

ZTR will supply 16 single phase transformers to HPP Sayano-Sushenskaya

ZTR will supply 16 single phase transformers rated for power 533 MVA voltage 500 kV to HPP Sayano-Sushenskaya (Yenisei river, RF). Equipment will be installed instead of transformers manufactured by ZTR that have been in operation more than for 20 years. For modification of transformer equipment HPP Sayano-Sushenskaya has announced tender among the first-rate companies of engineering industry. Due to the professional competence and quality of supplied production, PJSC «Zaporozhtransformator» has won the tender.

Within the preparation of contract conclusion, ZTR suggested to customer two types of transformers: three phase transformer rated for power 800 MVA voltage 500 kV and single phase transformer rated for power 533 MVA voltage 500 kV. Customer has chosen the second type of the transformer. Such kind of selection was stipulated by economical efficiency, possibilities not to make significant changes and maximum keeping of construction parameters at station.

Contract on supply of 16 single phase transformers was

signed October 16, 2010. One more condition of a contract, in addition to requirements of high efficiency and reliability of equipment, was the provision of seismic stability of equipment: transformer stability to earthquake in 8 points according to Richter scale. In order to perform these requirements, construction of separate units was reinforced; appropriate decisions were approved by special conclusions.

The developer of PJSC «ZTR» applied innovation technique within the production of single phase transformers. «Optic fiber sensors that allow to measure the temperature of equipment are installed on the equipment, – **tell the head of designing office Nataliya Bespalova.** – The powerful monitoring and diagnostics system is put into operation. Detail analyze of the transformer in any moment is provided by similar system.»

At present 6 single phase transformers are supplied to HPP Sayano-Sushenskaya. The other equipment is under testing. The Customer should receive it to the end of the current year.

For the first time, ZTR manufactured the furnace transformer 9 MVA 13,8 kV

PJSC «Zaporozhtransformator» manufactured the electric furnace single-phase transformer 9000/13,8 for Felman Production inc., the USA. Since 1994, PJSC «ZTR» has manufactured the furnace transformers for metallurgical companies of Ukraine, but equipment with such capacity and characteristics was manufactured for the first time.

Electrical furnace transformers are the specific class of equipment used for supply of arc steel-smelting furnaces. Features of such transformer are too severe currents at LV side, required for ore melting, current overloading capacity and wide ranges of voltage regulation. Within designing and selection of components, it was necessary to follow the requirements of ANSI standards that are essentially different from European and CIS standards. «For this equipment, we had to apply new design solutions, in particular, as for reliable sealing of LV buses. It was a matter of some difficulty» – noticed Mr. Valeriy KISLYUK, Head of design department 150 kV.

Transformer is to be put into operation instead of equipment of Canadian production, that's why all connecting dimensions of PJSC «ZTR» transformer have to be strictly followed analogous to operating transformer. Considering that



transformer is to be installed into the closed chamber, PJSC «ZTR» engineers had to comply with severe limitations of overall dimensions. During manufacturing of the furnace transformer, there were difficulties with sealing unit of LV buses. Due to professional skills, ZTR specialist found good solution to improve the design. Unit of LV bushings is the most difficult for all furnace transformers. In particular, it referred to the transformer rated for 9 MVA 13,8 kV, because the distance between LV bus bushings was 37 mm only.

«This equipment is to be installed in special chamber and should correspond to the specified parameters, – said Mr. Valeriy KISLYUK. – Besides, transformer is equipped with cooling system type «OFWF» (forced oil circulation). According to ANSI standards, the transformer should be subjected to temperature rise testing with obligatory mounted original cooling system and supplying of cooling water. Therewith, water consumption and operating pressure should be strictly in accordance with required parameters». Due to professional competence and qualitative product manufacturing, the electric furnace single-phase transformer 9000 kVA, 13,8 kV was successfully tested in a full scope and dispatched to the Client.

ZTR invests for the modernization of welding production

PJSC «Zaporozhtransformator» (ZTR) continues execution of investment program, that will help to obtain additional production capacity. One of the largest investment projects of the year 2011 is the further modernization enterprise welding production. This year two new welding equipment were put into operation, air-plasmic cutting plant was installed, serious project as for quality of grinding has been commenced.

According to the opinion of the enterprise specialists, new welding equipment TransSteel Synergic 5000, manufactured by Austrian company Fronius will assist in significant quality improvement of branch pipe welding of the transformer cooling system as well as they have function of inverse formation of weld joint and a number of other advantages in comparison to available welding technique of the present time.



thickness 15÷30 mm.

In the year 2011 global project for the quality improvement of grinding has been started – tape-grinding machine, model



15300 manufactured by «DYNABRADE», USA, that will permit to execute requirements of the European standards and contract conditions as for truncation of sharp part edges of the transformer active part. The replacement of the grinding tool to the



Purchase of the air-plasmic cutting plant «PowerCut 1600», manufactured by «ESAB» (Sweden) dealing with implementation of stainless pipes into the structures of the transformer cooling system. Due to the characteristics of the plant it is permitted to cut not only stainless parts but as well as aluminum and low-alloyed steel rated for

most productive with steady abrasive materials is in the project of the investment budget for the year 2012.

The number of activities directed to the improvement of labor conditions, increase of quality execution of technological operation, mechanization of the laborious processes is stipulated by investment budget for the year 2012.

It should be mentioned that significant modernization of welding production of PJSC «ZTR» was commenced in the year 2007: in particular in the year 2009 the project as for modernization of cutting complex in the welding workshop was completed – four machines for plasmic cutting were put into operation. Investment for the project made up USD 2,1 mln. In the year 2010 portal plant of automatic welding under flux layer rated for costs USD 630 thousand was implemented.

ZTR will supply autotransformers to the capital of Kazakhstan within the shortest period

PJSC «Zaporozhtransformator» (ZTR) has achieved order to manufacture two autotransformers rated for power 250 MVA voltage class 220 110 kV for KEGOC company (Kazakhstan republic). Equipment will be supplied to the Central state step-down substation (S/S CSSS), Astana city, which is included into the regional department JSC «KEGOC».

During selection of supplier, the main requirements for KEGOC company were minimum period of manufacturing and transformer shipment. «Due to the high level of work organization at PJSC «ZTR», synchronous operation of all departments, enterprise had the opportunity to manufacture,

test and dispatch the first autotransformer within 90 days», – explains Yuvgeniy Burmakov, the head of sales office to Kazakhstan, Middle Asia and Transcaucasia.

The main difference of the autotransformer from another ones is the requirement to the short-circuit low losses and application of air-pressure switch. In order to get these parameters, specialists of ZTR had to processed the existing design of the autotransformer. In spite of strict requirements to design and terms, the first transformer was dispatched in September 2011. The delivery of the second transformer is scheduled to November of the current year.

3, Dnepropetrovskoye shosse,
Zaporozhye, 69600, Ukraine
Sales dept.: +38(061)270-30-33
E-mail: sales@ztr.com.ua
www.ztr.com.ua

Quarerty

ZTR
ZAPOROZHTRANSFORMATOR