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Northern Siberian Trade Route and Polar Urals Railway. Part 1


Желѣзнодорожное Дѣло

Archival publications

A reproduced article published in the journal «Zheleznodorozhnoe delo» in 1912 is devoted to a project to build a railway linking the fluvial network of Siberia (approximately from the nowadays Salekhard to the Ob) with the Arctic coast in Varandey district, where it was supposed to build a seaport.

Although development of the transport infrastructure of the Polar Urals and the North of the European part of Russia eventually went the other way, the economic geography, the foreign trade balance changed, the article is of interest in its historical aspect by the balanced and detail-focused approach to the comprehensive assessment of complex transport projects that was developed more than 110 years ago and their feasibility study. The authors of the project under consideration took into account, when arguing, many factors – of a strategic nature (development of the Siberian region, reduction of the transport load on the backbone transport network of the European part of the country, minimisation of competition between domestic producers along the route of goods flows), foreign trade flows, seasonality of navigation along rivers and the Northern Sea Route, technical and economic aspects of construction, distribution of private and public investments, projected optimal tariffs and taxation, payback periods, taking into account payment of dividends, and many others.

Of course, the content of factors taken into account and assessment methods have changed significantly since then. One of the paradoxes is that, despite new technologies, modern engineers already assess the risks and difficulties of building in the subpolar zone much higher, while at the beginning of the last century this area was considered almost an easy and cheaper option for building a railway.

In general, we must give credit to the authors for complexity of their approaches, taking into account the time when they were made.

The authentic style, punctuation, lexis of the time have been preserved as maximum as possible while reproducing the article.

Part 2 is to be published in the next issue.

Keywords: *transport, transport history, infrastructure project, subpolar Urals, Arctic zone.*

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The text of the archival article originally written in Russian is published in the first part of the issue.
Текст архивной статьи на русском языке публикуется в первой части данного выпуска.

INTRODUCTION

Relatively recently, the newspapers have published the following news about the Polar Urals Railway inspiring certain interest.

Board of the Northern railway, which received a concession to draw a line from the mouth of the river Ob through the city of Obdorsk to the Arctic Ocean, turned to the Siberian parliamentary group with a request to express their opinion on the desirability of such a line. The group, not wanting to take on this responsibility, decided to immediately communicate with the local population about this and then give their opinion (Birzhev. Ved. No. 10918).

The last meeting of the Siberian parliamentary group was devoted to the proposed construction of the Ural Railway. This question has a very important economic significance for Siberia. Presented to the government by the concessionaires Golokhvastov and Knorre, the project for construction of this railway was recognised by the deputies as not meeting the interests of the Siberian population. In the opinion of the latter, the only possible solution to this issue is introduction of a free port into the region of the mouths of the Ob and Yenisei. It was decided to apply with a proposal to persons and institutions interested in this issue, to send materials for its detailed coverage. It was also decided to propose an expedition organised by the Gubkin and Kuznetsov tea company to explore the Northern Urals – to keep in mind the direction of the Polar Railway and collect local materials on this issue (Slovo No. 698).

Raised by Messrs. Golokhvastov and the engineer Knorre, the topic of the Polar Railway caused curious speeches in the Society for the Study of Siberia, proving the uselessness of this railway:

Neither the Kara Sea nor the Yugra Strait are considered inaccessible for navigation. They are visited annually by Norwegian fishermen's schooners. The experience of Captain Wiggins from 1887 to 1898 showed the groundlessness of the assertion that the Yugra Strait and the Kara Sea are dangerous for navigation. In Norway, a large enterprise is being organised, designed for trade in the mouths of Siberian rivers. Trade in this area is delayed not by the danger of the route, but by the high insurance premium for ships, reaching up to 15 % of their value. In addition, this route is in a primitive state: there is no telegraph, no lighthouses, no piers. The speaker knows that a businessman suggested that the government equip the railway at its own expense if he was allowed to carry a million poods of cargo free of duty. He was refused. Meanwhile, navigation along the Hudson Bay in North America, which is much more inconvenient than the Kara Sea, is very lively, only due to a well-organised waterway along the entire length of the shores of the bay. As for the accessibility of the Medynsky Bay for sea vessels, then, according to the observations of Captain Varnek, the path to the Medynsky Bay on August 9 was still cluttered with ice. In other years, it is released only in late autumn. The mouth of the river Pechora opens at the end of June, that is, a month or more earlier than Medynsky Bay. Railway to the mouth of the river Pechora would have worked longer than those designed, choosing Medynsky Bay as the final destination, often inaccessible throughout the year. Thanks to the Gulf Stream, which goes around the northwestern part of Europe, the Arctic Ocean in this place is opened earlier than near the Siberian coast, although they lie to the south. This is well known to Norwegian fishermen who annually appear in May near Novaya Zemlya.

The possibility of passing through the Arctic Ocean to the mouths of the Siberian rivers was proved by the voyages of Nordenskiöld, Nansen and Baron von Toll. At present, they are trying to organise communication with America across the Arctic Ocean, along the coasts of Europe and Asia. Part of this route to the New Siberian Islands is considered already established.

The entrepreneurs of the Polar Road repeat the mistakes of the defenders of Perm–Kotlas line. According to the latter, this road was supposed to replace the sea route to the mouths of the Siberian rivers, since it allegedly opened up a cheap way to transport Siberian bread to the European market. In fact, it turned out that Siberian bread ends up on Perm–Kotlas line through Moscow, and the road brings a huge loss to the treasury.

The projected Polar Road will operate only three months of the year: July, August and September, and the operating costs may be so high that it would be more profitable to completely abandon the road.

As for the proposal of engineer Knorre to build a road for public use, it is very likely that this road, littered with its own cargo, will actually turn into a private road (St. Petersburg. Vedom. 1909 No. 35).

These news are rather inconsistent: they point, for example, to transportation of Siberian bread to Kotlas from Moscow, compare the free port at the mouths of Siberian rivers and the railway intended for transportation of goods from Siberia to the Arctic Ocean in the direction of the Gulf Stream, mix projects of Messrs. Golokhvastov and Knorre. Thus confusion of concepts disguises the truth. Having at our disposal materials delivered to us by the late collaborator of Mr. Knorre, the railway engineer P. E. Gette, we will try to clarify the essence of this issue, if only for the sake of memory and respect for this builder of railways who worked so hard beyond the Arctic Circle in Russia.

Next, we will move on to some details about the Polar Urals Railway, we will touch on the port and harbour necessary for this railway, and we will quote a special note by E. K. Knorre, briefly covering the whole issue.

Already a hundred years ago, during the reign of Emperor Alexander I, an outstanding statesman, Count Rumyantsev, when he was his «Minister of Commerce and Chief Director of Water Communications», issued an order to survey the tributaries of the Ob and Pechora rivers, with the aim of arranging *«the most convenient and shortest»* waterway between Siberia and the port of Arkhangelsk.[1] The survey necessary for this was carried out in 1807 by engineer-lieutenant colonel Popov, who compiled two excellent atlases of topographic surveys and descriptions of the Sob and Usa rivers, tributaries of the Bolshaya Ob and Pechora, separated from each other by the Ural Range[1]. However, the implementation of the corresponding water communication did not start, and until 1874, studies of the northern routes were limited only by sea expeditions to the Arctic Ocean, which reinforced the assumptions about suitability of the Kara Sea for merchant navigation as a natural connecting link between the rivers of Siberia and the Murmansk Sea, then cooling the hopes placed on this path.[2]

Then, in 1874–76, the further study of the life of the rivers and passages of the Northern Urals, to connect Pechora with the Ob by water, was initiated by well-known expert on Pechora region, P. I. Krusenstern who was also led by the conviction that the sea route through the Kara Sea is not suitable for development of trade relations between Siberia and Europe. But the projects of Krusenstern were not carried out, as well as the assumptions of Sidorov and Sibiryakov.

Recently, that is, with implementation of the Siberian Railway, the designated goal continues to be pursued by arrangement of direct rail communications between Siberia, on the one hand, and Arkhangelsk, St. Petersburg and the Baltic ports, on the other; but it is impossible to achieve satisfactory results by these measures, not only because transportation of large masses of relatively low-value goods by named routes is disproportionately expensive, but also because, as experience has shown, it is absolutely impossible to count on the urgency of delivering goods to their destinations and thus all meaning of correct trades is lost.

In this case, another very important circumstance is added to the inconvenience caused by the transport of goods along long railway lines,[3] to which the former Minister of Finance, Senior Secretary, now Count S. Yu. Witte, drew attention a few years ago, namely, that the influx of a significant amount of grain to our internal markets and Baltic ports because of the Urals can have an extremely harmful effect on the agriculture of Central Russia, which does not tolerate further competition and, on the contrary,

[1] In the memorandum compiled on this occasion, the beginning is very characteristic: «The inner part of Siberia is replete with many works of nature; but the inhabitants of it, not having the means to profitably deliver them to places where these works are needed, do not care about their preservation and even less try to multiply them» (From the files of the archive of the Ministry of Railways).

[2] Yu. Shokalsky. «Sea route to Siberia». St.Petersburg, 1893.

[3] In round figures the length of rail tracks is:
From st. «Ob» to Kotlas ……. 2.845 ver.
» » » » Arkhangelsk (through Vologda)…… 3690 »
» » » » St.Petersburg ……. ……3900 »
» » » » Revel…… 4180 »
» » » » Riga……4140 »
» » » » Vindava…… … …4295 »
» » » » Libava……4370 »

Trans-Siberian main railroad (1891).

requires energetic protection from any influence that oppresses grain prices.[4]

Under such conditions, it seemed natural to look for a solution to the problem in the direction of transit cargo traffic from Siberia not through Eastern and Central Russia, but bypassing the Siberian main route (through Chelyabinsk) and identical to it; this also prompted us to turn again to the use of the mighty Siberian rivers and the Arctic Ocean, with the exception of the passage through the Kara Sea, excluding, for the short duration of navigation[5] in it, the establishment and maintenance of correct trade relations between the West and the East.

The most reliable replacement for the aforementioned connecting link is the Polar Urals Railway that forms the main component of the Northern Siberian route.

Without entering into a detailed analysis of the conditions that will be associated with operation of this transit route, we will only point out its most important advantages, according to the presentation reported by the late engineer Gette in 1900.

About Polar Urals Railway

General view. All over from the main trade centers of Western Siberia: Tobolsk (Tyumen), Omsk, Semipalatinsk, st. *«Ob»*, Barnaul, Tomsk, Krasnoyarsk and Irkutsk, to European ports there will be – in the form of a break in a continuous waterway – only one, relatively short, railway line, between st. *«Sob»*, on the left bank of Ob (30 versts south of Obdorsk [now – Salekhard]) and *«Varandey Butkha»*, on the Samoyed coast of the Northern (Murmansk) Sea, southwest of the Yugorsky shar.[6] The length of this rail

[4] On the other hand, with introduction of a change in tariffs in Chelyabinsk for the stated purpose, the arable farming of Siberia was placed in extremely cramped conditions, since what was recognised as necessary in the interests of agriculture in European Russia is achieved only by violating the same interests of Siberia. To what extent such a situation is detrimental to the entire economic life of Central Siberia – this richest granary in the world, is most clearly shown by repeated crop failures in it, which, in view of the rapid growth of resettlement, should be attributed mainly to extreme instability of local trading conditions.

[5] P. I. Krusenstern. «Journey to the Northern Urals in 1874–76, to study the water communication between the tributaries of the Pechora and Ob», St. Petersburg, 1879, p. 46, and Litke «Four-fold Journey to the Arctic Ocean».

[6] Initially, it was meant to direct the line to Belkovskaya Bay, in 60 versts south of Yugorsky shar, in which direction, starting from the Malaya Ob (the mouth of the Longot-Yugan River), detailed surveys were carried out; but subsequent research of cap. Sergeev and other persons), the incomparably greater, for the above purpose, advantages of Varandey Bay, somewhat south of «Medynsky Inversion», which constitutes the western tip of the Khaipudyr Bay, have been clarified, as a result of which it is now proposed to choose the designated bay as the site of the seaport, which has to serve as the western tip of Polar Urals Railway (See the map of the Arctic of the Hydrographic Department of Navy Ministry, supplemented by examples of the Hydrographic expedition of 1900 led by Colonel Vilkitsky).

communication will not exceed 400 versts; the length of the river route, from the central trading point of Western Siberia – st. «Ob» to the indicated st. «Sob» will be up to 2400 versts,[7] and the sea route – from Varandey port to London, Antwerp, Hamburg and St. Petersburg – from 6900 to 8500 versts. Thus, transportation of goods by rail will not exceed 4 % of the total length between Western Siberia (Ob station) and the indicated ports (mean 10 000 ver.), while this transportation on other transit lines (through Arkhangelsk and the Baltic ports) is from 25 up to 80 %.

Since, according to available data, for operation of the projected railway, even during the winter months, no special difficulties are foreseen, depending on the soil and climatic conditions of the region,[8] then the Northern Trade Route will enjoy the important advantage that along all navigable rivers entering its area, namely: the Ob, Irtysh, Tobol, Tura, Chulym, Tom and Yenisei with tributaries, export raw materials will follow *downstream of them*, while sea navigation along Murman and the east coast, being influenced by the Golf Stream and local warm currents between the Pechora Estuary and Khaipudyrskaya Bay,[9] can be considered completely *unhindered* from June months until mid-October, i. e., during $3^{1}/_{2}$ to 4 months.[10] In turn, the Ob and Yenisei, with their tributaries, are navigable for 5 months,[11] which is why a significant part of the grain cargo of the last harvest could fall on the station «Sob» until the closure of navigation and, therefore, be delivered to foreign markets by the beginning of winter of the same year.

The route under consideration, which is *beyond any competition* with other transit routes between Siberia and Europe, will fully satisfy the conditions for the *urgency* of delivering goods to their destinations, since it will be independent of factors that impede cargo traffic along long railway lines (delays in transportation cargo due to complexity of manipulations when transferring them from one road to another, loss of time during the passage of goods through the key points of crossing roads, etc.), as well as from various obstacles associated with navigation on rivers and seas less spacious and reliable. It remains to be noted that the time of delivery of goods from st. «Ob» to London will not surpass, with overloads, 26 days.[12]

Finally, taking into account that most of the rivers of Western Siberia, belonging to the basins of the Ob and Yenisei, with a total length of over 20 000 ver., have remained until now almost unused, but with implementation of the new trade route, they will immediately take an active part in development of trade turnover in Siberia and, further, that the space cut through by the indicated waterways is over 5 million versts, i. e. equal to the area of European Russia with the inclusion of the Kingdom of Poland, Finland and the Caucasus, it will become obvious what an enormous benefit Polar Urals Railway can render Western Siberia and, consequently, the whole state.

The following sections follow: A. Area of influence and its cargoes. B. Conditions for its implementation. B. The results of the cost breakdown.

(«Zheleznodorozhnoe Delo», 1912, Iss. 33 pp. 194–196, Iss. 37–38 pp. 227–230, Iss. 40 pp. 239–243) ●

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[7] From Barnaul – 2 740 versts.

[8] Polar Ural Railway will lie between 66° and 69° north latitude. The soil – with the exception of the Ural Range – is predominantly loamy, frozen to a depth of 1,50 sazhen. The average air temperature is only 2–4° below that of the Middle Urals (Obdorsk – 6,5°; Surgut – 3,1°; Tobolsk – 5,6°; Yekaterinburg – 1,8° in Cel.). Atmospheric precipitation is relatively insignificant (290 mm per year) Dr. E. Hofmann. «Der Nordische Ural und das Kustengebirge Pae-Choi» Bd. II, 1856 and A. A. Dunin-Gorkachevich «North of Tobolsk province», Yearbook of Tobolsk province museum. Issue. VIII, 1897

[9] N. Morozov. «Lotion of the Samoyed coast», St.Petersburg, 1896.

[10] According to the instructions of the late Vice Adm. S. O. Makarov and A. I. Vilkitsky. Here, by the way, it should be noted that with the help of ice cutters, the above-mentioned period of navigation near Varandey can be extended by 4–6 weeks.

[11] According to the records of Obdorsk meteorological station, from 1891 to 1900, r. Ob was opened near Obdorsk, on June 2 and froze October 29 new style (May 21–Oct 17 old style), which corresponds to an average navigational period of 149 days a year.

[12] Namely: from st. «Ob» to st. «Sob» – 11 days by rail (including delays at terminal stations and elevators) – from 3 to 5 days, and by sea to London and other points mentioned above – from 10 to 12 days. When exporting Siberian cargo through Arkhangelsk or other ports of European Russia, the transit time varies from 3 to 5 or more months.