

Our goal

ABB Avangard is transforming from being a traditional supplier to be a market partner with the intention to offer broad customised services not exclusively focusing on product sales

Retrofit

Upgrading existing, outdated systems with the most modern components to optimize technical, reliability and profitability aspects of the system.

- Exchange
- Increase in capacity
- Replacement
- Upgrading
- Modernization
- Refurbishing
- Rehabilitation

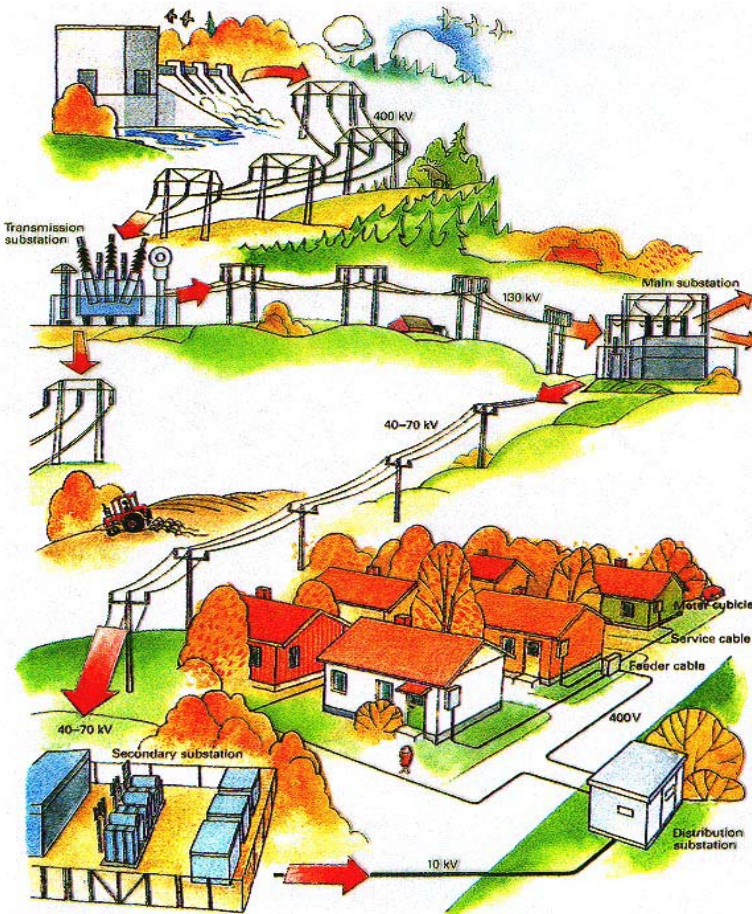


ABB Avangard performs following retrofit activities:

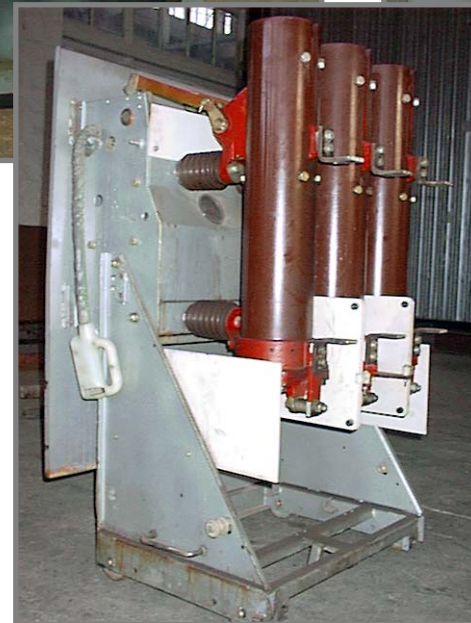
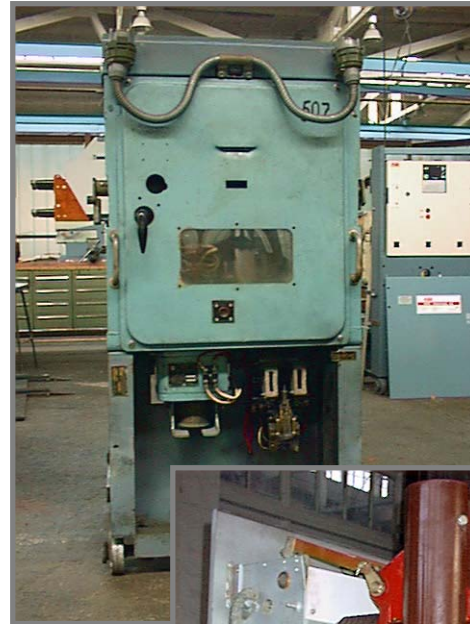
- 🖱️ retrofit of medium voltage switchgears**
- 🖱️ Retrofit of secondary systems**
- 🖱️ Retrofit of high voltage disconnectors by exchanging the existing operating mechanism with motor drive mechanism type SM 1500**
- 🖱️ Overhaul of oil - minimum circuit breaker type MMO**

Retrofit & Support

Retrofit of medium voltage switchgear

Movable parts:

⌨ commutation
apparatus



*Fast physical and
moral ageing*

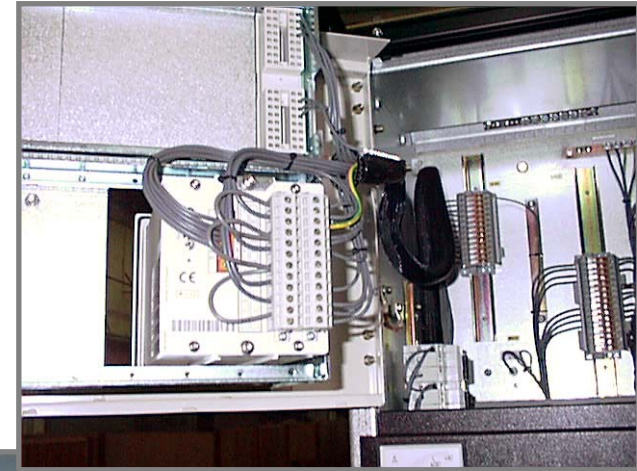
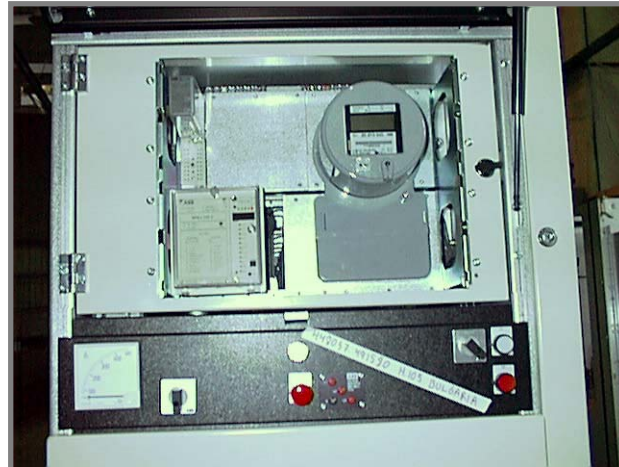
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ABB

Retrofit & Support **Retrofit of medium voltage switchgear**

Secondary
commutation:

- 🖱️ relay protection
- 🖱️ control equipment
- 🖱️ measuring equipment



Fast moral ageing

Retrofit of medium voltage switchgear

Our range of services:

- 🖱️ replacing of the old breaker
- 🖱️ replacing disconnect switches
- 🖱️ replacing instrument transformers
- 🖱️ renewal of phase insulation
- 🖱️ renewal of bus bars and feeder bars
- 🖱️ fitting of protection devices



Retrofit of medium voltage switchgear

You gain:

- ⌨ increased reliability and safety
- ⌨ reduced maintenance costs
- ⌨ increased remaining life time with minimum 20 years

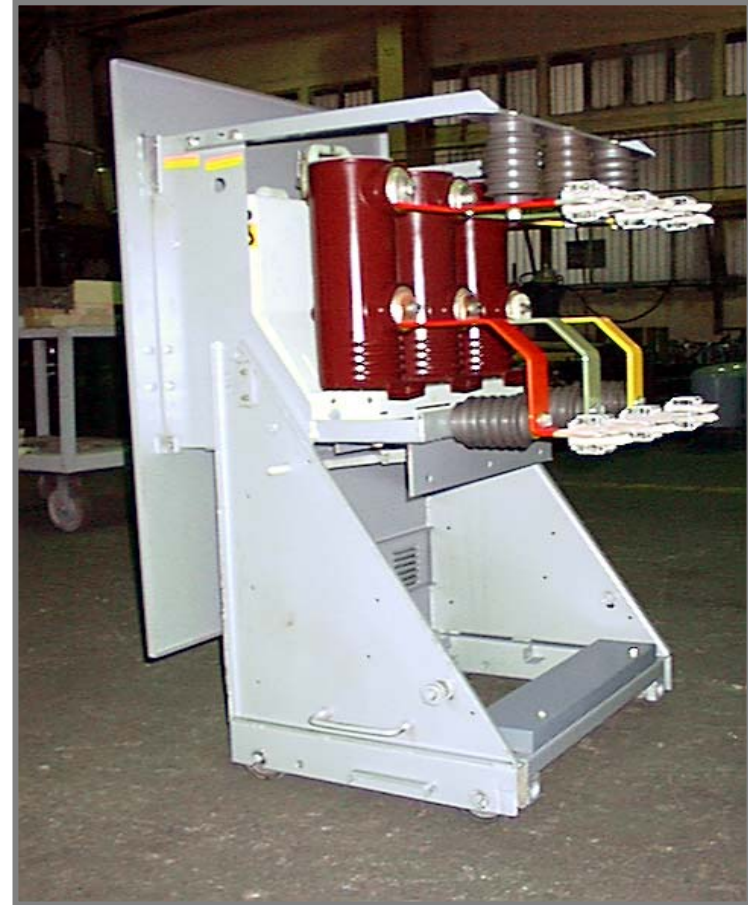
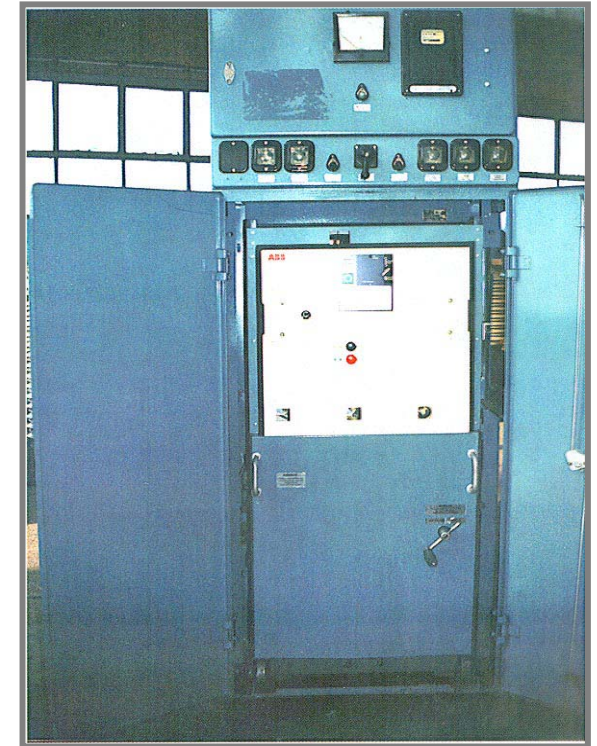
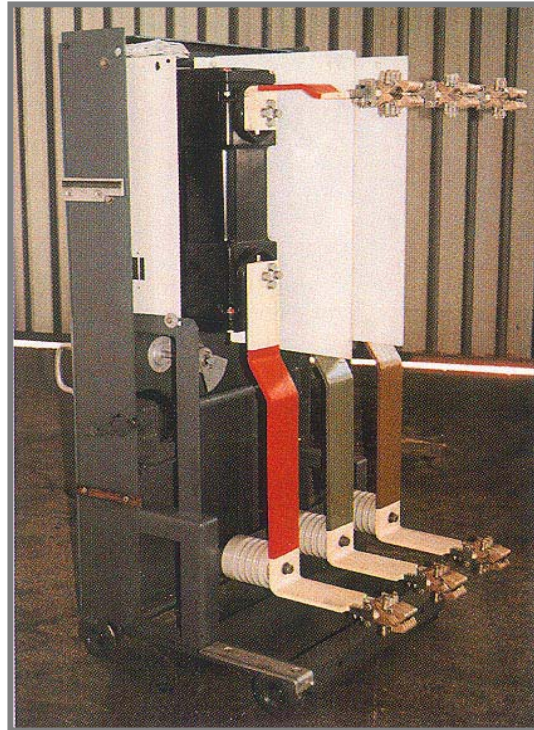


ABB Avangard - retrofit solutions

Thermo Plant Blagoevgrad, BG

Retrofit of Russian switchgear by replacing the old oil - minimum breaker with SF₆ circuit breaker type HPA



Reliable Support **ABB Avangard - retrofit solutions**

Retrofit of Russian
switchgear by
replacing the oil-
minimum breaker
with SF₆ circuit
breaker type HPA



ABB Support **ABB Avangard - retrofit solutions**



Retrofit of polish switchgear by replacing the oil - minimum breaker with vacuum breaker type VD4

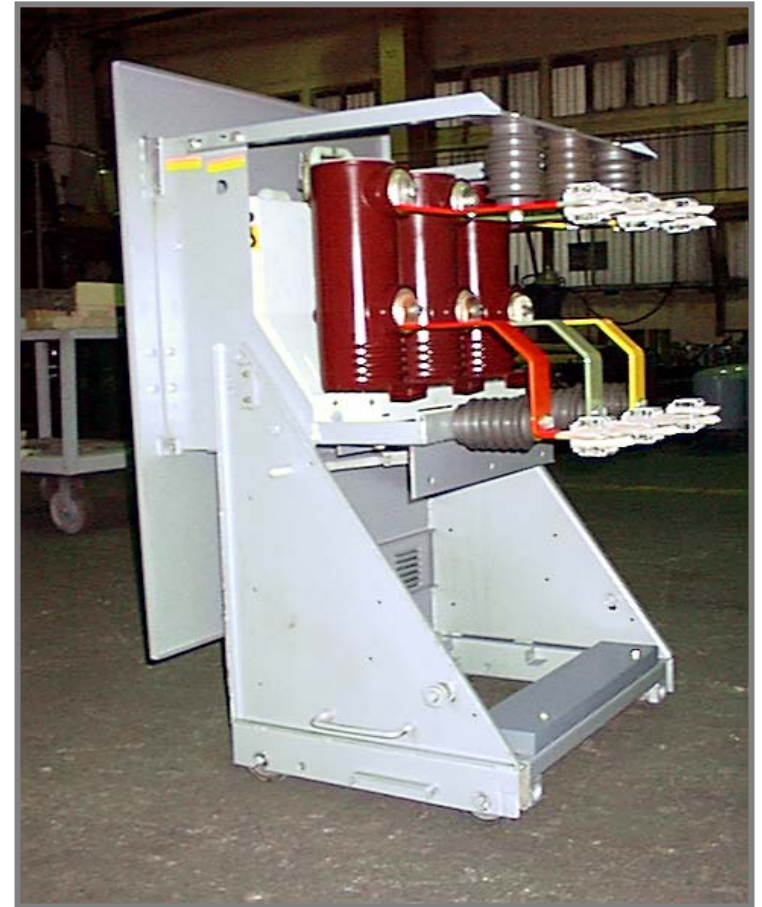
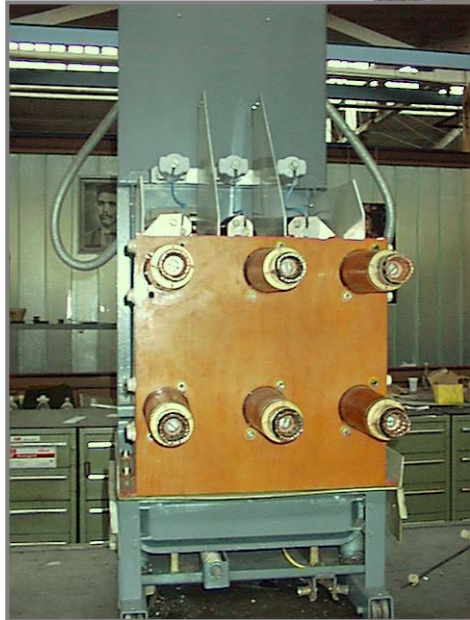


ABB Support ABB Avangard - retrofit solutions



Retrofit of Russian switchgear by replacing of the airblast breaker with vacuum breaker type VM1



Retrofit of Russian switchgear by replacing the oil- minimum breaker with SF₆ circuit breaker type HPA

ABB Support ABB Avangard - retrofit solutions



**Retrofit of Russian
switchgear by
replacing the old
oil-minimum circuit
breaker with
vacuum breaker
type VM1**



ABB Support **ABB Avangard - retrofit solutions**

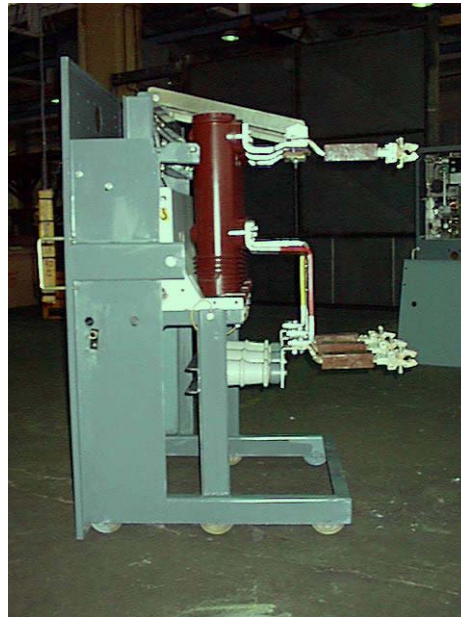
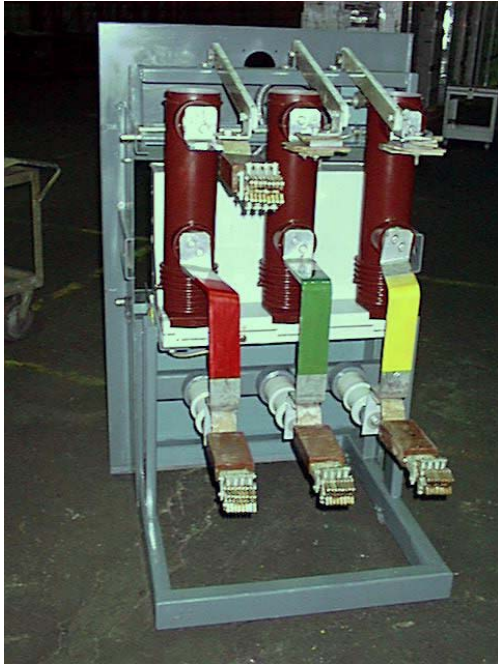


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ABB Avangard - retrofit solutions

NPP Kozloduy , BG



**Retrofit of Russian
switchgear by replacing
the oil- minimum
breaker with SF₆ circuit
breaker type HD4**



ABB Support **ABB Avangard - retrofit solutions**

HPP Pirin, BG

Retrofit of Bulgarian
switchgear by replacing the
oil- minimum breaker with SF₆
circuit breaker type HPA

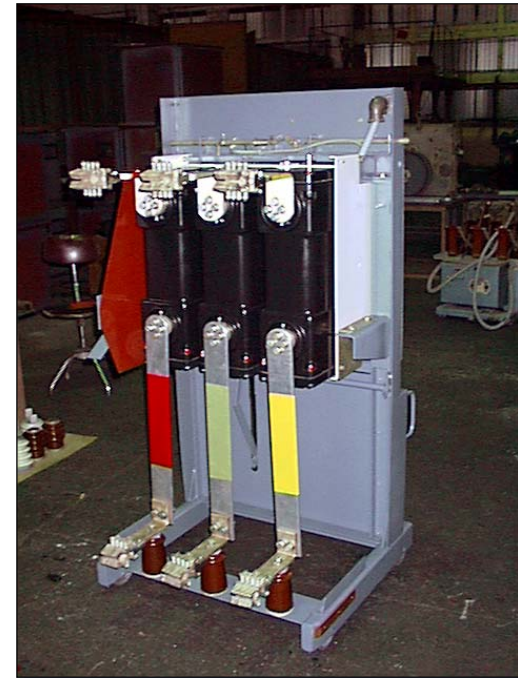


ABB Avangard - retrofit solutions



Retrofit of Russian switchgear by replacing the oil- minimum breaker with SF₆ circuit breaker type HD4

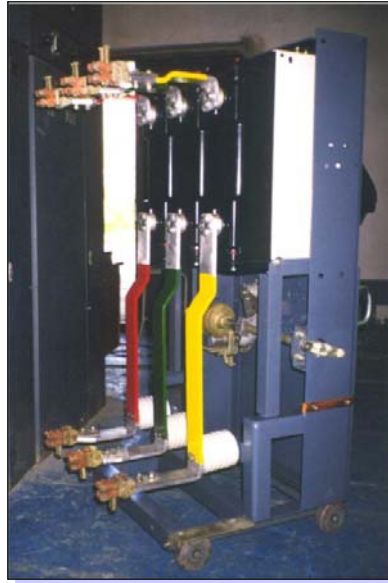
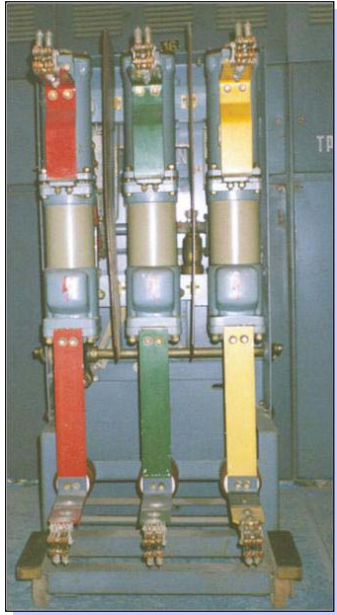


Kremikovtzi, BG



ABB Avangard - retrofit solutions

Bor's Glass Plant , Russia



Retrofit of Russian switchgear by replacing the oil- minimum breaker with SF₆ circuit breaker type HD4 and HD4

ABB Support **ABB Avangard - retrofit solutions**

TPP Bobov Dol , BG



Retrofit of Polish switchgear by replacing the oil-minimum breaker with SF₆ circuit breaker type VD4

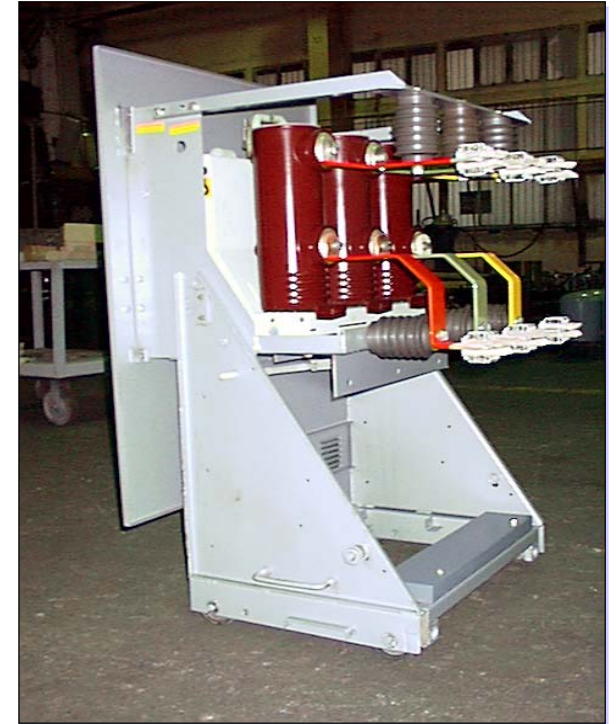


ABB Avangard - retrofit solutions



Retrofit of Russian switchgear by replacing the air breaker with vacuum circuit breaker type VM1

TPP Maritza II , BG

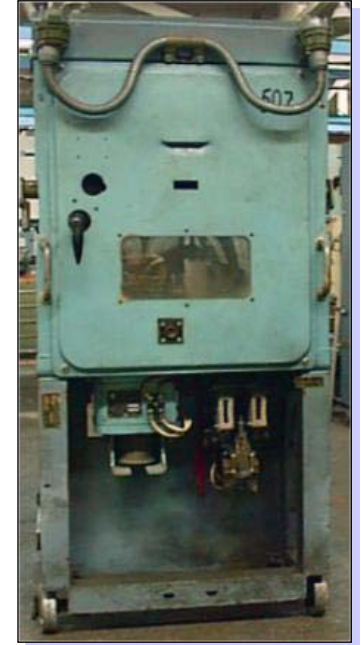
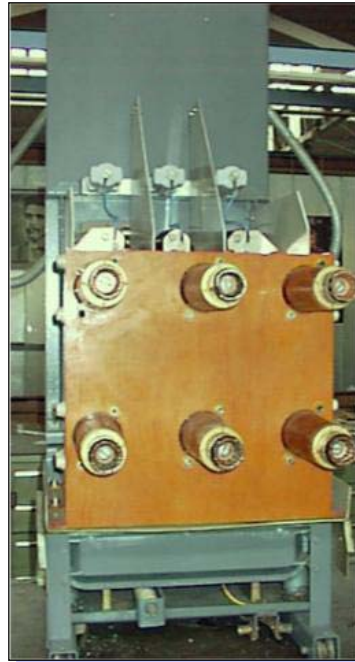


ABB Avangard - retrofit solutions



TPP Varna; BG



Retrofit of Russian switchgear
by replacing the the oil-
minimum breaker with
vacuumcircuit breaker type VM1

Reference List

No.	Customer	Product description	Q-ty
1	Heat supply, Sofia, BG	Retrofit with SF6 circuit breaker type HPA 12 kV	4
2	Power supply, Blagoevgrad, BG	Retrofit with SF6 circuit breaker type HPA 12 kV	1
3	HPP Pirin, BG	Retrofit with SF6 circuit breaker type HPA 12 kV	2
4	TPP Bobov dol, BG	Retrofit with vacuum circuit breaker type VM1 12 kV	112
5	Bor's Glass Plant, Russia	Retrofit with SF6 circuit breakers type HPA 12 kV and HD4 12 kV	86
6	NPP Kozloduy, BG	Retrofit with SF6 circuit breaker type HPA 12 kV	1
7	Maritsa East Mines, BG	Retrofit with SF6 circuit breaker type HPA 12 kV with cassette	1

Reference List

<i>No.</i>	<i>Customer</i>	<i>Product description</i>	<i>Q-ty</i>
8	TPP Maritsa East II, BG	Retrofit with vacuum circuit breaker type VM1 12 kV	2
9	Kremikovtzi, BG	Retrofit with SF6 circuit breaker type HPA 12 kV	1
10	ATSA, BG	Retrofit with vacuum circuit breaker type VD4 24 kV	1
11	TPP Varna	Retrofit with vacuum circuit breaker type VM1 12 kV	126
12	ABB CalorEmag, Germany	Retrofit with vacuum circuit breaker type VD4 24 kV	4
13	"Remotex", Radnevo, BG	Retrofit with vacuum circuit breaker type VD4 24 kV	1
14	Airport Vrajdebna, BG	Retrofit with vacuum circuit breaker type VD4 12 kV	1

Reference List

No.	Customer	Product description	Q-ty
15	TPP "Deven", BG	Retrofit with vacuum circuit breakers type VM1 12 kV	15
		Relay protections type SPA_	18
16	ET "G.Tasev", Pernik, BG	Retrofit with SF6 circuit breaker type HPA24	2
17	Start Engineering, Varna, BG	Retrofit with vacuum circuit breaker type VM1	1
18	NPP Kozloduy, BG	Retrofit of 6kV switchgear with	
		- SF6 circuit breaker type HD4 - Voltage transformers	196 26