

# Reference list, applications SPEL, Drives Division

Our specialist are responsible for next typical works:

- > Full pre-sales support
- System design, basic design
- > Price proposals
- Detail design, drawings
- Cabinets delivery, PLC, visualisation
- Logistics and delivery
- Financing

- Montage, project managment
- Commissioning and startup
- Warranty and after warranty service 24/7
- Spare parts specification and delivery
- Customer training
- > 24 hours on phone, customer support

Contact customer support:

phone: +420 321 579 060 after hours: +420 724 353 140 e-mail: mvsupport@spel.cz

## <u>UDMURTNEFT</u>

Russia - Udmurtia, Sakhalin island

2011

# Mobile drilling rig BU 2500



Basic and detail design of automation, DC drives, cables, field instrumentation and connectors for DC driven drilling rig. Manufacturing and delivery of all cabinets for control system, DC drives for mud pumps, drawwork, and rotary table for truck mounted mobile drilling rig BU 2500. Delivery of signal and power (high current) connectors. Total installed power in DC drives is 1,9 MW. Used PLC control system Allen-Bradley CompactLogix,

communication Ethernet, ModBus, remote control from control room and remote control counter. All cabinets are placed in technological container.



#### ROSNEFT-SAKHALINMORNEFTEGAZ

Russia - Udmurtia, Sakhalin island

2011

# Mud pumps, Drilling rig



Basic and detail design of automation, DC drives, cables, field instrumentation and connectors for DC driven drilling rig. Manufacturing and delivery of all cabinets for control system, DC drives for mud pumps. Delivery of all signal and power (high current) connectors. All cabinets are placed in technological container. Used DC Drives 2500 Amps, 600VAC. Total installed power in DC drives is 3 MW. Used PLC control system Allen-Bradley. CompactLogix, communication via Ethernet, ModBus, remote control from control room and remote control panel.





#### IonBond Czechia, s.r.o.

Czech Republic, Humpolec

2011

#### **Extension of Novatec production line**

Detail design of control system cabinet for extension of Novatec production line in company IonBond Czechia, s.r.o. In total 1 pc. of control system cabinet, wiring and field instrumentation. Control system Allen-Bradley CompactLogix, point I/O.AC drives Allen-Bradley PowerFlex 70.

#### IonBond SMS cabinet

Detail design and delivery of cabinet with control system for messaging production line fault and alarm events in IonBond Czechia, s.r.o., Humpolec. Control system Micrologix 1400.

#### ASSA ABLOY Rychnov, s.r.o

Czech Republic, Rychnov nad Kněžnou

2011

#### General repair of C-zone machine

Detail design for general repair of electric system of C-zone machine in ASSA ABLOY Rychnov, s.r.o. In total 1 pc. of control system cabinet, 8 pcs. of control panels, wiring and field instrumentation. Control system Allen-Bradley CompactLogix, AC drives Allen-Bradley PowerFlex 40.

# SULTRADE Praha s.r.o.

Czech Republic

2011

# Vertical scraper gypsum centrifuge with bottom discharging SCVB 1000/630GS

Scope of delivery: detail design of electro-part, main switchboard, junction and



control boxes. Control system Siemens S7-300. AC-Drive ABB type ACS800.

# Vertical scraper centrifuge SCVT 200/100R for pharmaceutical industry

Detail design of electro-part and delivery of main switchboard. Control system Rockwell Automation MicroLogix 1000. AC-Drive ABB type ACS800. Technological part is designed hazardous for atmosphere. The mobile main switchboard designed as a pressurized enclosure for zone 2.



**ÚV Horka** Czech Republic, Sokolov 2011

#### Reconstruction of pumps for water tower Markvarec

Commissioning and startup 4 pcs. softstarters SMC-Flex, for control 4 pcs. asynchronous motors 250kW, 400V, vertical pumps of water tower and 2 pcs. of PowerFlex 700 for control asynchronous motors 90kW, 400V, of blowers.



2011 **TAKRAF** Macedonia, Bitola

#### Control of wheel's excavator



Service and start up of Medium Voltage Variable Frequency Drive for wheel of excavator in coal mining. MV VFD Rockwell Automation (Allen-Bradley) PowerFlex 7000, 900kW, 6kV, air cooled.



RAISA Czech Republic 2010, 2011

#### Cabinets for storage of keys and guns

Production of special attested cabinets which serve as a facility for safety and registered storage of keys, mobile phones, briefcases and guns. By these "safe-deposit boxes" are mostly equipped units of the Army of the Czech Republic, Military and Municipal police. In 2010 it was produced a total of 5 sets of this cabinets. In 2011 it was produced a total of 5 sets of this cabinets.









BEA Kazakhstan, Yekibaztus 2010, 2011

Belt conveyors control, coal mining industry, 4 motor conveyors - sharing load application & 6kV drives Commissioning and startup for 10+10 pcs. Medium Voltage Variable Frequency Drives (VFDs) for control AC motors of the belt conveyor. MV VFD Rockwell Automation (Allen-Bradley) PowerFlex 7000A, 500kW, 6.3kV, air cooled. PLC control system Simatic, mobile containers.







ELTODO a.s. Cholupice, tunnel Lochkov Czech Republic, Prague, tunnel **2010** 

#### Control of fans in tunnel

Commissioning and startup:

- 8 pcs. Frequency Drives PowerFlex 70, 400V, 30kW
- 34 pcs. softstarters SMC-Flex, 400V 30kW for air fan tunnel control.



#### **SULTRADE Praha s.r.o.**

Czech Republic, Poland

2010



Vertical scraper centrifuge VTC 1000/500R for pharmaceutical industry (Czech Republic)

Detail design of electro-part and delivery of main switchboard. Control system Siemens S7-300. AC-Drive ABB type ACS800. Technological part is designed for hazardous atmosphere.

# Vertical scraper centrifuge - dryer CDR 500/250R for pharmaceutical industry (Poland)

Detail design of electro-part and delivery of main switchboard. Control system Siemens S7-300. AC-Drives ABB type ACS800. Technological part is

designed for hazardous atmosphere. The mobile main switchboard is designed as a pressurized enclosure for zone 1.



**CEMEX** 2009, 2010, 2011 Latvia, Broceni

## Control of ID fans in new "dry process" cement plant

Start-up of MV Variable Frequency Drives and MV cabinets (including bypass) for control induction motors driving ID fans. Total of 5pcs. of MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000 and MV cabinets 1519AT, 1512M, 1512DM with rated power of:

MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 600kW, 6.3kV, air cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 1000kW, 6.3kV, air cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 2500kW, 6.3kV, liquid cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 3800kW, 6.3kV, liquid cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 4500kW, 6.3kV, liquid cooled.

In 2010 and 2011, annual maintenance job.

#### Středočeská energetika, s.r.o.

Czech Republic, Vrapice

2010

#### Photovoltaic power plant 1MWp, Vrapice

Detail design, delivery of cabinets, transformer kiosk and commissioning of 1MWp photovoltaic power plant in Vrapice close to Kladno. In total: 4320 pcs. of photovoltaic modules DelSolar D6M-240 B3A, 180 pcs. of solar inverters Delta Solivia 5.0 (5kW AC power), 36 pcs. of AC/DC cabinets, 6 pcs. of high current cabinets, 1 pc. of MW transformer kiosk and 1 pc. of FVE monitoring cabinet.



Czech Republic 2010 SPEL, a.s.

# Photovoltaic power plant 5kWp

Detail design of typical 5kWp photovoltaic power plant designed for placement on the roof of the family house. In total: 22 pcs. of photovoltaic modules DelSolar D6M-240 B3A, 1 pc. of solar inverter Delta SI 5000 (5kW AC power), 1 pc. of AC/DC cabinet.

2010 Kuzďas, s.r.o. Czech Republic, Městec Králové

#### Photovoltaic power plant 1MWp

Detail design of 1MWp photovoltaic power plant in Městec Králové. In total: 4320 pcs. of photovoltaic modules Yingli Solar YL-230 P-29b, 180 pcs. of solar inverters Delta SI 5000 (5kW AC power), 60 pcs. of AC/DC cabinets, 6 pcs. of high current cabinets.

SPEL, a.s. Czech Republic, Kolín 2009

# Photovoltaic power plant 300kWp

Technical documentation and commissioning of 300kWp photovoltaic power plant in Kolin. In total: 1440 pcs. of photovoltaic modules DelSolar D6M-235 B3A, 60 pcs. of solar inverters Delta SI 5000 (5kW AC power), 21 pcs. of AC/DC cabinets, 6 pcs. of high current cabinets, 1 pc. of main high current cabinet including FVE monitoring system

**Matador Automotive a.s.** 2009 Slovakia, Dubnica nad Váhom

# Hydraulic press CDN 400-C repair

Detail design and replacement of electric components in the control cabinet, operator panel and wiring of hydraulic press machine in Matador Automotive a.s., Dubnica nad Váhom.

**Arcelor Mitall** Germany, Bremen 2008

# Control of pump in steel industry

Start-up of MV Variable Frequency Drive for control of 1pc. induction motor driving fan.

MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 3750kW, 6.3kV, liquid cooled.



## **SULTRADE Praha s.r.o.**

Czech Republic, Poland

2008

Vertical centrifuge VTC 630/320R with vacuum product tank for pharmaceutical industry Czech Republic Detail design of electro-part and delivery of main switchboard. Control system Siemens S7-300. AC-Drive ABB type ACS800. Technological part is designed for hazardous atmosphere.

Vertical centrifuge VBC 1000/500Ha for pharmaceutical industry

Poland 2008

Delivery of main switchboard. Control system Siemens S7-300. AC-Drive ABB type ACS800. Technological part is designed for hazardous atmosphere.

Vertical scraper gypsum centrifuge with bottom discharging VBC 1800/1250G

Slovenia 2007

Detail design and delivery electro-part including start-up. Control system Siemens S7-300. AC-Drive Sinamics

S120 132kW.







# **British Petroleum (BP)**

Azerbaijan, Baku, Sangachal Terminal

2008

# Control of pump in refinery BP

Service and start-up of MV Variable Frequency Drive supplying induction motor driving crude oil pump. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 5650kW, 6.6kV, liquid cooled.

**LKAB** Sweden, Kiruna **2008, 2011** 

#### Control of fan in iron ore mine

Start-up of 3 pcs. MV Variable Frequency Drives for control 3 pcs. induction motors for driving fans.

MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 5500kW, 6.3kV, liquid cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 3600kW, 6.3kV, liquid cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 2525kW, 6.3kV, liquid cooled.

UNIPETROL, a.s. Czech Republic 2007

#### Control of pump in Unipetrol Litvínov

Project, delivery and start up of 2 pcs. MV Variable Frequency Drive control of 2pcs. asynchronous motors of pumps.

MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 600kW, 6kV, air cooled. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 750kW, 6kV, air cooled.







# Reditelstvi silnic a dalnic

Czech Republic

2006

#### Pressure control in pipeline

Start up of Variable Frequency Drive PowerFlex 70, regulation to constant pressure in fire pumping station in tunnel Valik at Plzen. Variable Frequency Drive PowerFlex 70, 400V, 18.5kW.



2006 - 2007 MosTeploEnergo Russia, Moscow

# **Control pumps in Heating Station Mitino**

Start up of 4 pcs. MV Variable Frequency Drives with synchronous transfer system and MV cabinets to control 8pcs. asynchronous motors for pump. MV variable frequency Rockwell Automation (Allen-Bradley) PowerFlex 7000, 630kW, 6kV.

Start up of 4 pcs. MV Variable Frequency Drives with manual bypass system to control 8 pcs. asynchronous motors for fans. MV Variable Frequency Drives PowerFlex 7000, 400kW, 6kV. Total installed power 8.3MW.









# **Control pumps in Heating Station Tushino 1**

Start up of 2 pcs. MV Variable Frequency Drives with synchronous transfer system and MV cabinets to control 4 pcs. asynchronous motors of pumps. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 630kW, 6kV. Total installed power 2.5MW.

## **Control pumps in Heating Station Tushino 3**

Project and delivery of 2 pcs. of MV VFD's to control 2 pcs. asynchronous pump motors. MV drives from Rockwell Automation (Allen-Bradley), PowerFlex 7000, 1250kW, 6kV. Installed power 2.5MW.

# **Control pumps in Heating Station Tushino 4**

Project and delivery of 2 pcs. of MV Variable Frequency Drives with synchronnous transfer system and MV cabinets to control 4pcs. asynchronous motors for pump. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 400kW, 6kV. Total installed power 2.5MW.

## Severoceske doly a.s., Doly Nastup Tusimice

Czech Republic, Tusimice

2006

#### **Technical support**

Technical support at start up of 2 pcs. MV Variable Frequency Drives with Sharing load function (motors works to one collective load in Master-Slave mode) and MV cabinets for main drive of paddle wheel of mining large-scale machine. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 1000kW, 6kV. Total installed power 2MW.

Manex & Co a.s. Czech Republic, Boretice 2006

#### LV Variable Frequency Drive

Start up of Variable Frequency Drive Rockwell Automation PowerFlex 70 for palletizator elevator.

2006 Beekeeper Czech Republic

#### LV Variable Frequency Drive

Start up of Variable Frequency Drive Rockwell Automation PowerFlex 40 for drive of honey machine. More information in Beekeepers News.

# **Coal-mines Vattenfall Europe Mining AG**

Germany, Vattenfall

2006

# Service promptness for MV drives

Nonstop service promptness for coal mining Vattenfall, one of the biggest applications 6kV Frequency Drives in Europe, here for belt conveyors.



MosTeploEnergo Russia, Moscow 2002

#### Control pumps in Heating Station Peredelkino 1

Project and delivery of 2pcs. of MV Variable Frequency Drives and MV cabinets to control 2pcs. asynchronous motors of air and smoke fans. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 400kW, 6kV. Total installed power 0,8MW.

#### **Control pumps in Heating Station Peredelkino 2**

Project and delivery of 4pcs. of MV variable frequency and MV cabinets to control 4pcs. asynchronous motors of air and smoke fans. Delivery include the MV transformer and compensation. MV Variable Frequency Drive Rockwell Automation (Alle-Bradley) PowerFlex 7000, 400kW, 6kV. Total installed power 1,6MW.



MosTeploEnergo Russia, Moscow 2001

## **Control pumps in Heating Station Lublino**

Project, delivery and start up of MV Variable Frequency Drive with synchronous transfer system and MV cabinets to control 3pcs. asynchronous motors of pumps. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 630kW, 6kV. Total installed power 1.9MW.



#### Control pumps and fans in Heating Station Butovo

Project, delivery and start up of 2pcs. of MV Variable Frequency Drives with synchronous transfer system and MV cabinets to control 6pcs. asynchronous motors of pumps. The delivery included MV transformer and PFC compensation. MV VFD Rockwell Automation (Allen-Bradley) 1557, 630kW, 3.4kV.

Project, delivery and start up of 4 pcs. of MV Variable Frequency Drives and MV cabinets to control 4pcs. AC motors for fans. MV VFD Rockwell Automation (Allen-Bradley) 1557, 400kW, 3.4kV. Total installed power 5.4MW.

#### **Control pumps in Heating Station Chertanovo**

Project, delivery and start up of 4 pcs. of MV Variable Frequency Drives with synchronous transfer system and

MV cabinets to control 8 pcs. asynchronous motor of pumps. MV Variable Frequency Drive Rockwell Automation (Allen-Bradley) PowerFlex 7000, 630kW, 6kV. Total installed power 5MW.

#### Control pumps in Heating Station Krylatskoe

Project, delivery and start up of 2 pcs. of MV Variable Frequency Drive and MV cabinets to control 2pcs. asynchronous motor. Delivery includes MV transformers. MV Variable Frequency Drive Rockwell Automation Allen-Bradley) 1557, 800kW, 6kV. Total installed power 1.6MW.



ÚV Horka Czech Republic, Sokolov 1999

# Pump reconstruction for water-station Markvarec

Project, delivery and start up of softstarter SMC Dialog Plus, with local compensation, to control 3 pcs. asynchronous motors of vertical pumps 450kW, 400VAC. Total installed power 1.3 MW.

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