CONVERSION DEVELOPMENTS IN ALATAU JOINT STOCK COMPANY

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Alatau is one of the largest enterprises in Almaty. Its major field of activities is development and manufacturing of radioelectronic devices, means of communication and other apparatus for special and industrial applications, consumers goods.

Alatau has mechanical, assembly, instrumental departments, founding, thermal and welding shops, dye works, microelectronics shop, sections of plastic processing and production of printed circuits which are equipped with home-made and foreign technological equipment, the plant also has power supply, auxiliary and service divisions, warehouses and transportation division, laboratories, medical unit, canteen, managerial office. Alatau is now facing a lot of difficulties, conversion has led to a sharp decrease in the yield of formerly manufactured finished products and as a result lack of its own circulating assets, delay of payments to the budget.

To solve this situation it is necessary to organize manufacturing of marketable products at the enterprise but implementation of this goal requires investments allocations. In the frames of international cooperation we submit the following three projects:

- modernization of construction and development of new modifications of electric stimulator of alimentary canal;
- development and bringing into production of GSA-1 welding-gasgenerator installation;
- development and bringing to a commercial level production of thermal elements for refrigerator devices, production of consumer’s cooling devices;

1. Electric stimulator of alimentary canal is a medical a new level micro equipment, it was awarded diploma and medals of international exhibitions, including Medicine-92. ESAC is designed for electronic pulse stimulation of alimentary canal to restore its motor-evacuation activity. ESAC is the first among new devices which allows to make effective correction and activation of a number of degrading systems of human body without medicines, injures, a patient may stay at home and himself determine necessity of ESAC usage.

No collateral or negative consequences of EASA application were registered in practice.

The major problems to be solved to achieve the objective:
- to carry on design works on finishing of the crystal, development of a new power supply;
- finishing of the design;
- to conduct marketing, testing, certification;
- to increase the present production of ESAC to 100,000 items per year.

ESAC is produced only by Alatau in the Republic of Kazakstan, the company has the equipment needed for the ESAC production, technology was tested in production of pilot lofts. Preliminary estimates show that implementation of the above projects amounts to 5 mln tenge. Feasibility studies showed than investments will be reimbursed in 4 years.
2. GSA-1 welding - gasogenerator installation uses ecologically safe power supply, that is hydrogen-oxygen produced by water electrolyzing by caustic natrium or Potassium what excludes usage of calcium carbide and technical oxygen in gas-bags. The installation operates at 220 V voltage, frequency of 50 cycles/second, power supply 4kW, its size is 865x728, weight - 75 kg. GSA-1 is designated for welding, cutting, soldering of steel and non-ferrous metals of the width to 4 mm. The above installations are to be sold on the markets of Kazakstan and CIS countries, on agricultural and consumers markets. To bring this production into commercial level Alatau needs investments amounting to 4 mln tenge. Preliminary estimates of production of the above welding - gasogenerator installation have shown that credit can be reimbursed in stages due to realization of finished products and getting of profit. Period of recoupment is 4 years.

3. Mastering of production of freon-free refrigerator installations based on thermoelectric transformers. The objective of the project is to master production and to manufacture consumers thermoelectric refrigerator-devices, conditioners, automobile bags-refrigerators. The main element vices, conditioners, automobile bags-refrigerators. The main element of all these cooling devices is thermoelement consisting of two semiconductor branches with electron and hole conductivity connected in series. Phenomenon of thermoelectric cooling consists in heat releasing and absorbing on the boundary of two different conductors when current passes through them.

Production of thermoelements requires usage of precise modern equipment, new technologies, high industrial culture.

To realize this project it is necessary
- to finish design of thermoelectric modules
- to develop design documentation for an automobile refrigerator bag, consumers refrigerator of 100 liter capacity
- to implement technology of commutation of branches of thermoelectric semiconductor material of ceramic substrate
- to prepare shops for production of thermoelements, consumers cooling devices.

As preliminary estimates showed 5,700,000 USD capital investments are needed to realize the above project. Period of recoupment of capital investments is estimated as 6 years. Estimated pure profit during project realization will amount to 4,151,000 USD. The proposed role of potential foreign investors is cooperation in setting up of a joint-stock company or a joint venture with the share in the shareholders fund not less than 30%.