



THE GAS INDUSTRY OF THE BUKHARA REGION OF UZBEKISTAN IN THE MIDDLE OF THE XIX CENTURY

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Abstract. The gas industry is one of the main sectors of the global economy, but its future is not so easy to predict. The article examines the state of the gas sector of Uzbekistan in the middle of the XIX century and the prospects for the development of the industry, the gas field in the Bukhara region was noted and the history of the development of the oil and gas industry located in the territory of the Bukhara region is analyzed.

Keywords: gas industry, wells, Bukhara, Tallinn Lauristini plant, Urtabulak, Kyzyl-Kum.

In 1956, the Gazlinskoye field, the largest in Central Asia, was discovered in the Bukhara region of Uzbekistan with reserves of about 0.5 trillion. cubic meters of gas. At the initiative of the head of Glavgaz Alexey Kortunov, for the first time in the USSR, a super-powerful, fully automated fishery was created in Gazli, which included high-flow wells and cloud-complete installations for gas preparation and pumping.

Among other things, the Gazlin discovery stimulated active geological exploration of the Bukhara-Khiva region (the northern part of the Amudarya oil and gas province), where more than a dozen large gas, gas condensate and gas oil fields were discovered in the arid and deserted Kyzyl-Kum desert for a short time — Dengizkul-Khauzak-Shady, Urtabulak, Kokdumalak, Kandym, Shurtan, Zevardy, Kemachi, Umid, Kruk, Nishan and a number of others. The establishment of the Institute of Geology and Exploration of Oil and Gas Fields in Tashkent also contributed to effective geological exploration.

Since the early 60s, Uzbek gas and oil fields have been put into operation at an accelerated pace. Accordingly, over the next decade, Uzbekistan became the main gas producing region of the USSR, and Uzbek fields provided the growing needs of the Soviet economy for natural gas until the commissioning of the Orenburg and West Siberian gas fields.

The discovery of Turkmen deposits was also a serious help for the young gas industry of the USSR, first of all, the huge Sovetabad (now – Dovletabad-Donmez), as well as Saman Tepe, Achak, Naip, Gugurtli, Beurdeshtik, Bagaja, Shatlyk and a number of others. The task of geologists and fishermen was facilitated by the fact that this desert marginal region was well known to oilmen who had been working in Nebit-Dagh since the thirties, and in Cheleken, on the coast of the Caspian Sea, since the end of the 19th century.

The presence of a powerful raw material base in Central Asia made it possible to raise the issue of gasification of industrial areas in the east of the country, primarily in the Urals. In 1962, at the suggestion of the same Kortunov, the design of the unique Bukhara-Ural gas pipeline began to deliver gas to 33 major industrial centers, including Sverdlovsk (now Yekaterinburg), Chelyabinsk, Magnitogorsk, Nizhny Tagil and Orsk. The length of the pipe was more than 4.5 thousand km, diameter — 1020 mm (for the first time in world practice). The

working pressure – 70 atmospheres — was set personally by Kortunov. He also introduced the "field design" system, which significantly reduced the construction time.

The pipeline route was very difficult – 400 km of rocky soils, the same amount of cellular crushed stone, 120 km of sand dunes. The highway crossed 14 rivers and large irrigation canals, as well as almost half a thousand small canals and streams. To overcome the largest water barrier, the stormy Amu Darya, a 400—meter cable—stayed bridge was built. The completion of the construction was mainly provided by the domestic industry – pipes were supplied by the Novomoskovsky and Chelyabinsk pipe rolling plants, gas turbine installations for 17 compressor stations — the Leningrad Metal Plant, trailers for the accommodation of 20 thousand builders of the route – the Tallinn Lauristini plant.

Despite all the objective difficulties, the ultra-long gas pipeline was built in just three years. Thanks to the advanced automation and telemechanics system, the highway was controlled remotely, and all technological processes were maximally automated. Intensive geological exploration was carried out along the route, which led to the discovery of new gas fields. In 1966, the Gazlinsky fishery and the Central Asia – Center pipeline system reached their design capacity.

Of course, not everything went smoothly. In particular, in December 1963, when drilling a large Urtabulak deposit in the Bukhara region, an accident occurred — the drill got into a reservoir with abnormally high rock pressure (about 300 atmospheres) and a high content of hydrogen sulfide. The powerful gas fountain that burst out ignited and turned into a giant torch 70 meters high. The volume of combustible gas was 12 million cubic meters per day. Due to the high temperature, it was impossible to get closer than 200 meters to the roaring torch. The surrounding area was a dead red-hot earth covered with a thick layer of soot. In the distant vicinity of the well, the behavior of animals changed, and near the well it was deadly — at night flocks of migratory birds and clouds of insects, attracted by bright light, fell into a cloud of hot air and burned without a trace. Air traffic controllers used the torch as a beacon on the air route from Europe to India and Southeast Asia.

A variety of methods were used to eliminate the fire, including artillery volleys from large-caliber guns, but the fire could not be extinguished. In this regard, it was decided to produce an underground thermonuclear explosion. A 30 kiloton charge (twice the size of the Hiroshima bomb) was placed in a 1,500-meter-deep well. The nuclear explosion shifted the layers of rock, the flow of gas stopped, and after a few seconds the fire fountain, which had been burning for more than a thousand days and nights, went out. At the same time, the main productive strata were not damaged – gas and oil production at Urtabulak is still underway. The successful Urtabulak experience was used to extinguish large fires in other gas fields — emergency flares were extinguished in the same way at the Pamuk field in the Kashkadarya region of Uzbekistan and at the May field in the Mary region of Turkmenistan.

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