

PJSC "DEFORT"

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Management: Ya.M.Vitorsky - Chairman of the board of directors,
S.G.Komaishko - General director,
Yu.P.Tonkonog - Technical director,
E.S.Makalyutin - Chief of mechanical testing department.

Employees: 32 persons employed on a permanent basis, 12 persons- on a temporary basis

Previous financing: \$ 200 000

Requested investment: \$ 500 000

Use of the requested investment: Development of quantity production of modern products - hydro- and gas accumulators for gas-refilling stations; coolers and high pressure pipe bend.

Company Description:

"Defort" public joint-stock company was established in 1992 as a result of recommendations given by coordination meeting on safety of the plants intended for manufacture of high-pressure polyethylene (HPP), which took place in Novopolotsk in 1991. It was founded on the basis of Central Research Institute for Materials of Russian State Defense Industry Committee in order to solve general problem connected with manufacture of pipes for HPP plants, operating under the pressure to 3200 at, which were purchased previously abroad.

"Defort" has licenses of Russian State mine technical inspection and State atom supervision of Republic Belarus for the following kinds of activity:

- manufacture of the equipment for chemical and other explosive and fire-hazardous productions as well as for unhealthy those, including manufacture and repair of pipes intended for HPP plants and objects of boiler inspection;
- examination of safety for equipment, operating in chemical and other explosive and fire-hazardous and unhealthy productions, as well as for equipment, being supervised by boiler inspection, and execution of the decision on prolongation of the operation terms for such equipment. In order to perform mentioned kinds of activity "Defort" has required modern equipment for deep drilling, boring and electrochemical polishing of inner surfaces (from 6 to 250 mm in diameter) of pipes and cylinders to 10 m in length, stands for pneumatic and hydraulic tests, equipment for pipes autofrettage under the pressures to 8 thousand of atmospheres, equipment for centreless cylindrical grinding, equipment for deposition of zinc coating onto outer surface of the pipes as well as highly skilled scientific and engineering personnel; inspectors of second (II) international qualification for nondestructive testing of materials and products by the methods of sonic (acoustic emission) test, ultrasonic inspection, liquid-penetrant test, magnetic-field testing and X-ray flaw detection; chief welding engineer of IV category.

The techniques are developed for the following kinds of investigations: strain measurement, hardness test, determination of mechanical and corrosion properties of materials, detailed and precision investigations in the field of metal science, studies of fracture toughness and cyclic longevity, including those applied directly to the pipes and vessels. Modern methodologies of strength analysis intended for the parts of products for military equipment, available to "Defort", permit to ensure reliable serviceability of vital high-loaded pipes and vessels (under the pressures to 6 thousand of atmospheres), which have safety factor in yield strength, ultimate strength and low-cyclic fatigue two-four times lower than in chemical industry. Such essential reduction in safety factor for

military equipment is achieved owing to application of more modern methodologies of strength analysis, including those applied to the parts subjected to autofrettage as well as due to increase in requirements to the quality of materials and to the methods for their testing.

Using high manufacturing processes and unique equipment of conversional productions, "Defort" organized manufacture of complete range of pipe products for HPP plants made of 30X2H2MΦAIII steel grade (TU 1301-001-32003846-99 specifications) and practically of any pipes and cylinders from 6 to 250 mm in internal diameter and to 10 m in length with bored or honed inner surface.

To the present time "Defort" supplied large lots of pipes intended for HPP plants in Novopolotsk, Kazan, Tomsk, Salavat, Angarsk towns.

Technical diagnostics and determination of residual service life of the vessels and pipe-type apparatus were performed for "Polymir" HPP plant. Hydraulic tests of different vessels with strain measurement till to the failure were carried out.

Field and Directions of Activity:

Manufacture of high-pressure pipes and coolers, hydro-and gas cylinders, gas re-filling complexes and other explosive and fire-hazardous equipment.

Products/Services/Technologies:

High-pressure pipes, products, being used instead of import analogues, for chemical industry plants, hydro-and gas accumulators, hydro-cylinders. Basic manufacturing processes are deep drilling, boring, grinding and honing. Services on diagnostics and prolongation of service life of equipment, being under supervision of State mine technical inspection, include nondestructive inspection, hydraulic and pneumatic testing.

"Defort" offers to perform the works on diagnostics and prolongation of service life for vessels and pipe-lines as well as on development of techniques for:

- ultrasonic testing of transverse cracks in pipe bends without removal of water-cooling jacket;
- ultrasonic testing of the quality of application for surfaced babbitt shells intended for compressors;
- autofrettage of pipes and high-loaded parts.

Management Team:

Shareholder	Position	Quantity of shares, %
State Enterprise Central Research Institute for Materials	In the person of its general director V.P.Kuznetsov	16
S.G.Komaishko	General director of "Defort"	13
Ya.M.Vitorsky	Chairman of the board of directors of "Defort"	13
Yu.P.Tonkonog	Technical director of "Defort"	13
B.M.Belov	Chief of nondestructive testing department	9
E.S.Makalyutin	Chief of mechanical testing	9

	department of "Defort"	
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Markets/Competition:

"Defort" public joint-stock company is enterprise-monopolist both in Russia and in the countries incorporated in Community of Independent States.

Achievements:

Expansion in kinds of activity was achieved in 1999: experimental manufacture of hydraulic cylinders to 10 m in length was organized.

Outlook: Expansion in the range of products, in particular, designing and manufacture of high-pressure equipment.