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REVIVAL OF QARMET JSC: STRATEGIC TRANSFORMATION AND PROSPECTS DEVELOPMENT OF THE MINING AND METALLURGICAL COMPLEX OF KAZAKHSTAN

The mining and metallurgical complex is one of the key sectors of Kazakhstan's economy, providing a significant part of the country's industrial production and exports. In recent years, Qarmet JSC, one of the largest enterprises in the industry, has faced serious difficulties associated with insufficient investment, production and infrastructure investments. The situation required immediate and drastic measures to prevent bankruptcy and restore stable operation of the plant.

The attention paid to the problems of the company by the President of the Republic of Kazakhstan Kassym-Jomart Tokayev and the active assistance of the Government played a crucial role in the beginning of the process of reviving Qarmet JSC. This article analyzes the strategic actions taken by the company's management and assesses the results achieved in the context of the development of the mining and metallurgical industry in Kazakhstan.

1. Strategic development plan and its implementation

Production stabilization and financial investment

The change of a shareholder and the development of a new strategic plan became the starting point in the process of reviving Qarmet JSC. As part of a set of anti-crisis measures, 26.8 billion tenge was invested in production, which allowed to stabilize the operation of the enterprise and provide conditions for further growth. The main investment areas included:

- **Lower production costs:** Optimization of production processes and efficient use of resources allowed to reduce costs and increase the competitiveness of products in domestic and foreign markets.
- **Entering new sales markets:** Expanding the geography of deliveries and establishing new partnerships helped to increase sales and strengthen the company's position in the international arena.

Production indicators and growth dynamics

In the first 8 months of 2024, Qarmet JSC demonstrated significant improvements in its production indicators:

- **Steel production:** Monthly growth ranged from 1.2% to 20.7%, which led to an overall increase in steel output of more than 40% in the first half of the year. Total production was over 2.3,3 million tons of steel and 2.1,1 million tons of pig iron.
- **Product shipments:** The average monthly growth reached 6.4%, while the average daily shipment increased by 33%. In the second quarter of 2024, production and shipment of products accounted for 102% of the planned figures.

Particularly noteworthy is the result of May 2024, when the company produced more than 330 thousand tons of steel — the best figure in the last five years. All divisions of the Steel, Coal and Iron Ore departments work in accordance with the business plan, which indicates the effective implementation of strategic tasks.

2. Infrastructure and logistics development

Modernization of production facilities

To ensure stable and efficient operation of the enterprise, Qarmet JSC initiated a large-scale program for modernization and repair of production facilities:

- **Repair of buildings and workshops:** Key production sites are being updated and reconstructed, including the replacement of more than 50 thousand square meters of roof and the repair of the building of the chemical capture unit.
- **Upgrade of transport infrastructure:** purchase of new gondola cars, construction of railway tracks at Karazhal and Uglerudnaya stations, as well as construction of a new cargo terminal at the Entrance station are planned. Locomotives, rolling stock, and company-owned railway tracks are being repaired.

Strategic investments and future projects

The national investor has approved a strategic plan that provides for significant investments in the modernization of energy infrastructure and production equipment:

- **Upgrading of production facilities:** Construction of new coke batteries, repair of converters and continuous casting machines, construction of sites for the production of new types of steel.
- **Development of the raw material base:** Construction of a new horizon and processing plants at the Atasu and Lisakovsk deposits, development of dephosphorization technology, restoration and increase of coal production at mines with an increase in the volume of tunneling operations, transition to coal-chemical production.

The total investment in the development of the enterprise will amount to 3.5 billion US dollars over the next 5 years, which will allow Qarmet JSC to return to the status of one of the leaders in metallurgy in Central Asia and the CIS by 2028.

3. Production plans and growth prospects

5-9-5 program and target indicators

Qarmet JSC has adopted an ambitious development program «5-9-5», which provides for achieving the following indicators by 2028:

- **5 million tons of steel per year:** Increase in steel production with an increase in the yield of usable products by 0.2-1.5% (depending on the type of product from 3 to 40 thousand tons), reduce downtime by 15-25% and reduce risks in the field of industrial safety, as well as expand sales markets.
- **9 million tons of coal per year:** Full supply of the enterprise with its own coal, increasing the efficiency of processing plants and developing the mine complex.
- **5 million tons of concentrate per year:** Development of the Atasu and Lisakovsk deposits with an increase in the iron content in the concentrate to 62%.

Current achievements and planned activities

Investments in the amount of \$ 1.3 billion are planned to stabilize the most critical areas. The following results have already been achieved:

- **Stabilization of coke production:** An increase in coke production from 4.4 to 6.6 thousand tons per day, which contributed to an increase in the average daily production of pig iron and steel products by 17%.
- **Repair campaigns:** Works were carried out to replace the converter housing No. 1, as well as repairs to sinter machine No. 5 and blast furnace No. 4 were completed.

Export potential and expansion of sales markets

In the first seven months of 2024, exports of products increased by 5% compared to the same period in 2023. According to the plan for 2024, exports are expected to grow by 10%. The priority regions for the development of the export direction are the countries of Central Asia, where the volume of deliveries has already increased by 12%. The main sales markets remain the countries of the EAEU and Central Asia, while the company is constantly working to expand the geography of supplies.

4. Environmental responsibility and sustainable development

Measures to reduce the negative impact on the environment

Qarmet JSC is aware of its responsibility for the environmental situation in the region and actively implements measures to minimize the negative impact:

- **Reduce emissions:** Targets are set to reduce fuel oil consumption, reduce dust emissions by 30% by 2028, and reduce CO₂ emissions by 5% by 2025.
- **Transition to natural gas:** A project to connect to the Saryarka gas pipeline, located 25 km from the enterprise, is being implemented. This will ensure the supply of 1.2 billion m³ of natural gas to the company's workshops and significantly reduce harmful emissions.
- **Wastemanagement:** It is planned to increase the annual processing of industrial waste to 9 million tons by 2027, which will solve the problem of overcrowding of storage landfills.

Green initiatives and the ESG Agenda

As part of the development of the ESG-agenda, the company implements a number of environmental projects:

- **Creating a green belt:** About 1 million trees have been planted around the city of Temirtau, and thousands of additional seedlings will be planted in 2024. This initiative contributes to improving the air quality and environmental situation in the region.

5. Digitalization and innovative technologies

Implementation of advanced IT solutions

Qarmet JSC actively implements modern digital technologies to improve the efficiency of production processes:

- **Production automation:** Production management systems (MES) and ERP systems are being implemented to control and optimize production processes, increase transparency and efficiency of resource management, and reduce production costs.
- **Monitoring and management of energy resources:** EMS systems allow you to monitor and optimize energy consumption, helping to reduce costs and improve environmental efficiency.

Improving industrial safety

Special attention is paid to the introduction of technologies that increase the level of industrial safety:

- **Employee positioning system:** It is planned to equip all 8 mines of the Coal Department with a positioning system, which will allow real-time tracking of the location and condition of employees underground.
- **Central Control Room:** The opening of the new control room allows monitoring of all processes, accelerates emergency response and provides video communication with miners at a depth of up to 800 meters.

The introduction of digital technologies is carried out gradually and consciously, taking into account the current resources and capabilities of the enterprise, which allows you to adjust the strategy and effectively achieve your goals.

6. Social responsibility and employee support

Improving the working and living conditions of employees

Qarmet JSC attaches great importance to social responsibility and implements a number of programs aimed at improving the working and living conditions of its employees:

- **Hygiene program:** Includes the repair and modernization of bathrooms, canteens, changing rooms, showers and walk-throughs at production sites, ensuring the comfort and safety of employees.
- **Support for employees' families:** Repairs were carried out in children's health camps, where employees' children can relax in updated and comfortable conditions.
- **Psychological support:** A psychological support service has been established that provides professional assistance in interpersonal and family matters, contributing to the emotional well-being of employees.

Regional infrastructure development and socially significant projects

The company is actively involved in the development of social and urban infrastructure:

- **Restoration of the Temirtau tram fleet:** Complete replacement and repair of 30 km of tram lines and electric contact parts, cars is being carried out, which will improve the city's transport system.
- **Creation of public spaces:** A modern Labor Glory Park («Qarmet Park») with recreation and sports areas is equipped;
- **Creation of a Creative Technology Center** with sections on auto and aircraft modeling, programming, robotics, STEM and other areas.



- **Support for municipal services:** In February 2024, the company donated 15 vehicles for emergency medical services and police in the cities of Temirtau, Saran, Shakhtinsk and Abay.

Human resource development and vocational education

With a staff capacity of more than 34 thousand employees, Qarmet JSC pays special attention to professional development and training of personnel:

- **Training programs:** Mentoring of experienced employees, theoretical and practical training is conducted in the company's training centers with the involvement of external training organizations.

- **Cooperation with educational institutions:** Every year more than 1000 students of colleges and universities pass professional practice on the basis of the enterprise. Memoranda of cooperation were signed with NAO «Karaganda Industrial University» and NAO «Karaganda Technical University named after A. Saginov». The company provides educational grants to 153 students, including 80 students and 73 employees.

The process of reviving Qarmet JSC demonstrates the effective implementation of strategic plans aimed at stabilizing and developing one of the key enterprises of the mining and metallurgical complex of Kazakhstan. Significant investments in production modernization, infrastructure development, environmental and social projects, as well as the introduction of advanced digital technologies allow the company not only to overcome existing challenges, but also to confidently look to the future.

The results achieved in the first eight months of 2024 demonstrate the high efficiency of the selected strategies and the potential for further growth. The implementation of the planned plans until 2028 will allow Qarmet JSC to regain its status as an industry leader in the region, make a significant contribution to the economic development of Kazakhstan and ensure sustainable and responsible production in accordance with modern international standards.