

Sampling of important references Modernization of drive systems

Technical design: Frequency converter with voltage link (VSI)
Thyristor converter (DCC)
Compact electronics Simoreg CM
Automation systems (PLC, SCADA, HMI, MES)

2008

SMS Demag AG / Germany for NLMK / Russia	1 complex	Extended Modernisation of the automation system with SIMATIC TDC-hardware and software application for new and existing hydraulic roll adjustments and bends of working roll of the stands finishing train of the hot-strip-mill 2030
OAO ZSMK Zapsib / Russia	1 complex	Modernisation of the complete automation system (PLC, SCADA, Siemens TDC) for the 250 small Section rolling mill with 24 stands and 6 shears, Interface to "old plant"

2007

NLMK Lipezk / Russia	1 complex	Modernization of the 7- stand finishing train of the hot-strip-mill 2000, including complete automation machinery with 8 new water cooled DC thyristor converters, 14200 A, for main drives of the stands
Rolling Mill plant Duffel / Belgium via SMS DEMAG AG / Germany	1 complex	Modernization of the removed aluminium quarto rolling mill stand with different DC and AC drives with 1780 A, 18 inverters for roller tables, 14 inverters for aux. drives and pumps till 355 kW and MCC cabinets

2006

Pipe plant Vyksa V-Va/ Russia	1 complex	Complex drive and automation system for a pipe mill for the pipe work up to 1420 mm diameter with 31 frequency converters, 13 desks, 6 field stations and 4 PLC
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2005

Hoesch Spundwand and Profile Dortmund via LDW / Germany	2 pieces	DC millstand-tandem drive rating: 2 x 2,500 kW with water cooling
Steal works Bremen via Alstom Power Conversion / Germany	1 plant	Reconstruction of drive control for four stand tandem mill with several thyristor converters DCC... with different powers and frequency converter
Pipe plant Vyksa II-IV / Russia	1 complex	Complex drive and automation system for a pipe mill for the pipe work up to 1420 mm diameter with 106 frequency converters, 34 desks, 5 field stations and 7 PLCs

2004

Metallurgical plant Severstal / Russia	1 plant	Reconstruction of main drive for the Quarto stand №2 of the rolling mill 2800. Excitation systems for dc motor 7 MW and synchronous motor 13 MW
Metallurgical plant Severstal / Russia via VAI / Austria	1 plant	145 dc drives for a transport system of 4 walking beam furnaces
Pipe plant in India via Elektrostal – ESTM / Russia	1 complex	5 drives with frequency converters, system control and operation for the pipe plant
Metallurgical plant Stupino / Russia	1 plant	Reconstruction of Aluminium cold rolling mill 112 with system control and operation; - main drive stand 3000 KW - 2 coil box drives 1000 KW
Metallurgical plant Vyksa / Russia Via Elektrostal ESTM / Russia	1 complex	280 drives with frequency converters and automation systems for pipe mill
Norilsk Nickel / Russia via Elpro / Berlin	1 plant	Excitation system for synchronous motor, rating: 0.8 MW

2003

Novolipezk Metal plant / Russia	1 piece	Modernization of 5 cold-rolling mill stand plant 5 twin-drives 2x1,780 kW 2 winders 2x 1,065 kW 1 shear 1x 205 kW and several aux. drives
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2002

Metallurgical plant Severstal / Russia via Sulzgitter / Switzerland	2 pieces	Roll table drives 2 frequency converters
Thyssen Umformtechnik and Guß / Germany	1 piece	Modernization frequency converter of press lines , 4 quadrant drive rating: 250 kW
Metallurgical plant Severstal / Russia	2 pieces	Laminar-cooling for pumps rating: 800 kW
Siemens AG I&S/PG Genera- torwerk Erfurt/ Germany	1 piece	1x 6000 A Thyristor converter for d.c. drive for balance equipment

2001

NLMK Lipezk/ Russia via LDW / Germany	1 plant	New excitation unit for synchronous motor motor rating: 10MW
Zaporozhstal / Ukraine	18 pieces	Revamping of roller table drives: replacement of frequency converters rating: 300 kW
Rolling mill Stupino / Russia	1 plant	Reconstruction of a drive for aluminium hot rolling stand rating: 5,150 kW
Norilsker Nikel / Russia	4 pieces	Reconstruction of sub-synchronous converter cascade rating: 500 kW
Metallurgical plant Severstal / Russia	1 plant	Revamping of excitation units for two d.c. motors, each 5 MW and one synchronous mo- tor 13 MW for main drive of a mill stand

2000

NLMK Lipezk / Russia	3 pieces	Replacement of belt drives for blast furnace rating: 110 kW
Metallurgical plant Severstal / Russia	2 pieces	Replacement of converter drives for roller ta- ble groups for 2,800 rolling mill rating: 252 kW
Metallurgical plant Severstal / Russia	4 plants	Reconstruction of main drives for a 2,000 roll- ing mill: replacement of analog electronics, adaption to power sections, excitation unit for synchronous motors 5 MW, 6 MW, and 6.3 MW