерального директора	к специалистов ООО «Масси». нитя подпереских отношений между ООО «Масс ниский Трансформатор" возволяет рекомецдова в, производителя и поставизика высоковольтии
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	Успецинай виогологиий опат реал вод «НЗОЛЯТОР») и СОО "Гольятт ОО "Масса" как вадежного партнер 2008. Зам. Генерального директора	к специалистов ООО «Масси». нитя подпереских отношений между ООО «Масс ниский Трансформатор" возволяет рекомецдова в, производителя и поставизика высоковольтии

#### **Reference Letter**

Attn Chairman of the Board of Directors of Massa LLC A.Z. Slavinsky

Hereby we confirm that the high-voltage bushings manufactured by Massa LLC («IZOLYATOR» plant) supplied to Togliatti Transformer LLC are of high-quality, they have all the necessary tickets and certificates.

The issues related to coordination of technical characteristics, specifications to the contract were solved promptly, testifying high professionalism of Massa LLC managers, employees of sales department and technical specialists.

Successful long-term experience in development of partnership relations between Massa LLC («IZOLYATOR» plant) and Togliatti Transformer LLC allows us to recommend Massa LLC as a reliable partner, manufacturer and supplier of high-quality bushings.

Deputy Director General A.V. Roslyakov



**«Power Machines Toshiba. High-Voltage Transformers» LLC** is a joint venture (JV) between OAO Power Machines and Toshiba corporation.

Project implementation started in September 2011 by signing by the companies of the agreement on creation of a joint venture and construction in Russia of a plant for manufacture of power transformers.

Power Machines share in the JV equals to 50,01%, Toshiba corporation share – 49,99%.



000 «Сиховие млиини» - Гошиба. Высоковольтмие трансформаторы» Юридический адрес: 195009, Россия, Санкт-Петербург, ул. Ватутина, За ический адрес: 196641, Россия, Санкт-Петербург, пос. Металострой, Славкиский проезд, J Ten. +7-812-383-54-00, infe@iztr.ru

01.07.2015r. Nº 03/1/3-3/235

ООО «Масса» Генеральному директору С. Б. Моисееву

За время совместного сотрудничества наших организаций, ООО "Масса" Завод «ИЗОЛЯТОР» зарекомендовало себя, как надежный партнер по поставке высоковольтных вводов, поставляемая продукция завода "ИЗОЛЯТОР" неизменно высокого качества, соответствует современным стандартам и требованиям.

Качество поставленной продукции подтверждается исправной работой указанного оборудования.

ООО "Силовые машины - Тошиба. Высоковольтные трансформаторы" выражает благодарность за вашу работу. Рекомендуем ООО "Масса" Завод «ИЗОЛЯТОР» как надежного производителя и поставщика высококачественных водов.

С уважением. Главный конструктор	А.П. Сидельников	
M	-	
( )		

#### **Reference Letter**

During the period of mutual cooperation of our organizations, Massa LLC «IZOLYATOR» plant proved to be a reliable partner supplying high-voltage bushings; the products delivered by «IZOLYATOR» plant are invariably of high-quality, they comply with current standards and requirements.

The quality of supplied products is confirmed by successful operation of the above mentioned equipment.

«Power Machines Toshiba. High-Voltage Transformers» LLC is expressing gratitude for your work. We recommend Massa LLC «IZOLYATOR» plant as a reliable manufacturer and supplier of high-quality bushings.

> With respect, Chief Designer A.P. Sidelnikov



**Zaporozhtransformator** is a largest manufacturer in CIS and Europe of oil power transformers and electric reactors, with plant capacity on single site of 60 ths. MVA per year.

The plant was established in 1947 as Zaporozhye Transformer Plant (ZTZ), and privatized in 1994, establishing Zaporozhtransformator joint-stock company.

www.zfr.com.ua		
ПАО «Запорожтрансформатор» Днепролетровское шессе, 3 Запорожье, 69500, Украина	Ten. +38 (061) 2703900 #axc +38 (061) 2703739 E-mait office@zt.com.ua	or 07.07.2015 No 1.05- 641
ОСО «Макса» Коммерческому директору – Первому заместителю Генера Панфилову И.Д. Уважаемый Иван Дмятриевич		
адники из основных поставци производства ПАО «Запорож Прадукция ООО «Масса» представлена как в Росси «Изслятор» в осотаве каде повысить технический уравен В последние годы ООО «И выпускаемую продукцию о	ков высокорольтных вводов дл трансформатор». в составе каделий ПАО в составе каделий ПАО т, так и в странах СНГ. Оп ллий ПАО «Запороктрансфо и заничиты кара Масса» демонстрирует готовн	на протяжении многик лет является и транформаторного оборудования «Запоронтрансформатор» широко ит эксплуатации продукции завода инэторя последник лет позволил инэторя последник лет позволил инэторя последник лет озволил инэторя костарии, обо обласова, сость упучшать и совершенствовать Ко «Запорокарансформатор», что лартнера.
С узажением. ИС С. убсемин Директор по закупкам и логис	Twob	

#### **Reference Letter**

Dear Ivan Dmitrievich,

We can confirm hereby that OOO Massa (IZOLYATOR plant) is for many years one of the principal suppliers of high-voltage bushings for transformers produced by PAO Zaporozhtransformator.

Products of OOO Massa, as integral parts of the equipment made by PAO Zaporozhtransformator, is widely presented both in Russia and CIS countries. Operating experience of Izolyator products included into equipment made by PAO Zaporozhtransformator in recent years allowed OOO Massa to reach higher technical level and greatly improve characteristics of their items.

In recent years, Massa demonstrates their willingness to improve and develop products taking into account recommendations from PAO Zaporozhtransformator, which fact characterizes Massa as responsible and reliable partner.

> Best regards, Director for procurement and logistics S.N. Yeryomin



It is known as the **leading Kazakhstan manufacturer of general-purpose transformer equipment** supplied to all branches of industry, including electric power, metallurgy, machine building, transport, oil and gas complex, residential and public utilities sector.

The transformer-building plant founded in 1959 played major role in the development of power engineering. The equipment reliably operates throughout all CIS territory.

alageum olactic Kcx. M433 Om 18.06.2015 a.	Көнтауский трансформаторный завод	
		Коммерческому дяректору ООО «Масса» господину Пвафилову И.Д.
"Кентауский трансформатор как надежного партнера в ра Проблем с установкой	, введением в эксплуатацию и с се качество вводов и слаженну	овать ООО "Macca" болуживанием не
С уважением, Директор по снабжению	My -	Нурамбетов Т.К.
Her: Austronos O. 194: \$7233633014,3017 e-mail: o.amantholov@alageum.com		
Лидер электромашинострое в Казахстане	Sinny yandyaniya i 1990, Kastan Yu 1990, Kastan Yu 1990, Kastan Yu 200, Kastan Yu	рина АК, АО «Калариай профессиран Малания 19.2461 - Балариан Калариан 19.2461 - Балариан († 12.50, 36 19.2461 - Балариан († 12.50, 36 19.2461 - Балариан († 12.50, 36 19.2461 - Балариан († 12.50, 36 19.5451 - Балариан († 12.55, 36 19.5551 - Балариан († 12.555) - Бала

#### **Reference letter**

The successful partnership development between Massa Ltd and Kentau Transformer plant allows us to recommend Massa Ltd as a reliable partner.

We have witnessed no problems in installation, putting into operation and maintenance of the equipment. Thank you for the high quality of the supplied bushings and well-coordinated work of the sales department.

Looking forward to further cooperation.

Sincerely, Purchasing Director T.K. Nurimbetov References of Power Industry and Heavy Industry enterprises of Russia and CIS countries

















**PAO Mosenergo** is the largest regional generation company in Russian Federation and integral technological part of Russian Unified Energy System. The company is one of the world's largest producer of heat.

PAO Mosenergo has 15 power stations of installed electric power 12.7 ths. MW. Company's installed thermal power is 40.4 ths. Gcal/h.

Power stations of PAO Mosenergo supply more than 60% of electric power consumed in Moscow region and provide more than 70% of Moscow demand in thermal energy.



#### **Reference Letter**

Dear Konstantin Georgievich,

On 18 July 2013, A.V. Pilyugin and D.I. Shurygin, specialists of Izolyator plant – OOO Massa, have replaced on site of TETs-22, branch establishment of OAO Mosenergo, the damaged rubber sealing and rubber gaskets in upper part of the bushing of type ΓKT II-45-220/2000 O1, dwg. VBEIO.686352.002, serial No. Π-97817, installed on phase «Zh» of transformer TДЦ-400000/220 No. 9.

We are grateful to You for promptly rendered assistance in elimination of equipment defect, responsible and professional execution of works.

Izolyator plant -000 Massa is reliable and responsible partner, personnel of which is highly competent in their field of business.

Director S.G. Kupriyanov



State production association of electric power engineering BELENERGO. Vitebsk Republican Unitary Electric Power Engineering Enterprise Vitebskenergo.

At present, RUP Vitebskenergo includes 6 power plants and 4 grid branches. The installed capacity of Vitebsk power system, largest in the Republic of Belarus, – 3521.9 MW which makes more than 40% of total power stations' capacity in the country within Belenergo structure.

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эзектразнер Віцебскае рэсп прадпрыемсті	ылтьорчые аб'яджнене чтыкі «БЕЛЭНЕРГА» убліканскае унітарная на электраэпергетыкі ебекэжерга»	Государственное произволотвенное объединения заестромертетика «БЕГУНЕРГО» Витебекое республиканское унитариюе предприятие хлектролерготикы «Витебекоерго»		
(PVII «I	Зідебскэнерга»)	(РУП «Витебскинерго»)		
вул. Праўды,	30, 210029, г. Віцебск	ул. Правды, 30, 210029, г. Витебск		
тэл. +375 (212 факс: +375 (2 e-mail: energ http://www	) 47 01 50 – прыбыная 12) 47 30 75, 47 40 22 o@vitebsk.energo.by . vitebsk.energo.by	тел. +375 (212) 47 01 50 - пробытая фака: +375 (212) 47 30 75, 47 40 22 e-mail: energy@witbsk.energo.by http://www.vitebsk.energo.by		
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<u>27.05.205</u> На № 255 ад 21. Об эксплуатация		Генеральному лиректору ЗАО «Западный проект» Лагуну С.Н.		
нысоковольтных вводов На Ваш запрос об эксплуатации высоковольтных инодов производства ООО «Масса» РФ сообщаем следующее. В РУП «Витебскиерго» эксплуатируются высоковольтные вводы 110-330 «В производства ООО «Масса» РФ. За время эксплуатации высоководътных вводов производства ООО «Масса» РФ замочавий и пеясправностей не вызвлено. Высоковольтные вводы находятся в исправию техническом состоящии и полностью соответствуют паспортным характеристикам.				
Заместитель гла	вного инженера 🧹	С.А. Посохов		
•375312(47-00-55), Ya	SEICO .			

#### **Reference Letter**

On operation of high-voltage bushings.

In response to Your inquiry about operation of high-voltage bushings made by OOO Massa (Russian Federation), we advise You as follows.

RUP Vitebskenergo operates the high-voltage bushings for 110–330 kV made by OOO Massa (Russian Federation).

There are no remarks or faults of the high-voltage bushings made by OOO Massa (Russian Federation) identified during period of operation. The HV bushings are in perfect technical condition and fully comply with ratings.

> Deputy Chief Engineer S.A. Posokhov



State enterprise providing electric power to consumers in Minsk and Minskaya region, heat supply in citiesMinsk, Molodechno, Zhodino, Borisov, Vileyka, Soligorsk, Slutsk and settlements Rudensk, Druzhny, Svisloch. Part of State Production Association Belenergo.

RUP Minenergo is the largest and most important enterprise among regional power systems in Belarus Republic that produces a quarter of republican electric power and heat which is distributed through Belenergo network.

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Minexet прадпр тял: (0) 6 pb 30025	чаторчие аб'яднане электразнерг "Безмерга" е ростубліканськае унітерана Анонстра Змосктра мнеретьа» "МІНСКЭНЕРГА" Аряксика, 24, 22003, г. Міске 19, 223 61, 34, деамо179, 377 211 тайі: officing indiskanerga.by 1745011 [Заграб заклорскія пацар 16-71 (20 серский: "Анана, вік 1539016)	ofbeameting susception-permus "Recomptor Minetico perception-tension of any approximation of input perception of the susception of the susception yit. Approximation, 34, 2003), r. Marcer ma, 1677 (221 8) if (i), description of the susception manual susception of the susception of the susception in the susception of the susception of the susception in the susception of the susception of the susception in the susception of the susception of the susception of the susception of the susception of the susception of the susception in the susception of t
45_02 На М	2015 No T 346/ 253 au 21.05.15	Генеральному директору ЗАО «Западавай вриект» Лагуну С.Н.
поставку производ ЭС, Стоа ТЭЦ-4, Ж Вся сертифик	высоковольтных инс ства ООО «Масса» для бщовские ЭС, Молодеч бодивская ТЭЦ, поставляемая продука пъ. Поставка продука	ЗАО «Западный проект» осуществляет дов различных классов напрожения филиалов РУП «Минскэнерго»: Слушлее инские ЭС, Борнсовски: ЭС, Минская паяв имеет необходимые паспорта и ия выполняется в строгом соответствии амечаний по поводу качества продукции
Зам гла	ного инженера	АА.Горанист
38 Marryson 1957 To PS	2184265	

#### **Reference Letter**

Over a period of years, ZAO Zapadny proyekt supplies the highvoltage bushings of various voltage classes made by OOO Massa to branch establishments of RUP Minskenergo: Slutsk Electric Grid, Stolbtsy Electric Grid, Molodechno Electric Grid, Borisov Electric Grid, Minsk Heat and Power Plant No.4, Zhodino Heat and Power Plant.

All delivered products have necessary data sheets and certificates. The delivery is carried out in strict compliance with technical documents. There are no claims regarding quality of the products.

Deputy Chief Engineer A.A. Goranin



Mogilev power system provides generation, transmission, distribution and selling of electric and heat energy, with operative-dispatch control of these processes. **RUP Mogilevenergo** includes 12 branches.

RUP Mogilevenergo realizes investment projects in public-private partnerships in the Republic of Belarus.

FROM 1 Mogilevenergo.	PHONE NO.	: 88222293438	MRY. 28-20	15 10:29RM P1
Андонеріше нил торих за зоветранорегішей наса Магілеріскае рэспублікано прадпрыемства і зоветра «Магілері нергі	песрен» Кас уніхарнае знорі страхі		роканалаственной объед ергетики «Багласрго» спубликанское уни и электрознерготи пилеебзнерго»	
(РУП «МАГІЛЕЎЭ	НЕРГА»)	(РУП «МО	гилевэнерг	On)
aya, Joawa-Bayaniva, J. 21203 YAA. (0222) 29 33 59, dawc (02 o-stall: cnerprigmaglic-a V1.01 700007066	0, r. Mariaey 222) 29 34 81 margo.by	5.1. Score-Spyce res. (0222) 29.3 e-mail: ener	aves, 3, 212030, r. Mors 13 59, danc (0222) 29 34 golfimogilev.onorgo.by 21 700007066	81
P/p. 3012119335015 y Porisonnaia AAT «EDC-OSeptinus», SIX	F JULDOWICH, MODO	Pics, 30(2119335015 UNO «60C-C0	в Региональной Дирекс Кербанать, БИК 1530013	una Na600 169
28.05 2015 No 56.	33/7464			
Ha Ne 0/1		Директору ТЧУ Мельнику Д.П.	П «Carpar»	٦
Об отзыве по вводам высоководьтным		Parc: 8-017-	237-71-01	
На Ваш запрос от 20.0	5.2015 сообща	ю, что к поставлен	ным ТЧУП «Са	грат» вво-
дам высоковольтным на ви тензий по качеству нет.	апряжение 330-	35 кВ производств	a OOO «Macca»	(PΦ) npe-
		Λ		
	$\frown$			
С уважением,	12	1		
Главный инженер	1	A.M. Illima		
/		74.571 64.84		
Усевич 293-365				

#### **Reference Letter**

In response to Your inquiry of 20.05.2015, I can advise You that we don't have complaints regarding quality of high-voltage bushings for 330–35 kV made by OOO Massa (Russian Federation) and delivered by TChUP Sagrat.

Best regards, Chief Engineer A.M. Shishov



#### Electrical equipment maintenance factory (RETO).

Today the plant's main activity is service of high-voltage equipment: 6–500 kV power transformers, bushings, oil arc-suppression coils, electric motors.

The plant employs 320 highly qualified specialists whose work ensures timely repair and good working condition of substation equipment. People of Moscow region benefit from the uninterruptible supply of electricity.

<b>A</b>	ОБОРУДОВАНИЯ	OHTY ЭЛЕКТРОТЕХІ I (РЭТО)"	
11.10.2013	. 1201-02	Заместитет	ю коммерческого
нали о Отзыв о качестве пр	юдукцин.	директор	а по продажам 4. Павлову
	Уважаемый	Юрий Васильевич!	
высоковольтных и Поставляем соответствует со необходимые исп	зводов 20-220 кВ на ая продукция зая временным станда	вода ООО «Масса» артам и требованиям аты. Также ООО «Ма	высокого качества и НТД, и имеет во
Главный инженер	1	2	А.А. Жуков
Исп. Тельканов Е 8-495-710-84-10	В.		

#### **Reference letter from RETO**

Massa Ltd has been a supplier of 20-220kV bushings to our company in a number of years.

The company products are of high quality, adhere to modern standards and normative and technical documentation with all certificates available.

Mass Ltd has always met delivery time for supply of their products.

Chief Engineer A.A. Zhukov



**Achinsky Refinery** makes 100 petroleum products. The plant focuses on motor aircraft fuels.

ANPZ VNK JSC capacity is 7.5 mln tons (54.8 mln barrels) of oil per year. The refinery specializes on motor and aircraft fuels among 100 articles of petrochemical products.

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× × 0*	——- Harve	льнику отдела эж СОО «Изолятор» тонову М.А.
	(Dekc	8(495) 727-22-09. 2026@mosizolystor.nu
	Уважаемый Михаил Александро	en4!
На СІАС «АНПС ВНК» с на мосланые такиточные такиточны «Месса» (данод Изолитт – пинайчые посла и – возде на масланы – возде на масланы ном маслацией. Зо проня жасляритеции но. Данные возда посла ных ракитота на тробу	сх. № 07/186 от 24.02.2011 г одя 2006 года причкиодится замена то слу. напряжением 110 кВ и 220 р.)На данного время заменсны: ипряжением 110 кВ - 27 илт; в выключатели напряжением 110 к е выключатели напряжением 110 к мерной нарузоской изолициям, бякла накахих замичений и нарушений в ј ъ и удобны в эксплуателии. Провер влило время ремонтов алектрообор	енсиньск керодов и неодов ка производстве ООО 8 – 4 шт.: В – 13 шт.: не с ферфоровой наруж: работе вводов но выявле- ече текущих и калиталь- е обслужили и калиталь-
С улакеннем Гламый экерлетик	- JE- A	.IO.Persne
Hotozanav rzak: Manobere H.B. 6(2) 19 (59) - Straff Schlager, nr. erwski ma Utervari (2007) - Straff Schlager, nr. erwski na Schlager, nr. (2007) - Straff Schlager, nr.	ан жэл - 6 гудочталагындан вартта хунындарланд арал г.	

#### **Reference letter from Achinsky Refinery**

In response to your letter #07/166 dated 24 February 2011 we are pleased to inform:

Since 2006 we have replaced for Massa Ltd-made (Izolyator) 110 kV and 220kV line and oil switch bushings:

- 110kV line bushings 27 pcs
- 110kV bushings for oil switches 4 pcs
- 220kV bushings for oil switches 13 pcs

The line bushings are polymer insulated, tank-type bushings – with ceramic external insulation.

We have not identified any faults in the equipment operation. The bushings are reliable and easy to operate: no running repair or overhaul is required – only minimal maintenance and measurements are done significantly cutting time on electrical equipment repairs.

> Chief Power Engineer A.Yu. Razin
### Sibirskaya Electric-Installation Company

180 power inspections have been made.

#### Закрытое акшионерное общество «Сибирская ЭлектроМонтажная Компания»

ИНН 5503058077 Российская Федерация 644020, г. Омяс, ул. Рослественского 7/1 Тел. (3812) 452-001, 452-003 Факс: (3812) 452-004 Е-mail: <u>звечска</u>уанабеская

в Омском отделении №8634 Сбербанка БИК 045209673 Кор. счет 30101810900000000673

г. Омск

Исх. № 284 от «16» октября 2013 г.

P/cyer 40702810045000104521

Генеральному директору ОО «Масса» Господину Монсееву С.Б.

#### ОТЗЫВ

Во второй половине 2013 года ЗАО «Сибирская ЭлектроМонтакиная Компания» закупнла для ремонта силовых трансформаторов марки ТДТН-10000/110 кВ для комплекта вводов с RIP марки ИВУЕ 686352.103-03 производства завода «Изодятор». Закупке предшествовал тщательный авализ рынка поставщиков данной продукции. Все ввода были поставлены на место производства работ вовремя и в договорной срок. После ремонта были проведены высоковольтные испытания вводов, которые показали отличное качество Вашей продукции. Спасибо за высоко качество вводов и слажениную, четкую работу отдела реализации продукции? С Вашим коллективом принято работать?

В дальнейшем надеемся на взаимовыгодное и долгосрочное сотрудничество!

С уважением,

Генеральный директор

Березовский В.В.

### Reference Letter from Sibirskaya Electric-Installation Company

In the second half 2013, Sibirskaya Electric-Installation Company purchased 2 sets of IVUE 686352.103-03 bushings with RIP insulation made by Izolyator for servicing TDTN-10000/110kV power transformers.

The purchase was preceded by a detailed analysis of the supplier market for this product. The bushings were delivered to the installation facility on time. The HV tests run upon commissioning showed excellent quality of your products.

We would like to express our gratitude for the high product quality and professional sales department delivery – it is a pleasure to work with your team!

We expect to continue cooperation!

General Director V.V. Berezovsky



**Uralenergoremont JSC** is one of the leading specialized maintenance companies on power equipment market.

Equipment modification is done on a turn-key basis including design, manufacture and supply, assembly and commissioning. All types of activities have necessary certifications. The company uses only modern equipment.



### **Reference letter from Uralenergoremont JSC**

For several years Massa Ltd has manufactured and supplied through dealers 35, 110, 220kV bushings for the needs of Uralenergoremont JSC.

All products meet high quality standards and have required certificates and technical documentation. All deliveries were executed within schedule in strict compliance with technical specifications.

Uralenergoremont JSC management marks professionalism of the partners and looks forward to continue cooperation.

General Director I.Ya. Guryev Foreign customers









We hereby certify that IZOLYATOR Massa Ltd. Company is a

**Crompton Greaves Limited** – Indian based multinational with expertise in development and production of power equipment for generation, transmission and distribution of electricity headquartered in Mumbai.

Certificate of Official Supplier to Crompton Greaves Limited

	of CG Electric Systems Hungary Zrt.	
Based on the initial approval audit performed on the 5th of July 2011.		
	Certification No.:	02/2011
	Valid until:	14.07.2016
Budapest, 14.07.2011		
Csaba Baráth Lead auditor		
		0
		AVANTHA

Crompton Greaves Limited Power Transformers Division (T1): Power Systems Karlur Marg (East), Mundal 400 (42, India	G
T. 491 22 6755 8000 F: 491 22 6755 8005	Shart solutions. Strong relationship
	3 <sup>80</sup> March 2014
TO WHOM IT MAY CONCERN	
Subject: Performance report	
Transformer division (T1) of Crompton Greaves Ltd., IZOLYATOR MAKE 3 NOS 600 KV 800 AMP, RIP bushii 30519 and 30622 manufactured by OOO Massa at testing transformer since April 2013.	ngs with Serial Nos. 30016,
We have tested 9 Reactors using this reactor testing total duration of approx. 9 to 10 hours till date.	transformer at 476 KV for
Hereby we certify that performance of these RIP b transformer is satisfactory.	ushings on reactor testing
Best regards	
For Crompton Greaves Ltd.	
From Children & Plant Head. General Manager & Plant Head. Power Transformer Div. T1	
Mumbai. India.	
	0
Registered Office: CG House, UN Floor, Dr Annie Besant Road, Warli, Munibal 400 E30, India T 41 22 2423 777 F - 41 32 2423 7730 W www.cadiobal.com	AVANTH

### **Reference letter from Crompton Greaves Limited**

Transformer division (Tl) of Crompton Greaves Ltd., Mumbai, India has installed IZOLYATOR MAKE 3 NOS 600 KV 800 AMP, RIP bushings with Serial Nos. 30016, 30519 and 30622 manufactured by OOO Massa as per IEC 60137 on reactor testing transformer since April 2013.

We have tested 9 Reactors using this reactor testing transformer at 476 KV for total duration of approx. 9 to 10 hours till date.

Hereby we certify that performance of these RIP bushings on reactor testing transformer is satisfactory.

Gemeral Manager & Plant Head. Power Transformer Div.T1 Mumbai, India.



**Koncar Power Transformers Ltd.** is a company that specializes in equipment and devices production for power generation, transmission and distribution as well as transportation and industry.

Founded in 1921, Koncar Power Transformers Ltd. employs 3800 employees.



### Reference Letter from Koncar Power Transformers Ltd.

Koncar Power Transformers Ltd have purchased 53 bushings for projects in Russia in 2011 and 2012 year from Izolyator factory – OOO Massa for large power transformators (80, 125 and 200 MVA).

All the bushings were delivered on time and with the agreed terms.

According to past experience in working with OOO Massa we can confirm quality of products and all other standards regulation.

Purchasing Dpt, Ivan Puk





**Elering AS (former name: Pohivork)** is an electric power transmission system operator in Estonia. Elering was established on 1 November 1998 under the name of Pohivork as an operating unit of the Estonian national power company Eesti Energia.

The enterprise is an independent system operator that maintains and develops the national power grid.



### **Reference letter from Elering AS**

At the beginning of 2007, Elering AS purchased 5 sets of bushings with RIP insulation made by Izolyator (Massa Ltd) for servicing 150kV and 220kV power transformers in Estonia.

The deal was forerun by a detailed analysis of the supplier market for this product. The bushings were delivered to the installation facility on time.

Tests run upon commissioning showed excellent quality of your products and full adherence to IEC-60137 standard.

All installed bushings are currently in operation with no failures or non-compliance identified.

Based on the above we confirm a high quality of Izolyator products and look forward to longterm cooperation.

Anton Moltsar Elering AS Estonia Power Transformers Expert



**Siemens** is a German multinational conglomerate company headquartered in Berlinand Munich. It is the largest engineering company in Europe. The principal divisions of the company are Industry, Energy, Healthcare, and Infrastructure & Cities, which represent the main activities of the company.

The company is a prominent maker of medical diagnostics equipment and its medical health-care division, which generates about 12 percent of the company's total sales, is its second-most profitable unit, after the industrial automation division.

Siemens and its subsidiaries employ approximately 343,000 people worldwide and reported global revenue of around €71.9 billion in 2014 according to their annual report.

Auditor:	K. Mogl M. Kaschenko I. Verbitskiy T. Zavalishina (par	Date of Audit	20 June 2012	Close of Audit	22 June 2012
Participants	A Gavrilov, A. Novi	kov, T. Simakova, K. S	lipikin		
Audit-ID:	CM-BU-Izolyston Russia_20-June-20	Supplier	Izolyator-Russia	Product /Process	Condensor bushings
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	s	ummery:	83%	6	
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# Izolyator company is an official bushing supplier certified by SIEMENS AG



**Power Grid Corporation of India Limited (PowerGrid)** is an Indian state-owned electric utilities company headquartered in Gurgaon, India. PowerGrid transmits about 50% of the total power generated in India on its transmission network.

Its subsidiary company, Power System Operation Corporation Limited (POSOCO) handles power management for Power Grid.

PowerGrid also operates a telecom business under the name POWERTEL.

The company owns and operation power grid comprising 106 804 km super high-voltage lines, 184 super high-voltage substations of alternating and direct current with total installed transformer capacity of 205 923 MVA.



Internet application Inspection Call Management System on the official website of Power Grid Corporation of India Limited

Izolyator is an official supplier of OIP and RIP bushings for the needs of Power Grid Corporation of India Limited.

Izolyator enters the official supplier list of completing parts to transformers (9-A and 9-B) in the Inspection Call Management System application of Power Grid Corporation of India Limited.

### Bushings for up to 420 kV voltage

http://apps.powergridindia.com/IMS/ComponentList/Power-Xformer%20upto%20420%20kV-CM%20List.pdf Bushings for up to 765 kV voltage

http://apps.powergridindia.com/IMS/ComponentList/Power-Xformer%20for%20765%20kV%20CM-List.pdf



**Alstom** is a French multinational company which holds interests in the electricity generation and rail transportmarkets.

3 Alstom had annual sales of €20.3 billion, and employed approximately 96,000 people in around 100 countries. Alstom's headquarters are located in Levallois-Perret, west of Paris. Its CEO is Patrick Kron.



# Certificate of Official Supplier to Alstom



### **Reference letter of Alstom**

Massa LLC. – Izolyator company is now in the list of suppliers of ALSTOM Grid AG in Switzerland.

### ALSTOM

ALSTOM Grid AG Gas Insulated Substations Carl-Sprecher-Strasse 3 5036 Oberentfelden Switzerland

# RIP insulated bushings advantages

### Internal hard RIP insulation

Resin impregnated paper — paper saturated with resin — is the main construction element of a HV bushing. It is a core which is formed by insulating crepe paper winding on the central tube with subsequent thermal vacuum dryout and a special epoxide compound saturation. After drying out under pressure, any occluded gas is ousted from insulation.

In the winding process, condenser plates are used to level electric field.



Advanced design

Reliability

- Durability
- Ecologically friendly
  - Service free
- Ease of operation



## Izolyator corporate edition



Izolyator's pilot edition saw light in 2013, and today it is a comprehensive periodical providing information on practically any aspect of the company's activities.

The regular columns are dedicated to actual events in cooperation development with enterprises of power and power engineering industries of Russia and CIS countries, our strategic partners overseas – leading global OEMs of advanced power equipment and largest power grids.

A distinctive feature of this edition is direct speech from our management and specialists who generate the actual news and participate in events. You can find out about the company divisions' activities and corporate life from the Success Factors and Pulse of the Company columns.

We sincerely hope the published materials sparkle interest from the public and offer you subscription to Izolyator corporate edition. In order to subscribe please apply in free form to **adv@mosizolyator.ru stating Izolyator Subscription in the Subject field and including your full mailing address with the zip code**. From this moment on you will be receiving all new issues and special editions of Izolyator.

### We are looking forward to your applications!



## Advantages of Izolyator company





118 years of experience behind our back, we are the most experienced manufacturer of highvoltage bushings in the world (> 500 000 pcs produced)



Full range of HV bushings 12-1150 kV available



More than 15 year experience of RIP bushings manufacture

Design and develop innovative products

N	S
	р
	m

Strive for constant product improve ment

Supply reference all around the world



Company and products recognized worldwide

Clients' interests are the main goal in our work

We are always open to cooperation





We are a professional team

We render a complete services

range:

- Design
- Production
- Testing
- Warranty and post warranty service

# Commercial division of izolyator company



**Ivan PANFILOV** Commercial Director 1<sup>st</sup> Deputy General Director **Our mission** is to create basis for stable and sustainable power supply. We can achieve this goal only with common effort in close cooperation, joint creation and development.

That is why we value dialogue with you so highly as it is a starting point towards success in our common goal.

.....

We are looking forward to meet you!



Andrey SHORNIKOV International Business Development Manager

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Yaroslav SEDOV Business Development Manager

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