



Mashinostroitelny Zavod (JSC MSZ)

The Mashinostroitelny Zavod (MSZ, Elektrostal, Moscow Region) is one of the oldest nuclear industry establishments with over half a century competence in nuclear machine engineering. In February 2007 the plant celebrated its 90-th anniversary.

The MSZ today is one of the world's largest nuclear fuel producers. Fifty seven nuclear reactors in 12 countries are run with MSZ-fabricated fuel. Fuel assemblies fabricated by the MSZ generate electricity in each eighth power reactor worldwide.

The MSZ produces a broad range of items for the Russian and foreign nuclear power industry. The plant features a complete cycle of nuclear fuel fabrication from drafting technical documents through conversion of uranium hexafluoride into uranium dioxide powder and making fuel assemblies and sullyng finished products. In particular, the MSZ fabricates fuel assemblies for VVER-440, VVER-1000, RBMK-1000, BN-600 and other reactors.

The Mashinostroitelny Zavod fabricates fuel assemblies for reactor cores of Russian and foreign nuclear power plants and Russian marine and research reactors. The plant also produces component parts and special packages to ensure safe fuel shipments in accordance with international standards. It produces a broad array on non-nuclear items like calcium metal, magnets, steel light-wall tubes.

The MSZ cooperation with Areva NP makes it one of a few worldwide producers of nuclear fuel with recovered uranium with such fuel supplies amounting to about 100 tons annually.

The Mashinostroitelny Zavod employs about 10,000 people.

As back as 1996 the MSZ became the Russia's first enterprise which was granted a certificate of conformance under the international standard ISO 9002 for its quality management system. As of today, its production process has been certified to ISO 9001:2000 standard. The MSZ has been also granted a certificate of conformance to the international standard ISO 14001:1996 for its environment management system.

The plant was founded in 1917 to produce ammunition. During the World War II it was making mines, aviation bombs, artillery shells and missiles. After the WWII it was converted into uranium-based items producer.

The enterprise uses the state-of-the-art equipment. In particular, it operates the so-called dry conversion installation that produces dioxide uranium powder. It also has an automated line to fabricate fuel rods for Areva NP and upgraded line LAM-4 to fabricate fuel rods for CEFR (China) and BN-600 reactors. The plant has commissioned a new electroplating line to apply three types of coatings featuring high corrosion resistance. The line is fitted with process water treatment installations which have no analogues in Russia.

Since 1998 the plant has produced fuel assemblies of advanced design – TVSA – using the technology which allows to increase the skeleton rigidity and avoid guiding tube distortion. The TVSA made of zirconium alloys retain their geometry under high burnups. They are nuclear safe and demonstrate good economy for VVER-1000 reactor cores of higher burnup and longer fuel campaigns.

The Mashinostroitelny Zavod is a socially oriented enterprise which implements programs aimed at social support of its employees. These include voluntary medical insurance, interest-free housing loans, additional pension insurance, health rehabilitation and recreation subsidies.

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