

DOC  
CAI  
EA 79  
E83  
ENG  
Dec 1988 -  
Jan 1989

BFL / Doc Sect.

DEPARTMENT OF  
EXTERNAL AFFAIRS  
OTTAWA,  
CANADA

INI SN1/89  
DATE 20 June 1989  
COPY 24

Dept. of External Affairs  
Min. des Affaires étrangères  
OTTAWA

1989 JUN 20 10  
RETURN TO: 1250 RUELLE D'OTTAWA  
OTTAWA, K1H 8N1

EXTRACTS FROM THE SOVIET PRESS ON THE SOVIET NORTH  
AND THE ANTARCTIC  
DECEMBER 1988 - JANUARY 1989

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Four more vessels will leave Leningrad after the Akademik Fyodorov: the Vityaz Barin, a multi-purpose dry cargo ship able to navigate in ice; the Mikhail Somov, an electrically-driven motor-ship; and the Professor Zubov and Professor Vize, two research ships. A tanker, BSM, will sail from the Far Eastern port of Vladivostok. The ships will carry large numbers of exotic specialists, thousands of tonnes of freight needed by them, plus airplanes and helicopters. While this will be the second such voyage for the Vityaz Barin, the other ships have sailed many times to the Antarctic shores.

The An-74: Its First Flight in the Antarctic

The telegram and radiotelephone conversations that Molodtsov's station, Mirny and Leningrad exchanged in recent days were anxious: the subject was the saving of a human life.





## ANTARCTIC

### Into the Antarctic, Again

The marine stage of the 34th Soviet Antarctic Expedition, involving 6 ships from the Ministry of the Maritime Fleet and the USSR State Committee for Hydrology and Meteorology, has begun. The flotilla's flagship, the Akademik Fyodorov, was the first to leave Leningrad for the southern seas. Its second Antarctic voyage will last 7 months.

Almost 250 marine personnel, scientists, aircraft personnel, and specialists, including 2 Polish arctic specialists, are on board the ship. The scientific operations headquarters of the latest expedition, headed by oceanographer S. Pryamikov, a highly-trained physicist and mathematician, is located on the ship. The work will be conducted in a number of areas in the bitterly cold south Polar region.

Four more vessels will leave Leningrad after the Akademik Fyodorov: the Vitus Bering, a multi-purpose dry cargo ship able to navigate in ice; the Mikhail Somov, an electrically-driven motor-ship; and the Professor Zubov and Professor Vize, two research ships. A tanker, BAM, will sail from the Far Eastern port of Nakhodka. The ships will carry large numbers of arctic specialists, thousands of tonnes of freight needed by them, plus airplanes and helicopters. While this will be the second such voyage for the Vitus Bering, the other ships have sailed many times to the Antarctic shores.

### The An-74: On a Mercy Flight in the Antarctic

The telegrams and radiotelephone conversations that Molodezhnaya Station, Moscow and Leningrad exchanged in recent days were anxious: the subject was the saving of a human life.

"In a recent communication", B. Khimich, Directorate Chief, Goskomgidromet (State Committee for Hydrology and Meteorology), USSR, told us, "Yu. Khabarov, Director of the Soviet Antarctic Expedition, noted that an emergency appendicitis operation had been completed aboard the Akademik Fedorov, the new flagship of the expeditionary fleet. The patient was a maintenance engineer named Vinogradov, who had been on his way to spend the winter at the Mirnyi Polar Station. The ship was located in the Weddell Sea and was unloading near Druzhnaya Station.

The Akademik Fedorov is superbly outfitted with everything needed for long-range navigation and servicing Antarctic expeditions. The skill of the surgeon and the good operating room equipment made it possible to successfully perform a comparatively simple operation. Then, however, the patient's condition worsened, and symptoms of side effects appeared. In short, medical treatment had to be continued at a hospital, and for this reason the decision was made to evacuate Vinogradov immediately by air.

On the morning of 30 December an Izvestiya correspondent telephoned E. Korotkevich, Director of the Arctic and Antarctic Institute at Leningrad, who continued the story of the rescue operation:

"Druzhnaya Station is located in the northwestern Antarctic, and the only aircraft that can land there is an Il-14 on skis. The people in charge worked out the following scenario for moving the patient. First, they would transport him on an Il-14 to Novolazarevskaya, which has an airport that can take both an aircraft on skis and an An-74 turbojet with wheeled landing gear, an aircraft now



stationed on the icebound mainland. The high-speed An, as we have already reported, is undergoing tests on the southern continent (Antarctica), where it arrived in the autumn on a course across the Atlantic, Brazil and Argentina. Now the aircraft and the crew, headed by Test Pilot V. Lysenko, had to repeat the same trip in reverse direction, - a mercy flight".

Next, came a conversation with Kiev. On the telephone was A. Bulanenko, Deputy Chief Designer of the O. Antonov Experimental/Special Design Bureau.

"In the little more than a month during which our An-74 was in the Antarctic, it managed to fly around almost the whole continent. When the order came to remove the patient, the aviators threw on board the remaining fuel supply for the aircraft's jet engines. There had to be enough for the 6,000-kilometer flight from Molodezhnaya to Novolazarevskaya, from there to Bellingshausen Station and further on to Tierra del Fuego and the Argentinian city of Rio Grande.

The flight was a matter of hours, and on the evening of 29 December A. Romanyuk, the leader of the group of test personnel, promptly reported to us from Rio Grande that Maintenance Engineer Vinogradov was in a local hospital, where a medical consultation was held. If necessary, a Soviet aircraft would deliver the patient to Buenos Aires, where treatment would continue."

In another two or three days, the An-74 will return to the Antarctic and will again begin its test flights. By this time a Soviet ship will arrive at

Molodezhnaya delivering a fresh supply of aviation fuel.

Izvestiya

31 December 1988

Page 1 (Complete text)



The Antarctic: an Endurance Test

The "Metelitsa" (Blizzard) Women's Ski Team continues its unique crossing.

I shade my eyes and see in front of me, as if I were there, the track of a caterpillar sleigh train crawling over the ice dome from Mirnyi to Vostok Station. This is a thousand-and-a-half kilometers of the toughest roadless journey on earth. I once told about it in a story entitled "72 Degrees Below Zero". Here and today the Soviet "Metelitsa" (Blizzard) Women's Ski Team is leaving its track on the snow. About ten days ago, led by their Captain, Valentina Kuznetsova, they overcame the most difficult upgrade slope, strewn with bottomless fissures, and climbed their hundredth kilometer to the "goalposts" - the name the polar research workers have given to the two pyramids made of barrels with stakes.

The information that I have at my disposal includes short radiograms from Valentina Kuznetsova and her deputy Svetlana Gur'eva, along with a radiotelephone conversation with Molodezhnaya Station. Add to that a few memories - I managed to spend some time in these places. The following picture emerges.

The skiers move with enormous difficulty against an almost continuous head wind of as much as 15 to 18 meters a second and a low-level blizzard sharply limiting visibility. At the hundredth kilometer the altitude had exceeded 1,400 meters above sea level, but by 22 December, when the team had covered 216 kilometers of their journey, the height of the (ice) dome was already over two



kilometers. This meant that the atmosphere held ever less oxygen. People who have been there know what this is: mountain sickness and the torments of acclimatization. It is harder to breathe, strength returns more slowly, and the Primus (stoves) operate continually more poorly...

But then, we hear hardly a word of difficulties: the skiers' mood is buoyant. A line from a radiogram reads "Optimism, humor, a sporting outlook and scientific concentration". The daily routine runs like this: 7 o'clock in the morning, get up; until 10, collections and the scientific program; until 7 o'clock in the evening, the ski journey itself, and until 11 o'clock, the scientific program and personal care; the team members then break-off and head for their sleeping bags.

Beginning at the 200th kilometer, the group will move through the zone of "zastrugi", wind-weathered ridges of snow, an area cursed by God and man, containing huge ice "folds", on which even the powerful tractors of the caterpillar sleigh trains break their joints. The zastrugi extend to the 375th kilometer.

Beyond this point, the going should get at least a bit easier: the skiers will have completed their acclimatization, and an even, compact snow zone will begin at Pionerskaya. The team has already covered 302 kilometers. The wind is blowing at 12 to 13 meters a second, and the temperature is minus 25°C.

Izvestiya

29 December 1989

Page 1 (complete text)

### AN-74 Flies To The Rescue

An AN-74 turbojet undergoing routine tests in Antarctica made an unplanned flight of approximately 10,000 kilometers. Leaders of the 34th Soviet antarctic expedition radioed the details of this operation to Leningrad.

...Two research workers were injured at the Australian research station of Davis. They needed to be hospitalized and treated on the mainland. Soviet polar research workers were the first to answer the call for help. The injured workers were flown aboard an Mi-8 helicopter to our station, Progress, and from there aboard an II-14 to the expeditionary clinic of the aerometeorological centre Molodezhnaya. Here doctors confirmed the need to immediately return the injured to the mainland.

Luckily, the An-74 was just then preparing to return home. After stopping over on Waterloo Island (King George), where the Soviet Bellingshausen Station is located, the injured were flown to Buenos Aires.

Vozdushnyi Transport

14 January 1989

Page 3 (full text)

### Across Antarctica On Sleighs

Paris. (Izvestiya staff correspondent). I first met the French doctor Jean-Louis Etienne in the summer of 1986 after he had completed the first 1,200-km solo ski expedition between the coast of Canada and the North Pole (Izvestiya, issue no. 189 for 1986).



Back then he had told me about the necessity of carefully preparing for such an expedition and about the fact that "an ice desert is not a place to be strolled by romanticists, dreamers or adventurers." I recall the time when, upon returning to Paris, he immediately began considering a trek by foot across the Sahara, but then a new idea came up - that of organizing an international cross-Antarctica expedition with the participation of representatives from leading states.

It was decided to dedicate the expedition to the 30th anniversary of the Antarctic Treaty, which established that the antarctic was to be used solely for peaceful purposes and for the unbridled pursuance of scientific research. Jean-Louis Etienne and his colleagues in the expedition want to stress the necessity of preserving the peaceful nature of the antarctic, which should be off limits to military uses and open only to international scientific cooperation.

J.-L. Etienne: "Our expedition, the headquarters of which is located in Paris, will set out August 1, 1989 from the Soviet Bellingshausen Station on King George Island near the coast of Western Antarctica. The ship "Akademik Fedorov" will transport materiel and equipment, which we loaded into its holds at the port of Le Havre, to this station in mid-November. There are 6 men in our team. Besides myself, they include V. Boyarskii (scientist working at the Leningrad Institute of Arctic Research), Will Stieger [suggested transliteration - tr.] (well-known American polar research worker), in addition to an Englishman, a Japanese and a Chinaman. Our expedition across Antarctica should take 7 months to complete. After reaching the South pole, we will head for the Soviet station "Vostok," and then on to "Mirnyi."



"This is a total of 6,300 kilometers. We will ride on 3 sleighs, each one pulled by 13-14 dogs. We will naturally be unable to supply ourselves with food and fuel during such a long journey. Aircraft will therefore be used to make several cargo drops along our route. In addition, a 36-m-long sailing ship, with which we will be maintaining constant radio communication, is being constructed in France and will be docked at Mirnyi. This is the ship that will collect us at the end of our expedition.

"We have been preparing for this expedition for a year-and-a-half now. Last spring, 5 of the 6 members of our team (the Chinese representative didn't show up) completed a 2.5-month, 2,100-km practice expedition across Greenland. We are planning a new cross-Canada expedition for February 1989. This will be the final practice expedition, during which time all our equipment will be tested. We usually meet once every two months to discuss various problems; I myself have been to the Soviet Union twice. We are on excellent terms with V. Boyarskii. He is a competent, extremely well-prepared person, an experienced polar research worker and, what is of no small importance, a good-natured and sociable person. I am certain that our expedition will be a success and that it will serve the cause of peace. At the same time, we are not taking too much for granted. Serious difficulties lie ahead: dangerous ice fissures, temperatures as low as  $-60^{\circ}$  C, and strong winds."

Izvestiya  
20 December 1988  
Page 4 (full text)

ARCTIC

SP-28: Time to evacuate

Goskomgidromet (the State Committee for Hydrology and Meteorology) has approved a plan of measures for evacuating the North Pole-28 (SP-28) Station, whose drift speed has increased significantly to 20-30 kilometers a day and more. The floe now risks splitting, and the consequences are unpredictable.

As officials reported in the Sevmorput' (Northern Sea Route) administration, between 20 and 29 January the atomic-powered ship Rossiya anticipates approaching the ice edge in the area where the floe, with the drifting station, is expected to emerge.

The ice floe is in a current that is carrying it out of the central Arctic basin. In order to evacuate the station's personnel and equipment, Goskomgidromet has leased the atomic-powered ship from the Murmansk Steamship Agency. The Rossiya is presently leaving the Arctic and will stop at Murmansk, both to prepare for this voyage and to take on board a group of research officers from AANII (The Arctic and Antarctic Scientific Research Institute). The group will assume scientific support for the icebreaker's forthcoming cruise to SP-28: their responsibilities will include preparing ice charts, weather forecasting, and other work...



When it has removed the SP personnel and equipment from the ice floe, the nuclear-powered ship, will deliver them to Murmansk.

As reported by N. Kornilov, Deputy Director of AANII, on 12 January SP-28 was in the region of 81 degrees north latitude and the zero meridian. The average drift speed was about 10 kilometers a day. Headed by Vladimir Stepanov, an experienced polar research worker, station personnel are preparing for evacuation and have already packed up part of the equipment, mainly the aerological gear. At the same time, mindful of the unique zone of the drift (only the members of the Papanin expedition managed to work here in January 1938), the staff are continuing their oceanographic and meteorological observations. The work, incidentally, will be conducted until virtually the last minute, when the nuclear-powered ship approaches. Regular ice drift observations are also still in progress.

Two years and eight months have now elapsed since SP-28 began operating. This station was the first to use automated observations and to process the derived data on a computer bank, enabling specialists to control scientific experiments on the ice floe. Briefly, SP-28 has contributed greatly to the study and opening up of the northern polar region of our planet.

Izvestiya

12 January 1989

Page 1 (Complete text)

### A Leap into the Arctic Night

Pravda has already reported to its readers about an operation now under way in Arctic high latitudes for dropping fuel and food to drifting polar stations using the IL-76 MD fixed-wing aircraft. During the operation, however, an unforeseen event occurred.

"In ten days", said A. Chilingarov, Deputy Chairman of Goskomgidromet (State Committee for Hydrology and Meteorology) USSR, "we delivered 72 tonnes of fuel to the SP-28, SP-30 and SP-31 stations, and to polar stations on Viktoriya, Rudol'fa, Kheisa and Russkii Islands. Unfortunately, because of bad weather, we didn't manage to drop these "parcels" in time for the New Year.

It would seem that delivery, using the PGS-500 parachute systems developed at the Il'yushin Experimental Design Bureau and tested during several expeditions in both the polar day and night, is reliable. The unexpected, however, was not absent.

On 13 January an IL-76 MD aircraft supplied the SP-30 station and made its first parachute drop. A message came back from the ice floe: "Seven out of 18 pallets have broken. The parachutes didn't open. The cargo came off". The aircraft commander decided to discontinue the drop and return to base.

Subsequent events developed as follows. Aleksandr Sidorenko, leader of the Ekspark Parachute Group, got in touch with Chilingarov. What should they do? Break off the operation? But the people on the ice floe were waiting for the freight. Again, the cause of the failure could be determined only on



the spot, on SP-30 itself, and only a specialist could do it. A decision was reached: allow one parachutist to make a jump from an IL-76 onto the drifting station. The jump into the polar night would be the first in the history of the opening up of the Arctic.

"I got in touch with Vladislav Piguzov, Chief of the SP-30", said Artur Nikolaevich {Chilingarov}, "and asked them to turn on any lights or lanterns they had - anything that could give light".

Again the IL aircraft appeared over the ice floe. Parachutist Aleksandr Romanov jumped into the Arctic darkness. He managed to land on the ice successfully and quickly found the cause of the parachutes' failure. Immediately, he radioed his conclusions to the IL-76. Specialists got the malfunctions out of the systems directly in mid-flight. The aircraft made a fresh approach. Eleven pallets with food descended. How did things go this time? Within a few minutes, a message came from SP-30: "Thanks to the adjustments made in the rigging, we received the whole cargo without loss. All are well. Thank you. Piguzov".

Vasilii Semenovich Sidorov, Chief of SP-31 and a Hero of Socialist Labour, knew about the mishap, and, deciding not to take a risk, declined to receive cargo. "Considering the heavy losses on SP-30, please drop only mail", he radioed. But the aircraft delivered freight intact to him too, after having adjusted the rigging of the parachute systems.

Such losses in the Arctic are rare. It is naturally annoying that some valuable cargo should be lost, but all the same this freight delivery system has proven itself.

"Are you having a busy time in the Arctic now?" I asked Chilingarov.

"That's for sure. Besides our supplying the polar stations, another operation begins today. The nuclear-powered ship Rossiya is leaving Murmansk for the North Atlantic in order to evacuate SP-28. It's a very critical operation, and it's obviously going to bring us quite a bit of excitement".

As our correspondent V. Chertkov reported, the ice floe holding the SP-28 Station has ended up in a strong current which is swiftly carrying it out of the central Arctic region. It is already in the Spitsbergen area, exactly on the same route along which ships, drifting in high latitudes in ancient times, moved together with the ice towards Greenland, in the direction of the open Atlantic. But if for the former explorations this meant escape - the navigators emerged into open water - for the men on the ice floe, it would be a disaster. This was why Goskomgidromet SSSR promptly leased the nuclear ship and sent it to rescue the personnel from Station "North Pole-28". N. Kornilov, Deputy Director of the Arctic and Antarctic Institute and an experienced polar explorer, headed the rescue operation.

Pravda

16 Jan. 1989

Page 1 (full text)



### The Rossiya Speeds to the Rescue

The atomic ship Rossiya, coming out of the Kola Gulf, turned first to the right, towards the traditional Arctic lanes, and then left, and headed for the Greenland coast to rescue the personnel spending the winter on SP-28.

The station is located on a broken ice floe and is braced by fields of pack ice many years old. Specialists calculate that the distance from SP-28 to the edge of this ice mass is about a hundred nautical miles. Twenty-seven polar research workers may, in a very short time, find themselves in a critical situation. The ship is hurrying: if the station is carried out into open water, a genuine emergency will arise.

The Rossiya's crew learned of the voyage to the Greenland sea at the end of December, when the ship was operating in the western Arctic. Traditionally up till now the icebreaker Sibir' had specialized in North Pole drifting stations: its crew had disembarked and removed personnel from more than one station. Now it was the Rossiya's turn. At Dickson, after it had taken on board an MI-8 helicopter, the nuclear-powered ship stopped at Murmansk for a short time and at once rushed off again on its journey.

The Arctic and Antarctic Institute specialists headed by N. Kornilov, a well-known polar research scientist, promised a rough trip: heavy rolling. In the cabins, cupboard doors banged, dishes slid along shelves, and blinds moved apart by themselves...

The icebreaker quickly approached its objective: it was 120 nautical miles off the Greenland coast. In the wheelhouse I found Alternate Captain V. Davydyanets, who told me that the Rossiya had doubled past Spitsbergen and was now moving along its western coast. We would soon come up to the edge of continuous ice and would then do an aerial reconnaissance in order to determine the best route to the station.

SP-28 proved to be in the zone of the Arctic where only the members of the Papanin expedition had drifted in about 1937-1938. It was important to the scientists to learn just what had changed over the past fifty years and to trace the vigorous and rapid discharge of ice from the central Arctic. This would help them to better understand the capriciousness of the Arctic Ocean.

It is, of course, a pity that observations on SP-28 will have to be discontinued. Officials decided, however, to freeze the Goskomgidromet scientific research ship Otto Shmidt into the ice and thereby continue, as it were, the station's drift.

Two hundred and fifty nautical miles remained until our arrival at SP-28. Our course was to the northwest. Sometimes we entered open pack ice, while a dim moon obscured by clouds of snow hung over the nuclear-powered ship like a lantern. Here, the polar night reigns all 24 hours.

Pravda

19 Jan. 1989

Page 3 (full text)



Meanwhile, back at the North Pole

Thirty-eight polar research workers stood their tour of duty on the new drifting station "North Pole-31 in the darkness of the New Year's Arctic night. An extensive scientific research program is under way at the station and, at the same time, a scientific settlement is being established. Ekspark parachutists dropped New Year's gifts and mail from relatives and friends to the polar workers: the ice floe does not as yet have a runway.

The station is drifting beyond the 76th degree of north latitude.

Pravda

01 Jan. 1989

Page 2 (full text)

We Rush To The Aid Of SP-28

From news reports we already know that on the night of January 16/17 the nuclear-powered icebreaker "Rossiya" departed Murmansk for the north Atlantic in an effort to evacuate drift-ice research unit SP-28 [North Pole-28].

Our correspondent paid a visit to the USSR State Committee for Hydrometeorology and Environmental Control and met with Yu. Belyayev, deputy head of the Arctic and Antarctic Directorate, who was asked to provide details about the expedition and its tasks.

"The research unit's current coordinates are lat. 80°48'N. and long. 1°03' W. It continues to

drift in a southwesterly direction at a speed of 15-20 kilometers per day. The ice is in good condition, perennial, wind force 8-9. True, fissures and fractures have already made their appearance. Everything is all right at the unit. Personnel are in good condition. The program is being fully implemented. It's not a question of salvaging the unit, but of evacuating it before the ice has a chance to melt as it drifts into warmer waters in the next few weeks.

"The expedition is headed by N. Kornilov, experienced polar research worker, assistant director of the Arctic and Antarctic [Scientific Research] Institute and Hero of Socialist Labour. His closest assistant on the nuclear-powered icebreaker is P. Vlasenko, deputy head of the Main Hydrometeorological Service Administration's Murmansk Directorate. He is responsible for the aquatory in which "Rossiya" works.

"There are still several tens of miles before "Rossiya" reaches the edge of SP-28's ice floe. The icebreaker will get into the ice at 60-70 miles. According to our calculations, "Rossiya" will approach the edge on January 19. Evacuation will take 2 days, with 4 days spent on the return journey. The entire operation will take 10-12 days. On board the icebreaker is equipment for receiving satellite data on ice-cover conditions; the crew includes a group responsible for processing this and other hydrometeorological information. The Mi-8 helicopter is used for ice reconnaissance. It will assist in the selection of an optimum routing for the icebreaker and will more quickly and efficiently execute the evacuation of small shelters, equipment, engines and apparatus.



"Four times a day, the "Rossiya" expedition communicates indispensable data to the USSR State Committee for Hydrometeorology and Environmental Control. No dialogue is necessary. All problems are resolved on the spot."

Vozdushnyi Transport

19 Jan 1989

Page 1 (full text)

#### A Meeting with the Conquerors of the Arctic

On 9 January, Mr. N.I. Ryzhkov, Chairman of the Council of Ministers of the USSR met the participants in the Soviet-Canadian Transarctic Ski Expedition in the Kremlin and invested them with USSR State decorations. These were awarded to the participants for their successful crossing on a route extending from the USSR to Canada via the North Pole, and for their major contribution to the department of friendly relations between the USSR and Canada.

The order of the Red Banner of Labour was awarded to Mr. D.I. Shparo, Expedition Chief and a Senior Lecturer at the Moscow Steel and Alloys Institute.

Orders of the Friendship of Peoples were awarded to his comrades on the expedition, which, in the spring of 1988, had, for the first time in history, joined by an almost 2,000-kilometre-long ski track the Arctic coasts of our country and Canada. The recipients included four Canadian athletes: Dr.

B. Maxwell, a physician, Mr. R. Weber and Mr. K. Holloway, engineers, and Mr. L. Dexter, an Anglican clergyman.

The Soviet aviators who supported the expedition were invested with Orders of Honour. The members of the Expedition's base group received medals awarded "For Labour Prowess".

In addressing those present, Mr. Ryzhkov spoke as follows:

"Today, we have the opportunity, to render what is due to the participants in the Soviet-Canadian polar expedition. They have built a unique bridge of friendship, joining the two shores of the Arctic Ocean - the Soviet Union and Canada - and extending their bridge over the North Pole.

"The history of the exploration and opening up of the Arctic contains not a few brilliant pages preserving memories of the courage and strength of the human spirit and nobility of purpose. These pages hold memories of people who have devoted themselves to probing the Arctic and have, in a number of instances, given their lives to this pursuit. Never until now, however, have skiers crossed the top of the world. Again, never until now did a group comprising representatives of different social systems, advance to conquer the Pole. Citizens of Canada and the Soviet Union, an engineer and a worker, a clergyman and a physician, and an artist and a scientist, formed a single collective body and, under conditions of the most extreme severity, acted in concert and together risked their lives in the name of a common goal.



"Even apart from the scientific value of the expedition - and it, of course, yielded much material of use to medicine, geophysics and ecology - the fact alone of such an international pooling of effort, evokes deep feelings of gratification.

"We understand this with special clarity now, when, in the situation of vast danger threatening humanity, amid profound anxiety for our common tomorrow, we see breaking through the icy minefield of many years' confrontation a new concept of the world and new political thinking, in which mistrust must yield to mutual understanding, hostility to goodwill, and alienation and indifference, to sympathy and cooperation.

"This is precisely the kind of world that we have dreamed about. And today we have passed from a dream to deeds encompassing different regions and spheres interconnected into a single intelligent program. We can see such a program in the proposals that Mr. M.S. Gorbachev delivered at the 43rd Session of the UN General Assembly.

"The joint crossing by citizens of the USSR and Canada, the two largest Arctic countries, not only separated by an ocean, but also belonging to different social systems and different military and political groupings, is a momentous contribution to strengthening mutual understanding between peoples.

"As Mr. Brian Mulroney, the Prime Minister of Canada, said in greeting the participants of the crossing in his country, you have proven that it is possible to work together in striving to achieve a common goal, despite all differences. And, as you see, we fully agree with this.



"I must add further that the expedition itself, and its success, became possible thanks to the fact that many Canadians and Soviet people shared the idea of the crossing, that preparations were undertaken by reliable and committed sponsors, such as the newspaper Komsomol'skaya Pravda, the Sputnik International Youth Tourism Bureau, and the Canadian Conexus and McDonald's companies.

"Millions of people followed your journey and wished you success, while many participated in its organization. And so today, together with the immediate heroic participants in the crossing, we commend with awards the Soviet people who helped realize this bold project. These are the aviators, the base radio operators and the members of the expedition headquarters staff.

"I sincerely congratulate you all on your high State awards from the Soviet Union. From my heart I wish you good health and happiness. Mikhail Sergeevich Gorbachev, Secretary-General of the Chairman of the Presidium of the Supreme Soviet of the USSR, sends you his warm congratulations.

"May the ski track left in the snow by your expedition across the Pole, keep its meaning as a path of friendly relations between the peoples of the Soviet Union and Canada."

After conferring of the awards, Mr. Ryzhkov conversed with the members of the expedition. Soviet and Canadian participants expressed their heartfelt gratitude for the high appreciation of the crossing and for the assistance rendered by the Soviet government in organizing and conducting the expedition. The Chairman of the Council of Ministers



of the USSR expressed his interest in the details of this unique expedition and in the athletes' further plans. Those present expressed a common desire to continue their cooperation in the Arctic and to develop all-round contacts between the USSR and Canada.

It was noted that the Polar bridge built by the Soviet and Canadian skiers accords well with the concept of new political thinking. Mr. Ryzhkov recalled the Soviet Union's Murmansk initiatives, aimed at developing the Arctic for the good of people and developing the cooperation of the Northern countries in the task of protecting the environment in the interests of the states bordering the Arctic, Europe as a whole, and the entire international community. The expedition was, unquestionably, a step in this direction.

The Canadian Ambassador to the USSR, Mr. V. Turner, and Mr. P. Bird, President of the Conexus Company, an expedition sponsor, warmly expressed their thanks for the friendly reception accorded to the Canadian participants of the Arctic crossing in the Soviet Union, and for their decoration with orders of the Friendship of Peoples. Mr. Ryzhkov was given a letter from Mr. B. Mulroney, the Prime Minister of Canada, containing the following:

"The 1988 Transpolar Ski Expedition united Soviet and Canadian citizens in a difficult and daring enterprise. Those who took part in it displayed much courage, energy and resourcefulness. In conferring awards on the Canadian participants, the government of the Soviet Union has, in a special manner, noted their merits, something that they will remember all their lives.

"This event, however, transcends in its importance a simple declaration of successful Soviet-Canadian cooperation in sport. It attests that Canada and the Soviet Union are really Arctic neighbours and can combine their efforts in a spirit of growing mutual understanding and trust. The Transpolar Ski Expedition serves as both a symbol and a practical example of the progress under way in relations between our countries".

The Chairman of the Council of Ministers of the USSR asked those present to convey his thanks to the Prime Minister of Canada for his friendly message, whose content and spirit are evidence that Soviet-Canadian relations have developed positively in recent times. Mr. Ryzhkov recalled that the people in the Soviet Union are anticipating the arrival of the head of the Canadian Government on an official visit.

Izvestiya

10 January 1989

Page 3 (complete text)



CONSTRUCTION

Archangel: Build Ice Bridges

"I shall build ice bridges such as the people will not build", affirmed Moroz-voevoda ("Governor Frost"), if we recall the poet Nekrasov's well-known lines.

But even Governor Frost, it turns out, needs support, an offer of which came from Arkhangel'sk scientists, P. Gagarin and V. Kharitonov, who have revived the ancient technique of building ice crossings.

We know that the slower the current, the faster the ice freezes over. So, from time immemorial, before the freeze-up on the Russian Baltic and White Sea coasts, people would prepare fences of willow and spruce branches on the river-bed at the places of future crossings. This was done to "slow down" a stream.

Today's scientists have designed different shapes of artificial obstacles. For example, in order to freeze over, on the upper reaches of the Pinega, a taiga river, a stable ice road for the Vyga logging enterprise, they cut ice holes and lowered special screens into them. With the help of these devices, the frost in two weeks built a bridge capable of holding heavy equipment.

Stroitel'naya gazeta  
18 January 1989  
Page 3 (Complete text)

### To Counter Earthquakes

Builders working in highly seismic areas and permafrost zones should evidently take an interest in a device developed by Yu. Mart'yanov for neutralizing the deformations of supporting structures.

Basically, this is a spring-loaded supporting slab with openings for the piles supporting a building. The piles interact with the supporting slab through interlocking mechanisms in such a way that the forces deforming the building are evenly redistributed among all structural elements when frozen ground thaws, the groundwater level changes, tectonic ground movements occur, and so on. This eliminates the effect of ground shifting on building stability.

Stroitel'naya Gazeta

29 December 1988

Page 3 (Complete text)

### Yakutsk ASSR: A Settlement has Appeared

People have begun to occupy a new settlement, located on the shore of Lake Labada, at the Sittinskii State Farm in Yakutiya. Builders have constructed seven four-apartment houses, a hostel for specialists with small families, an electric power plant, a boiler house, garages, and office space. The administrative building is for the time being serving as a club, store and dining hall. The



families of transportation/equipment operators, and of boiler-house and electric power plant workers, have become the first new settlers.

Sovetskaya Rossiya

27 December 1988

Page 1 (Complete text)

## ENVIRONMENTAL ISSUES

### Earthquakes in northern Tyumen' ....a fact calling for conclusions

Recently, Nefteyugansk dwellers of the upper stories of apartment houses built from precast concrete panels began noticing continuous rocking motions with a slight tinkling of glasses. Perhaps from the KrAZ heavy trucks rumbling by in the street below? But when investigators found cracks in the slabs under the foundations of one of the 19 buildings, it became clear that this was something far more serious. Research officers of the Western Siberia Scientific Research Institute of Geological Exploration (ZapSib NIIGNI) looked into the situation. This is what they found.

Seismically, Nefteyugansk, like the whole of Western Siberia, is a calm, safe zone. Or at least it was until recently. Then, suddenly, earthquakes began. At Nefteyugansk the tremors had several foci. Their intensity was from 3 to 4 on the Richter scale along the shore of the Ob' River in the Yugansk district (within a radius of 1,000 to 1,200 metres). And here, man himself is the guilty party! This was the conclusion arrived at by I. Nesterov, Director of ZapSibNIIGNI, Corresponding Member of the Academy of Sciences USSR and a Lenin Prize winner, and A. Reznik, an Institute Research Officer.

Massive earthmoving when the city was laid out, the recovery of fresh groundwater and oil, and finally, the vibration from driving sheet piles - all



of this activity demanded of Nature an inevitable "détente" (lessening of tension) in the form of earthquakes that are, for the time being, small.

In any case, all of the foregoing is a result of the "wild" development of Tyumen' mineral resources during the past decades with no thought to, or forecasting of, the ecological situation. About twenty years ago, scientists predicted the onset of a period of minor, and then major, disasters. And they spoke then of the coming 15 to 20 years, calling them a critical time. Now, these years have passed, and the earthquakes have begun, provoked by human activity.

After all, the intensive recovery of oil and gas from the earth's interior without full compensation for the "cavities" left behind, will inevitably bring this interior out of its ancient repose, and even after the first 10 to 15 years' extraction, the accumulated unbalanced conditions are making themselves felt. The earth's interior is "groaning", creaking, somehow squeezing out and pressing through, pushing out piles and columns, warping buildings, and making its presence known by surface saggings that are at first minor and then catastrophic. We must not, however, await a disaster, but rather prevent it. We must not wait, let us say, until the pressure in the earth's interior falls by 50 to 70 atmospheres, but rather, when we have found that it has dropped by 10 to 15 atmospheres, we must remove the stress and provoke Nature to create small earthquakes in an attempt to head off a major disaster.

Yes, Western Siberia is seismically a quiet zone. But if earth movement begins to develop here,

this will, first of all, be echoed in the rifts and along their margins. It is precisely here that we recover oil and gas. But it is also precisely here, in the location that is most dangerous seismically, that we are producing imbalance, and developing and increasing it. Well, what will this lead to? First, the scarcely-heard-of technogenic (caused by human technical activity) earthquake. And then?

Before liquid and gas are removed, rocks are in equilibrium. We pump out oil and replace with it water, although not completely: it is technically difficult to force water into all the underground pores that have emptied and thus to restore the original pressure. With gas, the problem is even worse. It is simply taken out of the earth without any "compensation" at all. Indignant Nature goes out of equilibrium, and the number and extent of engineering breakdowns grow, especially on vulnerable permafrost.

Even localities which are more favoured geologically, have not escaped emergencies. Thus, Al'met'evsk in Tataria, has been "shaking", for several years now. The surface of Shebelinka in the Ukraine is subsiding. We have so far drawn no conclusion from these facts. Meanwhile, the catastrophic, complete destruction of the mineral resource field settlement of Gazli in Central Asia warns us of much. Here, technogenic earthquakes of intensity 3 to 4 were imposed on a large natural tremor of force 5 to 6, and then came an intensity 9 quake, a monster that swept away everything.

Does something similar not await us at Medvezh'ye and Nefteyugansk? The force of an underground shock is, after all, proportional to the



dimensions of the focus. Medvezh'ye is, in its surface dimensions, five to six times larger than Gazli, and at Medvezh'ye the stratal pressure has fallen by half in the course of ten years. We see an even larger deposit at Urengoi, where the pressure has also been dropping rapidly. Yamburg is also "approaching " such a state.

A group of specialists spent some time on the Baikal-Amur Main Railway Line (BAM) in order to study deformations in buildings and to determine their causes. The photographs that the group took were literally shocking: railway station terminals collapsing in three parts, like a magazine foldout, walls cracked from side to side and top to bottom, lakes of water inside homes, buildings bound in metal belts...

All of this is the result of building with no account taken of the permafrost. Can no one really have known what permafrost is like? Not likely. All of these phenomena were described by Russian engineers as far back as a hundred years ago, and in the very same places. As we can see, the buildings are new, but the mistakes are old. As if there were no science of building on permafrost, no engineering geocryology, or a whole Institute of Permafrost Science of the Siberian Branch, Academy of Sciences USSR, at Yakutsk. Staggering ignorance!

But just where is competence to come from if our builders have no permafrost services? It is no accident that the mistakes of the Baikal-Amur Main Line are being repeated in northern Tyumen', where expensive, high-precision compressor stations have also begun to fall apart already, particularly at the Medvezh'ye field. At first, the losses here were

estimated at two million roubles, and then, before too long, experts were talking about 170 million roubles. The orders on this account contained many correct words. The most important element, however, was missing: these documents contained no proposal for creating a service to prevent embarrassments of this kind.

Now, on the threshold of the year 2000, we are setting off on a campaign to develop the Far North for oil and gas. For Tyumen' this will mean primarily the development of the Yamal (Peninsula), where there is a rich abundance of oil and gas. The oil, gas and other natural resources here are protected by a thick-walled, but very vulnerable, shield of permafrost. And now what? Are we again going to lose millions through our own thoughtlessness?

The permafrost in our country is discontinuous. In the North and in the Eastern Siberian foothills it penetrates the earth here and there to depths of as much as 500 to 1,000 meters. Towards the south it thins up to the surface of its shell and begins to occur in small islands and patches. Permafrost, whose temperature is close to the critical melting (point) - zero degrees or lower, "minus one" - is even called "flabby" permafrost. It is extremely unstable: it needs only the slightest inflow of warmth from clumsy human interference and it begins to melt and spread, turning into universal viscous mud. Dwellings and other structures built on this "nonperma" frost "creep" (and collapse) along with their foundations.



And so, a fairly large zone, of this same "flabby" permafrost about 500 kilometers wide, runs from east to west through the Tyumen' Oblast. Almost all the major oil and gas industries, and the new towns, are located here. People work quietly, recovering the oil and gas, cursing the mosquitoes and the intense cold, and all the while they do not know that a major calamity is advancing on them. What kind of a calamity?

Scientists in Moscow and in Tyumen' have completed a model, forecasting the climate and soil temperature structure in the Far North of Western Siberia. These specialists assert that the next three to five years will see the completion of a centuries-long stage in the cooling of northern Tyumen' Oblast and that warming will begin and continue to the years 2020 to 2025. The mean annual temperature will rise by not more than one degree. This will be of little consequence for the outlying north and south of the Oblast. But for areas of "flabby" permafrost with "warm" ice lenses, the particular devastation that can be wrought by this warming, is as yet unpredictable. This is what will happen: the earth, stiff with cold, will begin to thaw rapidly, and this thawing will move to the North, with its underground stores of oil and gas, at a rate of 40 to 50 kilometers a year. Then, with time - by the middle of the next century - everything will return to its proper precincts. But how great the losses will be during this time!

Unfortunately, many of the oil-and-gas-recovery enterprises, most presently operating pipelines, and many recently established major industrial centres, happen to lie precisely

within this danger zone. During the warming period, the permafrost level will drop in different natural settings, including peat bogs.

Experts have calculated that, for example, the soil temperature at Urengoi at a depth of 10 meters will rise by half a degree, which will cause a general thawing of sandy soils, especially in the southern part of the deposit. There is, of course a chance that the forecast model will not materialize. But to disregard this information would, quite simply, be criminal.

During the last thirty years, scientists in Tyumen' have accumulated an incredible amount of geological data. These were formerly used for evaluating the situation and making operational decisions, but they were later completely "forgotten". Today, the time has come to return to this data, to integrate and interpret it on a unified basis, to process it and to create a data bank.

The Americans were able to create such an experimental bank for the Alaskan North Slope from ten large massifs. They covered about 100,000 points on the Slope, using more than 1,000 boreholes. The whole data bank, along with models of exploration and recovery technology, is constantly being developed, enlarged and renewed (mostly from data telemetrically received directly from boreholes). This enables authorities to effectively plan methods and future research for the purpose of developing both traditional and non-traditional raw hydrocarbon resources.



Should we not follow their example? The time for doing so is doubtless long overdue. This matter is vitally important for Tyumen' as an oil-and-gas-producing area.

Seismic activity is bad. Permafrost is very bad. Permafrost plus seismic activity adds up to a veritable catastrophe. Even a mild earthquake in permafrost aggravates the consequences by a factor of ten, a hundred, a thousand. And if this permafrost is "flabby"? Have we any right to be complacent? Tyumen' is a case where we have no right to a mistake. We must prevent mistakes. Suppose that we are not right, that we are "playing safe". But Yamburg, Medvezh'ye and Urengoi are still so serious that playing safe is no sin: The stakes here are so high that no kind of playing safe is amiss.

Stroitel'naya Gazeta  
27 December 1988  
Page 2 (full text)

## MINERAL RESOURCES/MINING

### Coal Production Exceeds Norms

The workers of the Neryungri Integrated Coal Production Centre, numbering many thousands, got their labour off to an encouraging start in the very opening hours of the New Year, having today recovered their first few thousand tonnes of coking coal over and above the plan. The fuel was conveyed regularly to the concentrating plant, which has also been processing raw material at rates in excess of its daily quota. The organization has shipped about four hundred cars loaded with coal and coke concentrate to its Far Eastern customers, which is also significantly more than called for by the daily schedule.

Pravda

2 January 1989

Page 1 (Full text)

### Arctic Coal

Yesterday, miners from "Vorkutaugol" [Vorkuta Coal Combine, RSFSR Ministry of the Coal Industry] fulfilled the coal production program for the third year of the five-year plan. The combine's collectives, which next year will be getting ready to work under conditions of full profit and loss accounting, self-repayment and self-financing, are attempting to secure a good economic base for themselves.



A few facts comparison. Last year the combine fulfilled its plan on December 12. Miners effected a 5.4% increase in labour productivity. They mined more than 1 million tonnes of coal over and above the plan. This year's indices show a yield of more than 1 million tonnes over and above the plan, in addition to an 8.2% increase in labour productivity. As we can see, there has been a substantial improvement in the quantitative output of miners from the "arctic stokehold." Since the beginning of the year there have been no lagging collectives. At the mines "Ayach-Yaga," "Oktyabr'skaya," "Vorgashorskaya," "Tsentral'-naya" "Vorkutinskaya" and "Severnaya," equipment installation departments, the loading and transport department, 15 mining and 9 driving districts, 19 driving brigades and 21 districts are already working to fulfill the assignments of the fourth year of the five-year plan.

Trud

7 December 1988

Page 1 (full text)

OIL AND GAS

Nadym Gas: Over and Above the Plan

Early execution of the plan is a fine tradition among the personnel at the Nadymgasprom (Nadym Gas Industry) Industrial Corporation. True to this tradition, the workers reached their year-end quota five days before 1989. In the time remaining before the end of the year, the people extracting the blue fuel undertook to deliver not less than an additional 700 million cubic metres of this product to consumers, as specified by socialist obligations.

Sovetskaya Rossiya

30 December 1988

Page 1 (Complete text)

At Arctic Gas Fields

Gas-field builders finally got what they were waiting for: temperatures fell below  $-35^{\circ}$  C. It was possible to open a winter road from the river port, on the banks of which 28 superblocks - component parts of integrated natural-gas treatment installations - stood waiting.

...A "team" of powerful bulldozers let out a roar, ropes tightened, and on Yu. Kil'dyushov's (leader of an installers' brigade) command, the silver block, as tall as a high-rise apartment building and weighing a little over 400 tonnes, started sliding over the traffic-compacted snow which had frozen up during autumn. Plans call for all the blocks to be moved to the gas fields by New Year and to hand over the gas field to the adjusters by May.



This will be the sixth such installation at Yamburg, but a long-awaited one, since it is intended for the production and processing of condensate. Once commissioned, consumers will for the first time receive gas condensate from the Arctic.

Izvestiya

2 December 1988

Page 3 (full text)

Computer For Geologists

"Elektrorazvedka" is the name of an oil and gas prospecting equipment kit developed by scientists at the Krasnoyarsk Computer Centre, Siberian Branch, USSR Academy of Sciences. The kit includes a mini-computer which enables geophysicists to rapidly process data obtained in the field.

The Earth's magnetic field contains "indicants" which can help in locating mineral deposits occurring at various depths. By deciphering these indicants, geophysicists can give specific recommendations to geologists. In the past, information was processed on stationary computers after the close of the field season. Scientists had to wait until the following summer to make corrections and conduct additional research.

The new equipment goes by the rules... of a child's game, whereby the "hot, hotter" principle is used to search for buried deposits - these words are

now spoken by the field computer. Working with the new automated work station is simple and convenient.

Sotsialisticheskaya  
Industriya  
1 December 1988,  
Page 4 (full text)

#### Billionth M3 Topped

Nadym gas producers approach year's end with an impressive record of productivity to their credit. They are surpassing the production schedule by 1.73 billion cubic metres [of gas]. This exceeds the amount stipulated in the annual socialist obligations.

Success was brought about thanks to the introduction of progressive geological and technical measures and processes, increased overhaul life of gas-field equipment, and high well-operation rates.

Sovetskaya Rossiya  
1 December 1988  
Page 1 (full text)

#### Driller's Success

Surgut (Tyumen Province), 14 December. (Tass). A. Shukyurov's brigade from Surgut Drilling Department No. 2 has achieved an unprecedented first. Today the collective has 150,000 metres of drilling to its credit. This represents a first in



the industry. Shukyurov's drillers instantly outpaced last year's record-holding rival co-drillers from S.Vorushilov's brigade by 2,000 metres.

"The first record-breaking 100,000-m-plus brigades have popped up right here in Surgut," remarks E. Razumenko, deputy head of "Glavtyumenneftegaz's" [Tyumen Oil and Gas Production Association, USSR Ministry of the Oil and Gas Industry] drilling division. "Penetration rates are increasing year after year."

Since the beginning of the year, Tyumen drillers have turned over hundreds of wells to field men.

Pravda

15 December 1988

Page 2 (full text)

### Peaceful Profession

A powerful wheeled [prime] mover intended for the transport of intermediate-range missiles was delivered to the arctic port of Nar'yan Mar by the diesel-engined ship "Sovetskii Pogranichnik." These weapons, as is known, have been reduced by mutual agreement with the USA. Are the powerful vehicles therefore useless? No. Designers have transformed the missile carrier into a truck by replacing its platform with a vehicle body.

The "Arkhangel'skgeologiya" [Arkhangel'sk Geological Administration] Production Group has received 7 such movers. V. Sukhodol, war and labour veteran and trucker with 40 years experience, felt the vehicle was easy to operate despite its size. It will be used to transport cargo to geologists and oil and gas producers in the arctic.

And so former missile-carriers are now taking on peaceful professions.

Vodnyi Transport

7 January 1989

Page 2 (full text)



## POWER GENERATING STATIONS

### Electricity from Under the Ground

Engineers at the S.Ya. Zhuk Gidroproekt (Hydraulic Design) Institute consider the Panajarva site in northern Karelia to be rare gift of nature for creating an integrated energy-producing system.

Without building a dam, and using an almost two-hundred-metre natural drop in elevation between two lakes, engineers can build a water-storage power station approaching the output the of Ust'-Ilim Hydroelectric Power Plant. Specialists have completed a feasibility study for the Panajarva Water-Storage Power Station.

Power engineers have long tried to find a reliable key to the problem of load "peaks". At night, power is available in abundance, with nowhere to go, while we cannot "slow down" the basic (thermal and atomic) power plants: they ultimately do not pay. The mobility of hydroelectric power plants --units producing enormous power-- and the opportunity that they offer of switching on or stopping in a matter of minutes, have prompted the creation of water-storage power plants. And until now we have not had a better instrument for leveling out "peaks".

It is no accident that the total power of water-storage plants has already exceeded 20 million kilowatts in the USA, 10 million in Japan, and 5 million in France. Even as small a State as Luxembourg has a water-storage station producing a

million kilowatts! At night, the station is charged with water at a cheap power rate, while the "peak" kilowatt-hours go for an entirely different price.

So far we cannot compete even with Luxembourg. The rated power of the turbines at our (water-storage) stations - Kiev and Zagorsk - where the first units were recently started up, is under half a million kilowatts. Just what is the matter?

"The problem", says L. Sheinman, a leading Hidroproekt engineer, "is partly that we have very few natural locations with sufficiently large drops in level for building water-storage power stations in the European part of the country. And right here is just where we need these buffer plants. A thorough topographic survey has brought to light suitable sites near Leningrad, in Lithuania and around the Kanev Water Reservoir in the Ukraine.

"I did not say 'partly' by accident. The main reason for the lag is the excessively lengthy time taken to build these power engineering facilities."

In the year now drawing to a close, preparatory work has begun at the site of the Kanev Water-Storage Power Plant. Remembering the difficult experience of construction at Zagorsk, the engineers decided to dig the deep foundation pits for the plant building not by the open method, but rather to construct them using reinforced concrete caissons of unprecedented size (65 x 100 meters!). Calculations have promised a reduction of about 200 million cubic metres in the amount of excavation and earth moving at Kanev, even though the output of the Kanev Water-Storage Power Plant is to be three times that



of the Zagorsk plant. Sixteen reversible units will begin to pump water from the Kanev Reservoir into the upper basin, and, during peak hours, under a full load, they will be able to deliver 3,600,000 kilowatts to the system!

Incidentally, the upper basin, which engineers chose here exclusively from among patches of uncultivable land and ravines, occupies a total of 550 hectares.

An interesting fact is that when engineers build water-storage plants, they can not only do without dams, but also entirely without one of the two basins of the hydraulic engineering complex by locating it... underground. According to geological data, high-capacity underground water-storage power plants can be built on the outskirts of Leningrad, near Minsk and Voronezh, and in the Ukraine. Solid granites at depths of 700 to 1,000 meters will enable us to establish, under the earth, vast reservoirs for many millions of cubic metres of water and to accommodate the units of the water-storage power plants themselves.

The worked-out shafts of ore deposits are also suitable for underground water-storage power plants. Even now, around the Kursk Magnetic Anomaly, ore bodies have been depleted to the extent that we can, without delay, begin installation work underground. Since the mines belong to the Ministry of Ferrous Metallurgy, however, a new obstacle has entered the picture. The miners wish to return for the ore left in the so-called supporting "pillars". They do not contain that much ore, and if the pillars are demolished, then any talk of a water-storage electric power plant in a mine will remain purely theoretical.

It is abundantly clear that in a planned State economy, an elementary economic calculation should solve such a problem. Such a calculation is on the side of the hydro-power engineers. But then, the mine shaft belongs to the Ministry of Ferrous Metallurgy...

Izvestiya

31 December 1988

Page 1 (Complete text)



## SOCIOLOGICAL ISSUES

### Kindergarten for Young Northerners

The builders have handed over to young northerners the keys to a new 140-child kindergarten in the Chukchi village of Markovo.

The two-storey building has bright sleeping quarters and play rooms, halls for musical studies and gymnastics, a winter garden, and even a swimming pool. The opening of this building at Markovo has fully solved the problem of placing children in kindergartens, and many housewives can now take part in socially useful work, an outcome all the more beneficial as, in the Far North, each pair of working hands is worth its weight in gold.

Stroitel'naya Gazeta  
19 January 1989  
Page 1 (Complete text)

### Ukhta: Therapeutic Mud and Mineral Waters

From now on, in order to take therapeutic baths, northerners need not go to the other end of the world - they have only to get on a city bus. Here, officials have just signed a State Commission document opening the first specialized physiotherapeutic health centre, based on local mineral waters and sapropelic muds, in this Autonomous Republic.

The wells from which the "living" water flows were drilled alongside the new health centre, while the healing muds are obtained from a taiga lake located not far away. The Central Institute of Health Resort Science and Physiotherapy has concluded that both agents are beneficial in the treatment of different ailments.

Pravda

28 January 1989

Page 3 (Complete text)

Pravda  
19 January 1989  
Page 3 (Complete text)

Ukhta: Therapeutic Mud and Mineral Waters

From now on, in order to take therapeutic baths, northerners need not go to the other end of the world - they have only to get on a city bus. Here, officials have just signed a State Commission document opening the first specialised physiotherapeutic health centre, based on local mineral waters and asphaltic muds, in the Autonomous Republic.



TRANSPORT AIR

A Pilot on the Ground

I am 30 years old, and am, by profession, a civil aviation pilot. I have been flying in the North for seven years and am very fond of my work. I have a family, with two children. I shall not write about the harsh working conditions in the North: everyone knows about them. But why make them even harsher?

I live at a hostel, in a room 9.6 square metres in area, with a common kitchen for four families. One neighbour, also a pilot, lives in the same type of miserable little room along with two children. Another neighbour, a navigator, has one child. Not long ago, we too had an addition to the family. You yourselves will understand that our room is filled with babies' cries, diapers, an older son who goes to school and never gets enough sleep, and a high-strung wife. Any kind of rest is entirely out of the question. No matter - tomorrow you have another flight to do; there are the passengers seated behind you, and you have to get them to their destination, making sure that in the process you observe "flight safety and a high level of service".

This is the way things are with most of the fliers in our Magadan Integrated Air Unit. And we are not alone. When a transport accident happens, one cause often named by the investigating commission is domestic disorder and overstressed nerves.

I do no dispute the fact that much is being done in aviation to keep flying safe. Studies are

conducted regularly with the staff, and once every three years we attend courses at a training centre. Professional training, however, must be backed up by a sound home front. But here.... In order to have a good sleep before a flight, one has to look for an unoccupied bed in the bachelor pilots' quarters. I do not wish to overpraise my own occupation: in aviation all services are essential. But I nonetheless believe that, in our aviation industry, authority (as is the case with the miner in the mining industry and the driller in the oil industry) still derives from the pilot.

Paradoxically, the aircrew in our Unit is in a worse position than are personnel in other services. The situation that has arisen can be explained very simply: an aviator can always be put in his place. If he has spoken out in opposition at a meeting, an "obstacle" will arise whenever the aircraft commander implements [a new proposal]. If he has said the truth at a trade-union conference, he gets paid back with a refusal to retrain on another type of aircraft. Have pilots appealed to the command about their living quarters? Time and again. The reply, however, runs something like this: "We lived under canvas, and now you'll get to know what problems are like".

You will understand that I am not a whiner. I served my time in the Armed Forces. In fact, I went to that school where they make people in the mould of "the proud and manly profession". In reality, however, these people are often humbled. It wasn't for nothing that an Aeroflot pilots' action committee has recently been organized in Moscow "to get the pilot off his knees" (this is neither a fantasy nor a joke: we recently discussed this group's program among our staff).



Aeroflot is now gradually converting to a new wage payment scale, and both salaries and pensions for its employees are rising. This is both necessary and good. How is it being implemented among us in the Magadan Integrated Air Unit? In a manner very much its own. All the services have now converted to the new wage rate except.... the pilots. This is absurd. On the outside, mind you, everything looks good: our Unit regularly meets its plan and receives challenge banners for doing so. Flight safety is assured. All of this, however, is being achieved at the cost of aircrew nerves and health. Do we really need a breakdown, the next crash, so that this side of the picture will attract attention?

\* \* \*

O. Borodin, Izvestiya's own correspondent for the Yakutsk ASSR, adds a clarifying note:

"This letter's author exaggerated nothing. Nor is it by chance that Sotsialisticheskaya Yakutiya [Socialist Yakutiya newspaper], in holding a discussion on the subject "Accommodation 2000: a look at the Ministry", quoted a disturbing fact: the average length of time that it takes aviators on a waiting list to get an apartment is twenty years or more. In every Yakutsk airport you can find huts that have long ago been written off, yet pilots' families continue to huddle in them.

"We're trying to improve the situation", says F. Sergeev, Deputy Chief, Yakutsk Construction Directorate, Civil Aviation. "During the current

Five-Year Plan we're going to make about 45,000 square metres of living space available to residents. But the figure we must aim at is 162,000 square metres. Only then will we be able to satisfy the five thousand people waiting in line among the different aviation organizations. Last year we spent 5.8 million roubles in capital investment on dwelling construction, but this year the Ministry of Civil Aviation is giving us only half as much. True, we did manage to find locally funds for construction that we would finance ourselves. But we obviously didn't have enough materials for the project. Nonetheless, at the Aldan, Sangar, Nyurba and Zyryanka Airports aviators themselves are building their own homes in their free time away from the job. This, to some extent, makes the problem less acute. At the same time, it is abundantly clear that only on the basis of a well-developed construction industry will we be able to change the situation to any lasting degree".

Unfortunately, the Ministerial program has not been coordinated with the program for developing the Far Eastern economic region in housing and the social, cultural and utility infrastructure. With this difficult situation in mind, we must give Aeroflot veterans a chance to move out into the country's central regions and offer the vacated dwelling space to younger specialists.

The housing situation may get even worse if the price of aviation fuel rises. Then the revenues of the various establishments ("enterprises") will shrink, as will, therefore, the deductions to different funds, from which aviator employee groups are today allotting maximum sums for construction with no assistance from State budgets. Under these



conditions, we see only one solution: to increase the profits tax on enterprises, to go into the local budget and into enterprise holdings.

One last thing... Is the letter's author right when he reserves to pilots the right to get an apartment immediately? Without a doubt, their work is difficult and critically important. But are the level of responsibility and the workload really any less among air traffic controllers or staff in other airport services? Every person in the work force should have a sound home front, a well-ordered domestic environment. And to split up the problem of providing dwelling space means to prolong its solution.

As for the pilot's prestige and the appreciation of his role in the work of aviation, Lugov is, we feel, right. A pilot's mood when he takes to the skies, his level of self-confidence among his professional peers, are no less important than a good roof over his head.

Izvestiya

23 January 1989

Page 1 (Complete text)

Yordusani Transport

17 December 1988

Page 1 (full text)

A Pilot's One Hundred and One Professions

ARCTIC BUILDER

The modern drift-ice research unit is a self-contained settlement boasting everything necessary for the work and rest of winterers. Laboratories, apartment houses, warehouses... all kinds of things that might be in demand by people who remain to work in the boundless and uninhabited expanses of the North the whole year long.

In order to deliver all this to the pre-selected ice floe, polar research workers have teamed up with seamen and aviators. And so on this occasion, cargo for drift-ice research unit SP-31 [North Pole-31] is sent aboard the diesel-electric-propulsion ship "Vladimir Arsen'ev." But of course in the Arctic Ocean ice floes do not come equipped with harbour cranes. Aviators are thus faced with difficult work once unloading starts. It's not a simple task to unload polar research workers' homes from the deck of the diesel-electric-propulsion ship and set them down onto specially prepared sites. Here's where the helicopter pilot's superior skill is required.

Vozdushnyi Transport

27 December 1988

Page 3 (full text)



TV Transmitter Erected using Helicopters from Komi  
Civil Aviation Directorate

In addition to other projects, the collective of the Petrozavodsk construction-and-installation administration of "Sevzapstal'konstruktsiya" [Suggested expansion: Northwestern Trust of the Main Administration for the Manufacture of Steel Structural Parts and the Installation of Steel and Combined Reinforced-Concrete Structural Parts in Industrial Construction] builds television broadcasting stations in the Karelian ASSR. This enables inhabitants from the remote regions of the republic to obtain reliable reception of programs beamed by Central Television (Moscow) and Karelian Television (Petrozavodsk).

The next site for the construction of the 253-metre relay transmitter was selected 150 kilometers from Petrozavodsk, not far from the district centre of Suoyarvi.

"This time," says construction and-installation administration chief S.P. Nikolayev, "we decided to use an air crane to hoist and erect heavy steel structures. For this purpose, we invited the helicopter pilots of the Ukhta detachment of the Komi Civil Aviation Directorate. The new method surpassed all our expectations. It took the crew of the Mi-10K helicopter, headed by A. Egorov, 11 days to raise and install the final 24-metre section of the transmitter."

Vozdushnyi Transport  
27 December 1988  
Page 1 (full text)

## Ecology and Aviation

### Beyond The 78TH Parallel

(Dickson - Kara Sea - Dickson)

Each season, high-latitude air expedition "Sever" departs for the arctic seas to conduct oceanographic research. This year marks the 40th time the expedition has been organized. It traditionally has 2 flight detachments and is divided into western (main base - Dickson) and eastern (base - Cherskii) groups, each of which works aboard 2 An-2 aircraft.

...Dickson Airport. Red-winged aircraft take off for the north-east part of Kara Sea. On board is a group of arctic researchers from the Arctic and Antarctic Scientific Research Institute, lead by A. Zholudok, chief of the western detachment. This is his seventh research expedition.

He gladly acquaints us with the basic research goals, which consist of obtaining information about (a) ice and hydrological processes and their variability, (b) the transformation of water masses, and (c) pollution levels of seawater surfaces and ice and snow covers.

The small planes fly at a height of 200 m above the Kara Sea ice. Easily discernible from the plane's blister are the fleeting ice fields; visible at times are tiny patches of black-coloured ice-free water. These give way to chaotic accumulations of ice. Flat fields, which are necessary for landing



purposes, do not crop up often, and when they do, are usually small in size. And flashing before our eyes again are the ice floes, the endless fissures, openings and canals.

We patrol the waters between Vize and Uyedineniya Islands and Mys [Cape] Zhelaniya, beyond the 78th parallel, in a region that is of exceptional interest to science. We seek an ice floe suitable for landing. Without tearing himself away from the window, aircraft commander A. Rybakov peers below. He must visually determine the thickness of the ice and, after selecting his site, make a landing.

"There's our landing spot!," advises N. Dmitriyev, air navigator. "Look to the right."

The plane makes two passes over the ice field. It then descends, carefully touching down on the deserted and homeless ice floe, on which no-one has set foot before us.

A heated tent is set up on the ice floe and hydrological work commences. At the 351-m mark, the final load falls to the bottom. Readings are taken of the water temperature between the surface and bottom of the sea; water is tested for salinity, content of silicon, oxygen and other chemical elements.

The group takes off again. It's a 15-minute flight to the next destination. Once again equipment is unloaded, a station is set up, new samples are taken.

Several hours later, the detachment chief gives a command: "Let's pack it up and head for base."

The oceanographic research data collected by high-latitude air expedition "Sever-40" is needed to facilitate navigation along the Northern Sea Route, to meet the needs of the national economy in areas of the Far North, and in the development and improvement of ice and hydrological forecasting methods.

Vozdushnyi Transport

1 December 1988

Page 8 (full text)



## TRANSPORT RAIL

### Earthquake Counter-measures

In the course of a year, more than a hundred earth tremors are recorded on the Baikal-Amur Main [Railway] Line. Their force, it is true, is not great, but the danger of severe earthquakes does nonetheless exist....

For this reason, specialists from the following organizations:

- a) An operational group of Gosstro  
RSFSR [the State Committee for  
Construction Affairs of the Russian  
Soviet Federated Socialist Republic];
- b) The BAM [Baikal-Amur Main Line]  
Construction Board;
- c) The Bamtransstro [BAM  
Transportation Construction]  
Industrial Design and Construction  
Corporation.

together with scientists from the East Siberian Technology Institute, have carried out an integrated verification of compliance with earthquake countermeasure requirements at facilities and installations under construction from Tynda to Severobaikal'sk.

At the same time, authorities have organized courses to train builders in the special construction techniques necessary in an earthquake zone.

Gudok

10 January 1989

Page 4 (Complete text)

The BAM: Progress Update

On 12 December, the overall freight dispatch plan for the Baikal-Amur Rail Line was met ahead of schedule. The railroad workers on the newest line in the country greeted this event with hope and optimism, although the year to come promises to be very difficult.

Viktor Fedorovich Degtyarev, Chief, Board of Directors, BAM Construction, and First Deputy Chief of the Baikal-Amur Railroad offers his comments.

"Four integrated projects in their start-up phase will go into operation in 1989: the Zeisk-Tungala, Chara-Taksimo and Taksimo-Angarakan track section, and the permanent bypass of the Severomuiskii Tunnel. Not until now has so much completed construction work been handed over at once on the Baikal-Amur Main Line to acceptance authorities for use in transport operations. The scale of work lying ahead is impressive. Over the next year, construction organizations must put into operation fixed assets to the value of one billion 300,000 roubles and utilize over a half billion roubles of capital investment. We shall accept for permanent operation about 600 kilometres of track (including the bypass) and shall bring into use



120,000 square metres of dwelling space equipped with all amenities. This means that over two thousand railroad workers' families will become new settlers.

"The builders of the Bamtransstroi Industrial Design and Construction Corporation will doubtless be equal to their tasks and even more. For example, we proposed that in building a second track on the Little BAM they utilize around 70 million roubles, while they are ready to take on a counter plan and to do nearly twice as much. My own feeling is that the same thing will happen on the main BAM that parallels the latitude line.

It is true that the suppliers presented us with a New Year's "surprise". The Minsk Machine Tool Engineering Corporation, the Bryansk enterprise and even the Simferopol' Electrical Engineering Plant, belonging to our Ministry, sent telegrams refusing deliveries for the Baikal-Amur Main Line. The reasons vary. Some are beginning new series production, others are renovating, still others have been put in a bad position by someone...

"Overall, it is a difficult situation, but nonetheless I hope that we will come to a mutual understanding with our suppliers, that the BAM will be put into permanent operation and that by 1990 it will begin to operate normally. It will become a railroad equipped to a first-class level, a line to whose construction our entire multi-ethnic country has contributed a great deal. People from Belorussia and Latvia built the Taksimo section; others from Uzbekistan, the Kulanda track; still others from Bashkiria, the Zeisk section, and so on. Each station on the Baikal-Amur Main Line preserves the warmth of the fraternal hands that build it and bears the impress of an ethnic colour..."

We can continue Viktor Fedorovich's story. At the BAM capital, the long-awaited Wedding Palace will throw open its doors. Tynda, with its number of weddings and births, can in every way compete with the cities of Central Asia.

A new abode also awaits the BAM workers' children: they will take over a fine Pioneer camp with swimming pools - two for summer and one for winter. This complex, including a club, a dormitory, and games pavilions, is being built at Bestuzhev, near Tynda.

The railroad workers, too, will have their holiday. The Tynda Roundhouse, the largest and best-equipped in the Far East, will go into full operation this year.

Gudok

3 January

Page 2 (Complete text)

### The Fruits of the Railroad

R. Dydyshko, Chief Scientific Officer, VNIIZHT, Tynda-Moscow, summed up the role assigned to the Baikal-Amur Main Line in opening up the region, in a short Latin phrase: "A road is life". Building a main line under conditions here, however, does not mean that the whole thing is completed. The line must be brought to the state where it can bear traffic. Why do we put the question this way?

Imagine a "mar'" [a shallow, often hummocky, bog]. A swamp that is not just a swamp, but also has



hillocks, moss and sometimes marsh. The ground under the peat is interlarded with ice. The thicker the peat layer, lying in individual medallions in low-lying areas, the more clay the underlying soil contains, and the more pronounced the "stuffed" look that distinguishes it. Sometimes, pure ice extends for several meters into the ground. On a mar', each blade of grass stands guard, like a soldier, over the permafrost, shading it and, in the summer, evaporating water. The surface does not overheat.

And so they made an embankment for the railway. On the surface the heat exchange conditions were altered. More heat began to move down, and an area of thawed ground, which did not freeze in the winter, formed under the embankment. Practical experience has shown that a foundation will warm up regardless of how thick a layer of earth/gravel is poured on top. Nor does it matter whether engineers strew earth, or cut away the native peat, or leave it undisturbed, winter or summer.

Since the ice is distributed unevenly in the ground, the track will settle more in one place and less in another when the foundation thaws. The experience of the Izvestkovaya-Urgal Line, which in many places looks like a roller coaster, indicates that sagging continues for many long years even after the ice has thawed out. As investigators have established, this results from the extrusion of liquified thawed soil from under the embankment.

To build a road while taking measures to preserve the permafrost over its entire extent, would be uneconomical, and the existing standards contain no such requirement. For this reason, designers have specified that railroad tracks should be elevated on



ballast to compensate for sagging. Yet here, too, another error lurks. Maintaining a hundred metres of track that is unevenly and actively settling, is more expensive than to keep up a kilometre of track with a stable earthen bed, a situation that has prompted a radical review of railroad design and construction policy as it now exists under similar conditions in, among other places, Yamal, Yakutsk and Yamburg.

The proposed changes amount essentially to the following. In areas with icy, sagging soils found during engineering surveys, the permafrost must be protected, and thawing avoided, or these soils must be changed during construction. Three or four years after a line has been built, in places where embankments have sagged noticeably and unevenly (and such substances cannot be guessed in advance, owing to sparse engineering/geological sampling), builders conduct repeat surveys and then develop a design to overcome the sagging, using structures to counteract deformation.

Stabilizing materials suitable for use include peat, screened stone and foam plastic. Where, and to what extent, sags are to be eliminated, is obvious. The task, however, is clearly beyond the strength of the operating staff: the total length of the track sections needing repairs to uneven sagging, is over two hundred kilometres! The Ministry of Railways must therefore enlist subsidiary design and construction units of Mintransstroi [The Ministry of Transportation Construction USSR] to address the problem. Only in this way will we be able to achieve stable embankments on the Central and Eastern sections of the Baikal-Amur Main Line.



Another necessary measure will involve the restoration of plant life in the zone adjoining the embankment and water drainage. Where uneven sagging or "mari" [shallow, often hummocky, bogs] occur, drainage ditches and shoulders often subside and are covered by water. The water, like the mineral soil on the surface, warms in summer several times more intensively than a shaded "mar'". Engineers have long known the benefit of strewing peat to prevent thawing, a procedure in fact recommended under the above conditions. As a rule, however, builders fill up low spots with anything they like, except peat. They use earth and gravel from open quarries, that is, stones with fine soil and clay. Quite a presentable picture results for the State inspection commission, but as little as a year later everything begins to cave in and drown because the thawing boundary has retreated several metres downward. The viscous mud on which the embankment stands, spreads far and wide.

Who can profit from disregarding scientific recommendations? Certain people, it turns out, can indeed profit:

- a) the design institute, in order to cover up mistakes in its work;
- b) the general contractor, to hide the mutilation of a "mar'" by heavy equipment laying embankments and putting in drains, bridges and other structures.

Thus, the Uralgiprotrans [Urals Main Institute for Transportation Design] Institute on the Tungala-Fevral'sk track section, which is now being put into operation, did not specify culverts in all

natural depressions in the terrain (this portion of the line has about a third fewer such structures than it needs). In addition, a number of rivers and streams have been diverted and covered over with embankments, and bridges have been placed out of alignment with natural watercourses. All of this has led to deep thawing of the permafrost and to sagging. A similar situation has arisen on the adjoining track section, which will be put into operation later.

Employees of the Track Service and of the BAM construction management have to some extent contributed to the gravel/soil filling operations that have undermined track stability. The commission representing these people ordered that low spots be filled in with "non-draining" soil, which, as we have already said, the builders took to include even the fine earth and clay that they used. We would point out that peat could have been found anywhere within five hundred metres of the railroad. While we are on the subject, it would only have made sense to use the peat from the ditches that were dug, to bring it to the site in dump cars from other areas, and so on. All this, however, would require a departure from established, stereotyped technologies, to which the general contractor would be unaccustomed.

Specialists have long and insistently refused to pour gravel/soil on road shoulders in permafrost areas: the disturbed zone, they say, must be as narrow as possible. The Chief Track Directorate has now agreed to this requirement, but the building of shoulders, which increase the cost of the roadbed by about 20 percent, is continuing on the Amur-Yakutsk Main Line. Authorities have prohibited the felling of trees and bushes near the rail route,



but I myself witnessed, last autumn, the uprooting of a remaining forest outline at the Kamnega Siding. Tractors are tearing stumps out everywhere, although the builders have agreed that this is harmful. They, however, have no right to refuse this work, since it is in the design and checked by the customer. The right-of-way generally presents a dreadful picture: the living organism of the "mar'" has been crushed and buried under dead earth. The State commission, however, as formal acceptance practice has shown, does not notice this. Just who will stop the axe and bulldozer blade poised to strike the natural environment, if only on sections that have not been put into permanent operation?

The embankments are unfortunately not alone in their deterioration: a similar fate has overtaken the railroad cuts, where slopes have washed away and crumbled, silting up drainage ditches. Everything is flooded and frost heaving, track sagging and water over ice are frequent. The drainage situation is being aggravated by the power transmission poles, since they have been purposely placed directly in the drainage ditches, from which they must be immediately removed. A commission organized by the two ministries [Railways and Transportation Construction] had indicated that the design institutes and the general contractor should plan and implement a set of measures to repair deformations (even on track sections already put into permanent operation) in about thirty cuts. This will be a major operation, but because the Ministry of Railways has not become involved, no one has begun it. Resources are needed to accomplish the task, but they are not being allotted.

In order to eliminate all these deformations in the roadbed, we must develop special construction standards applicable to the Ministerial agencies concerned. As recently as a year ago, officials decided to prepare such standards, but things have gone no farther. Without standards, the design institutes know neither what to do nor how to go about it, since they have not previously run up against such a problem.

Two years ago, VNIIZHT [the All-Union Scientific Research Institute of Railway Transportation] took the initiative and presented to the Central Track Board a program to stabilize the roadbed on the Eastern and Central sections of the Baikal-Amur Main Line, but this proposal, too, sat quietly in the desks of the key managers. The cost of this work was to have been about 40 million roubles. Against this figure, we see annual unproductive operational expenditures, due to roadbed deformations, of over 10 million roubles. Obviously the game is worth the candle.

Nowadays the press often voices the opinion that the resources invested in the Baikal-Amur Main Line have been squandered. In rebuttal, I would cite the dictum at the beginning of this article and stress that I consider this railroad to be the common property of our many ethnic groups. It will bear fruit for future generations like a garden that has been planted. It must, however, be put in order. Inaction here will be ruinous. Only if the Baikal-Amur Main Line remains as an individual



administrative unit, that is, if it is not divided among other railroads, can it be brought to its required technical state.

Gudok

6 January 1989

Page 2 (Complete text)

TRANSPORT WATER

First Trip to the Arctic

The Tiksi, a reinforced ice-class motor ship, has opened this year's Arctic navigation season. The ship's crew navigated it today along the Northern Sea Route, bearing different cargoes for industrial enterprises in Siberia.

Pravda

7 January 1989

Page 2 (Full text)

Ice Watch Is Concluded

(Tass report)

Far-Eastern seamen are concluding their ice watch in the Bering Sea. The last ship of the year has been berthed at the Chukchi port of Egvekinot. Having committed themselves to handling the cargo ahead of schedule, dock workers are unloading the ship in accordance with a new flow chart. Such organization of operations, the introduction of cost accounting, and port mechanization have made it possible for dock workers to economize a total of over 2,000 ship hours of layover time during the



short Arctic navigation season. As a result they received tens of thousands of rubles of additional profit.

Vodnyi Transport

6 December 1988

Page I (Full text)

Learning From Their Mistakes

The USSR Ministry of the Maritime Fleet has taken stock of the 1988 arctic navigation season. N. Tsakh, head of the Main Administration for the Dry-Cargo Fleet, spoke to our correspondent, S. Parshikov, on the significance of these results.

N. Ts.: This year's freight shipment plan in the Arctic Basin was fulfilled by 102.5%, for dry freight by 102.5%, and for oil freight by 101.6%. However there was a decline in the volume of the arctic shipments in comparison with last year's results.

The basic conclusion is that due to ice conditions, the last navigation season in the eastern arctic was one of the worst in recent years. Due to prolonged and adverse winds, the northern coast of the Chukchi Peninsula was completely blocked by consolidated perennial ice. The area of the ice mass in Long Strait in July-August twice exceeded the norm. On the leg between Cape Billings and Kolyuchin Island, icebreaker assistance was required throughout the entire navigation season.

The first convoy made it to Pevek on June 30, instead of the planned June 5. Ships for unloading at Cape Schmidt and along the Kolyma [River] were late by 20 days. The delay in their return to home ports for consecutive trips resulted in their being way behind the freight-shipment navigation schedule between Far Eastern ports and receivers in the central and eastern arctic. The situation was complicated by the ongoing reconstruction of the port at Zelenyi Mys.

C.: Tell us please, if only in general terms, how the steamship line fared and could you spotlight crews who have especially distinguished themselves?

N.Ts.: It must be stressed that seamen shouldered the main burden. The steamship lines basically made sure ships were presented for loading in sync with the navigation schedule. Ships of the "Noril'sk" and "Mikhail Strelalovskii" type made 58 runs and carried 65% of the entire volume of freight to the central and eastern arctic. A number of ships of the "Noril'sk," "Anderma," "V. Burkhánov," "Nizhneyansk," "Bratsk," "Anadyr" and "Okha" type made 3 runs each. Overfulfilled by 13% was the planned delivery by supertonnage ships of necessary goods to Kolyma Bar, where 51,000 tons were transhipped to the small-tonnage fleet. This made it possible to reduce the volume of transshipment at the port of Pevek.

The redestination of cargo originating in Leningrad from Pevek and Kolyma to Murmansk and Kandalaksha markedly improved the utilization of the Murmansk Marine Steamship Line's "Noril'sk"-type ships.



C.: Ports and particularly dock-workers' and mechanics' teams have evidently contributed to successful work. Any observations here?

N.Ts.: A decline in unproductive downtime at home and arctic ports (with the exception of Tiksi and Zelenyi Mys) has been achieved. The work of teams from Murmansk and Vanino has markedly improved; the gross handling rates at these ports have increased by 30-32%. Pevek functioned stably during the entire navigation season. 25 transports were handled at Cape Schmidt's ice wharf. Gross and net handling rates increased on the Ryveem River as a result of the commissioning of oil and dry-cargo ice wharves.

But I would like to speak also about mistakes, from which as you know, we learn. Results indicate that the frequency of ice related accidents has risen: 53% of ships have been damaged by ice. According to preliminary data, thousands of metres of outer hull plating with framing are needed to correct this damage.

It's disturbing to note that the calculated start of the navigation period was incorrectly determined, with no account taken of the growing productivity of the ports at Pevek and Cape Schmidt or of the effect of the implementation of measures contemplated in the course of preparation for the navigation season. It should be noted here that due to a lack of regular aerial reconnaissance and reliable ice forecasting, an assessment and determination of when to commence navigation in this region remain extremely subjective. Next year's navigation schedule should be calculated on the basis

of the weighted mean of ship arrival times in accordance with the results of the past 10 years: for Pevek - June 15, for Kolyma Bar - June 20, for Cape Schmidt - June 30.

Some items included in arctic measures were not fully implemented. For example, the Murmansk Marine Steamship Line delayed the departure of the icebreakers "Murmansk" and "Lenin." The Far East Marine Steamship Line delayed the departure of icebreaker "Moskva;" the same steamship line did not dispatch the diesel-engined ship "Akademik Raspletin" on the arctic Pevek-Kolyma line, which was one of the reasons explaining the winter stay on the Kolyma of 914 big-tonnage containers.

The Yakut Maritime Transport Production Association disrupted the schedule for delivery of ships (meant for shipment of freight to Kolyma and Indigirka) to the port of Vladivostok. The Sakhalin Marine Steamship Line was late in sending the diesel-engined ship "Kemerovo" to the arctic.

The most recent arctic navigation season aggravated the problems of icebreaker support in the eastern arctic. The breakdown of the "Ermak" and the "Vladivostok," in addition to the over 2-month delay in repairing the "Moskva", hampered the provision of escort services, which also indicates the existence of an insufficient number of icebreakers, especially of the shallow-draught variety.

The situation with respect to the shipment of export lumber from Igarka has become especially acute. Unfortunately, handling of timber carriers is getting worse here year by year. Special attention must also be given to qualitative repair of this



fleet, and to more uniform presentation of these ships on the Yenisei River during the navigation season.

There are still a number of problems related to the handling of tankers at the USSR State Committee for the Supply of Oil Products' Novoarkhangel'sk oil installation. The most important of these is the unloading at oil wharves of oil drums originating from the arctic. The drums, including those that have not been degassed, are kept for a long time on the wharves and are a serious hazard to tankers. Furthermore, the unloading of dry-cargo ships at oil wharves has led to sharp increase in unproductive tanker downtime.

I think these errors should be taken into consideration when working out a program for delivery of goods to the arctic in 1989. It must be borne in mind that in this conversation we have touched upon just a few of the many urgent problems. In other words, much work lies ahead.

Vodnyi Transport  
20 December 1988  
Page 2 (full text)

### Ships Are Readied

Nadym dockers will be readying 30 self-propelled and non-self-propelled ships for the upcoming navigation season. Right after the freeze-up, the composite ship repairmen's team, headed by captain mechanic V. Goncharenko, got down to the simultaneous conditioning of 5 towing ships. As early as the end of December it is planned to

present a fully conditioned RT-601 diesel-powered ship to the acceptance commission.

Vodnyi Transport  
20 December 1988  
Page 2 (full text)

### "Sevmorput's First Miles

There it is, subjugating us with its harmony, beauty, gigantic size and majesty: the nuclear-powered icebreaking/transport LASH/container ship "Sevmorput." An unfamiliar bright red hull and a snow white superstructure - this is how I first saw the "Sevmorput" as it returned to port from a trial run. The factory building standing adjacent to the berth seemed lilliputian by comparison. But then the B.E. Butoma Shipyard "Zaliv" has built bigger ships.

Nevertheless, "Sevmorput" is a special page not only in the shipyard's biography, but also in Soviet nuclear shipbuilding. What is more, it is without analogy in the world today.

There is much here that surprises and impresses. For example, the crew is protected against radiation in the event of any propulsion plant and ship emergency. Even in the event of serious navigation accidents and ship fires. In terms of navigation, "Sevmorput" has no limitations in comparison with regular ships. I learn from a conversation with V. Aldanov and M. Shumilov, second and third officers, that, for example, in order to fix the nuclear ship's position, its integrated



navigation system uses data from the most diverse systems, beginning with such a tried-and-tested method as astronomical position finding and ending with signals from artificial satellites. All information is summarized, analyzed and comes out exact as a result. For example, the electronic computer "Biryuza" calculates the nuclear ship's optimum course between A and B and plots its route along the orthodrome (great circle) with allowances made for the Earth's irregular shape (flattening at the poles). Long ocean journeys are thereby cut by hundreds of miles. And the helm order is supplied automatically. Dead reckoning is also done automatically using information from various systems, thereby increasing its reliability.

The ship has many unique features. Its 6 cargo holds can house 74 lighters (weighing up to 370 tons) or 1,324 containers. "Sevmorput's cruising capacity in terms of fuel is almost limitless. The ship will run 4 years on 1 fill. The ship, which is equipped with a four-bladed propeller with controllable pitch, can move at a speed of 20 1/2 knots. Possessing a 40,000-hp nuclear propulsion plant, in addition to a strong hull and bottom, it can penetrate ice up to 1 metre in thickness. The high level of automation and the wide use of computers ensure reliable machinery maintenance.

Trial runs are the most critical moments in the life of any ship. How did this first exam go for seamen and shipbuilders?

A. Ivlev, senior project technologist:

"Successfully, to say the least. Ballast trial runs were conducted. But in order to test the lashing systems, both lighters and containers were loaded and unloaded. It is gratifying that during the trial runs "Sevmorput" not only yielded, but even exceeded, designed speed by a quarter of a knot. Turning circle dimensions were maintained. In a word, steerability and navigational qualities were within prescribed parameters or even a little better than calculated ones. Shipboard equipment (nuclear steam-generating plant, main geared turbine, power station) functioned reliably and stably. We have received no unsatisfactory claims for the above equipment. Minor defects have been corrected."

During trial runs, radiation, noise and illumination levels were measured. Radiation conditions around the ship are unchanged and the level of radiation beyond the reactor is not above the usual background.

Additional radiation safety precautions have been taken in conformity with requirements of the International Maritime Organization's Code of Safety for Nuclear Ships and in response to the lessons of the Chernobyl' disaster. The reliability of the ship's hull and entire system is such that the nuclear steam-generating plant would be safe even in the event of the ship striking a shoal or else getting foul of or colliding with another ship.

Ship habitability and passenger carrying capacity fully conform to present-day requirements. Approximately 90 inventions were submitted during the five years it took to build the lash-carrier. Many



of these inventions were put into practice. This had a noticeable effect upon the quality and reliability of the ship's systems and gear, and improved its technical capability."

V. Smirnov, Captain of "Sevmorput:"

"I must confess that the trial runs somewhat exceeded our expectations. Despite its immense size, the ship turned out to be very maneuverable and, what is surprising for its great length - manageable. True, its maneuverability decreases at slow and astern speeds. And for this reason I would suggest installing a thrust unit. Incidentally, I am not the first person to suggest this. The trial runs once more proved the necessity of its installation."

The trial runs also met up with rough weather. It was very important for us to know the effect of strong winds on the steerability and maneuverability of the ship with its great wind plane [= sail effect/wind resistance].

And so the ship's turning circles in both normal and rough weather were almost identical. "Sevmorput" is a biologically clean ship. In other words, it has many advantages..."

A. Sevast'yanov, first officer:

"The ship has good navigational qualities; its machinery functions stably. It poses absolutely no threat to the environment. Important are the various ways in which the ship may be loaded with lighters, containers and other cargo. "Sevmorput" has everything necessary for the normal conduct of work and daily life of the crew. Nevertheless, we

submitted many proposals on ways to improve the ship's habitability; we suggested various mechanisms and the conveniences that would be afforded through their use. Shipbuilders are considering our concerns. All command personnel reside in single-bed cabins. Ratings are likely to be put up in two-bed cabins. I feel this to be a shortcoming."

V. Khanlarov, senior marine engineer

"Sevmorput's" nuclear steam-generating plant is similar to those installed aboard nuclear-powered icebreakers, only a notch better, with many innovations. The ship is run from a central control platform and provides a 16-hour cycle of unwatched operation. The nuclear "heart" [reactor] did its work in all modes of operation and did not draw any complaints.

I would note that the high degree of automation is dependent on a small number of people comprising the radiation protection and mechanical services, in addition to instrumentation."

I should add that Valery Genrikhovich has adequate experience in servicing nuclear steam-generating plants. He was senior marine engineer aboard the icebreaker "Lenin."

The birth of the first nuclear-powered supership was an important challenge for the entire Soviet shipbuilding industry, not to mention the B.E. Butoma Shipbuilding Yard at Kerch'.

N. Volkov, yard director:

"Sevmorput" is the product of the output of 250 across the country. Some of this produce is



unique and proto typical, made on special order. It includes turbines, a main geared turbine, a shafting line, an integrated navigation system... In one word, "Sevmorput" represents a coming together of technical innovations and innovative ideas. It is, in addition, an example of good and mutually beneficial intergovernmental cooperation. West German, Swedish and Finnish firms participated in the ship's construction. The Finns, for example, erected a crane rated at 500 tons. The "director" of this giant rolling along the rails of the deck is an electronic computer in whose memory is stored such data as the location of lighters and containers, their unloading sequence and so on."

I first made mention of the ship's unusual colouring. And so the Finnish-made "Inerta-160" paint applied to the lower portion of the ship's hull cannot become overgrown with algae and mussels, is self-polishing and cannot be stripped off by ice. It's symbolic that "Sevmorput's" completion comes at a time when the yard is celebrating its 50th anniversary. Some important landmarks in the yard's history include the "Krym" series of tankers with 30,000-hp steam-turbine plants and the ecologically clean "Pobeda"-type tankers.

...On the eve of the New Year shipbuilders handed over the "Sevmorput" to the Murmansk Marine Steamship Line. Questions relating to the preparation of ports at Vladivostok, Nakhodka, Vostochnyi, Magadan, Petropavlovsk-Kamchatskii and Pevek to receive the nuclear-powered lash-carrier have been discussed. "Sevmorput" is now sailing from Odessa to the Port of Haifong. After unloading in Vietnam, the ship will take on lighters bound for

Vladivostok. Its next job during the winter months is to work as a container ship on the Vostochnyi Port Magadan line.

Vodnyi Transport  
19 January 1989  
Page 3 (full text)

#### Icebreakers Escort Convoys

The recent cold snaps, snowfalls and harsh, gusty winds from the Baltic have not disrupted the rhythm of the transportation conveyor in the northwestern part of the country.

Icebreakers have done their part to ensure the timely interaction of inland waterways workers, railwaymen and motorists at the junction points of sea and land arteries. Yesterday they escorted this year's first winter convoy of dry-cargo ships to the seaports of Leningrad and Vyborg. Their path to open water (situated not far from Kronstadt, abeam of Seskar Island) is being cut by the icebreakers "Kapitan M. Izmailov" and "Ivan Kruzenshtern."

Trud  
17 December 1988  
Page 2 (full text)



MISCELLANEOUS

Perestroika in the Komi ASSR: A Cooperative Store in the Taiga

Candy canes, sugared nuts, men's jackets, cut-rate pants, and at worst, overdone shish-kebab for nearly a king's ransom.... This is how we sometimes look at our cooperatives' contribution. Here, however, is something quite different - the "Timan" Cooperative has taken paths hitherto untouched.

First of all, it transferred a plant for producing crushed stone, which had stood dozens of kilometers away, to a quarry, and built a settlement nearby. Briefly, in preparing to tackle the absence of roads, they concentrated all their forces.

The distance from the capital of the Komi Republic to Ust'-Kulom was two hundred-odd versts [about 215-plus kilometers] through the taiga. A recently-paved asphalt road cut through the forests and ended at the District Centre. After that? After that, problems began.

The District, which has highly abundant forest resources, cannot produce anything from them because it has no industrial plants. The agricultural sector is also weak, and furthermore, the losses of everything that is collected on the fields, are substantial. Some villages have neither radio nor electricity. One is not surprised that people, especially the youth, have tried to leave this primordial Komi land.

"All of our troubles stem from bad roads", complained N. Mikheev, the First Secretary of the District Committee [of the Communist Party]. I won't say that we've sat on our hands. We opened a quarry and built a crushed-stone plant on the outskirts of the district centre. We did a few things with our own resources. But all of this is depressingly slow. Sometimes you think, that at this rate, we'd need a whole century to build a road to an outlying state farm. But we can't wait: the time limit has run out. So we supported the Timan Cooperative, which was organized last spring and attached to Komi Motor Road Corporation, which sent one of its teams to the district. From the outset the members of the Cooperative gave us good lessons in management.

Here was one such lesson. We had to close down both the crushed-stone plant and the asphalt concrete [paving asphalt] factory, since they were both losing money. Our production here was 4,500 tons of crushed stone a year. Officials gave some equipment to the members of the cooperative. The latter took a look at it, dismantled everything and carted it off to the quarry. Why, they thought, drive stone transport forty kilometers back and forth when we can deliver the raw material in the quarry over a distance of only a hundred meters?

In an open area at the entrance to the quarry, Cooperative members quickly assembled and started up two plants. In little more than half a year, they got over a hundred thousand tons of end product, many times more than the State enterprise had produced in a year. The installations operated round the clock.



At dusk on the short day preceding the New Year we only rarely met vehicles on the taiga road. Unexpectedly in front we began to catch the gleaming headlights of powerful KrAZ [Kremenchug Truck Plant] trucks carrying sand for pouring on the roadbed.

"Those are Cooperative trucks", explained the District Committee Secretary. "Look, the sides of the truck bodies have been built up so that they can carry more. Would they do that at an ordinary truck enterprise?"

To be their own boss is what drew many people to the Timan Cooperative. Here, this dream is fully coming true. Take, for example, even the timber growing on the quarry surface.

The workers built a small temporary sawmill and sawed each log into boards and squared beams. From the materials that they made themselves they built several houses, a dining hall, a bath house, and a storage building for vegetables, and are now completing a health complex. Briefly, nothing goes to waste. They have even started up a small pig farm. You can see business savvy in other things as well. People took their Kraz trucks virtually from the scrap heap. They overhauled them, and the vehicles are still running.

They did not, of course, manage without help from the State. M. Alekseev, Cooperative Chairman, explained: "Besides leasing equipment from the Komi Road Corporation, they took out credit at the bank for 700,000 roubles to acquire fixed assets. As for wages, they earn them. They introduced a workday [a unit of payment on collective farms]. Individual wages, including a bonus for the year's results, averaged as high as thirty roubles per shift.

Even now the Cooperative is meeting the district's needs for scarce crushed stone, and made from granite at that. In the spring, officials anticipate beginning to ship it from here on the Vychegda River to other districts in the Republic, and are building a wharf for this purpose. They sell their output at the State price, which is much cheaper than it was when crushed stone was taken from Ukhta and Vorkuta.

At the same time, problems do crop up in the Cooperative's road-building work. But the Cooperative's appearance in the heart of the taiga is a good sign of the year now drawing to a close.

Pravda

31 December 1988

Page 1 (Complete text)



BAIKAL-AMUR RAILROAD... ON THE AUCTION BLOCK?  
Will Our Descendants Forgive Us for What We Did to a  
Railroad That Was Once Proudly Called the "Main Line  
of Courage"?

At a recent municipal report-back Party election meeting in Tynda, delegates heatedly discussed remarks made at a meeting of the Collegium of the USSR Ministry of Railways to the effect that the Baikal-Amur Main Line [BAM] was incurring annual losses of approximately 200 million rubles. There are two ways out here. Either the line before the end of the five-year plan should (a) cease being a money-losing operation by cutting its enormous expenditures and building up the volume of its operations, or else (b) a decision should be made on its reorganization through apportionment of parts of the line to neighbouring railway lines (Gudok, September 20). The meeting's participants unanimously came out against reorganization of BAM and decided to send their resolution to the CPSU Central Committee and the USSR Ministry of Railways. Some hotheads, feeling that a resolution was not enough, suggested going further, saying it was necessary to create a "front in defense for BAM" and to hit the streets with banners.

I'll say right away that things have not got to this point yet. But people are indignant: why is the fate of this line, with which are bound the interests of the entire region's populace, being decided in secret? Why has the USSR Ministry of Railways asked neighbouring lines to agree to the acceptance of sections of BAM without querying BAM people themselves?

### There are Grounds for Concern

Not long ago, one of the line's senior officials called the USSR Ministry of Railways to verify equipment delivery times, but at the other end of the line there was genuine astonishment: "What deliveries? You're being dissolved!"

Evidently, it's one of the two: either some ministerial staff members feel that the proposal made at the meeting of the Collegium of the USSR Ministry of Railways to be a fait accompli, or else they are using the situation to relieve themselves of any responsibilities with respect to BAM. All this complicates work, especially now, on the eve of BAM's placement into permanent operation.

Let's give it some thought: can BAM become profitable by the end of the five-year-plan? To start with, from where do its losses spring? It is a modern enterprise. large, technically well-equipped engine-houses; powerful boiler units with the latest machinery; diesel locomotives produced especially for BAM - there's no need to enumerate everything. And all this is expensive.

Suffice to say that by the end of the five-year plan, the line's fixed capital will amount to that of the Far Eastern, Transbaikal and East Siberian Railroads taken together. Amortization deductions at BAM amount to just a little less than half of all operational costs. Costs are also high because the line has contracted 60% of the staff required under normal operation, whereas traffic is so far only 10% of planned volume. The point is that the requisite staff depends not only on traffic volume, but also on the length of the line and the



number and complexity of its installations. Here drastic cuts in manpower would be very difficult to effect.

Keeping people fully occupied is another matter. In other words, increasing traffic volume. But here it doesn't hurt to gather momentum, as they say. The line is still under construction. It is a giant building site. Two sections have still not been put into service. And this represents 550 of the entire 3,200-km line. Nevertheless, BAM is today ready to take on transit traffic between Lena-Vostochnaya and Komsomolsk-na-Amure. 1-2 trains for the present, 20 and more later on.

Coal-train runs from Berkakit through Tynda to the east and west have already been tried out. These runs must be made regular. Shipments of southern Yakut coal and lumber from areas adjacent to BAM might also be increased as a result of the development and construction of branch lines. This would provide additional profit.

Operational costs may also be decreased by improving production and administrative structures and through better economic management. Sizeable savings will most likely be made through more efficient work organization, more efficient use of equipment and facilities, and the elimination of flaws and train crashes.

A major discussion took place on this topic during a technico-economic meeting held at the headquarters of the railway administration, to which all services presented their estimates. Many ideas were voiced, i.e., integration of all districts of civil workings into one powerful trust, elimination

of railway overhaul workshops at Evoron overtaking station, preservation of individual facilities and railway lines. Unused production assets could be leased; empty plants could be put to new manufacturing uses. An opinion was expressed to the effect that it would be worthwhile not to go ahead with the construction of some facilities (these being mostly depots and maintenance shops). But BAM manager V. Gorbunov immediately rejected this proposal: "BAM's future will not be sacrificed to immediate advantage."

But he supported the idea of addressing a request to the USSR Council of Ministers to reevaluate fixed capital. It is presently valued according to the old [expense-oriented scale]. Fixed capital value includes, for example, expenditures on the construction of all kinds of temporary structures, temporary roadways, ports, berths - everything to which the railroad bears no relationship, but for all of which it nevertheless pays.

But we'll look truth in the face: all these measures will not remedy the situation. Losses of course will be reduced, but the line won't become profitable. Nor can it be expected to. After all, it's a pioneer line and freight-flow will increase with the development of bordering regions.

At the same meeting, I. Minenkova, assistant head of the economic service, quoted representative figures. According to economists' calculations, subsidies earmarked for BAM will increase until 1990 and will amount to 248.5 million rubles. They will then gradually decrease. Whereas in 1989 (the year BAM is put into operation) 76% of fixed assets will comprise subsidies, in 1995 they will fall by a



factor of 3. By this time the railroad's expenditures will amount to 593 million rubles, with revenues amounting to 417 million rubles. In other words, there will be a more than six-fold increase in revenues.

This is at existing rates, which do not make allowance for the cost of transportation. You will agree that it differs in the centre of the USSR and on BAM. For some reason, the customer pays somewhat more for southern Yakut coal than he does for coal from Kuznetsk Basin, this even though railway transport costs are the same for both.

Rates must be changed. But this is a long process. What is possible though is to give BAM a higher coefficient through the distribution of revenues. Specialists have calculated that if in 1990 (from the first year of full regular operation) BAM receives a coefficient of 3, in 1995 it will be possible to reduce it to 1.59. This is a little bit more than what the Far East Railroad receives today.

BAM will cease to be subsidized once the coefficient is introduced. True, only in form. The coefficient is the same subsidy, only hidden. In order to become profitable in fact, the line needs a pulsating rhythm of traffic flow and good car utilization. Opportunities for this exist: following commencement of regular operation, BAM will immediately reach the network mean in terms of the most important indicators. And such indicators as service speed, gross trailing load and locomotive and car capacity will be even higher here than in many other places. BAM is almost 500 km shorter than the Trans-Siberian railway, which means freight will reach its point of arrival days earlier.

One Question: What to Carry?

After all, they've so far not really proceeded with the economic development of the BAM zone or with the exploitation of its rich deposits, in which all of Mendeleev's periodic table is stored. Rail transport of oil, which had been projected during substation of the project, is no longer being planned. But there would appear to be other opportunities. BAM could take on some of the Trans-Siberian railway's freight traffic. Railway traffic on the Trans-Siberian line is clearly congested. "Traffic jams" often form as a result of ongoing line reconstruction and modernization, and consignees are waiting months for their cargo to arrive.

Another possible way to increase traffic intensity on BAM is to develop international transportation links. Japan is at this moment ready to let its Europe-bound transit goods and tourist trains use BAM facilities. The concept of a transcontinental traffic conveyor has aroused the interest of other countries as well.

Some might object: what are you talking about?, after all, there is the Law on the State Enterprise which states that unprofitable [enterprises] are subject to liquidation. But can this law be applied to a railroad that is still being built? Let's assume it can. What then? Is BAM to be disbanded, deleted from reference books and erased from memory? And will our descendants forgive us for these actions?



Surprisingly, included among supporters of such a decision are some of those who only yesterday glorified BAM as a symbol of courage and heroism, and who loudest of all shouted: "Get on with the main line of the century!" Today they have "restructured" and shout with the same readiness: "This is a risky venture!" As if in collusion, journalists from various newspapers keep reminding us that "BAM is a mistake, a road that leads to nowhere and which needs no more of our money..." Sometimes the argument goes like this: sausage is getting more expensive, there's no money with which to purchase meat from abroad, and we're building BAM... Narrow-minded logic to be sure, but one that persists.

And what is particularly distressing is that nobody is bothering to object or raise a fuss. The USSR Academy of Science's scientific council on BAM - which all these years has been painting us pictures of the bright prospects that awaited Siberia and the far East with the construction of a second Trans-Siberian railway - has ceased to exist. Scientists have also restructured, writing volumes of scientific studies on BAM, defending hundreds of dissertations, altering their line of inquiry and that mess they managed to get themselves into and which they've left to others to get out of.

The Central Committee of the Komsomol [All-Union Leninist Communist Youth League] is also taking the catastrophic decline in BAM's prestige extremely calmly - a railway of which it was so proud. The Komsomol's biggest construction project was not even recalled during the celebration of this organization's 70th anniversary.

In general, everyone adopted an attitude of indifference and left the matter to the USSR Ministry of Railways to decide. The paradox is that a single department [USSR Ministry of Railways] is left to decide the fate of a railroad which must become the first step in the fulfillment of a State, and hence non-departmental program for the development of new regions.

And so it agonizingly seeks ways to rid itself of the heavy burden that is BAM with its losses and very complex problems, and which will certainly take more than one five-year plan to resolve. But does the answer lie in the proposed reorganization?

To be honest, the situation really became more than strange after BAM was awarded the Challenge Red Banner of the USSR Ministry of Railways and the central Committee of the Trade Union of Railway Transportation Workers on the basis of the outcome of All-Union socialist competition: award, then... liquidate!

Let us turn to the language of facts and figures. What will reorganization give? A savings of less than 3 million rubles as a result of the elimination of the railroad's administrative apparatus. What will be done with the remaining 232 1/2 million rubles in losses, which, for example, are projected for next year? They will obviously have to be covered by the earnings of the three neighbouring railroads, among which it is proposed that BAM be shared out. And are these earnings substantial? The Far East Railroad, for example, is considered profitable thanks only to its use of the income distribution ratio, which is 1.55. By adding



a portion of BAM to its balance sheet, the Far East Railroad will obviously not be able to make both ends meet and will be forced to ask the ministry for an increase in the income distribution ratio. So would it not be simpler to give it to BAM?

Switching the positions of course does not change the sum. And it's a waste of time to believe that by replacing one owner with three BAM will become profitable. The losses will be the same - they will simply be hidden.

How would neighbouring lines profit from this action? Why hang a stone around their necks? Point being, the stone's in a gem setting. There are things which BAM can make money off of (do forgive me for the expression): the latest equipment and technology; materials in short supply. After all, quite a bit of money is still available: according to plan, another 1.6 billion rubles remains to be appropriated. Only for....the Trans-Siberian railway. There are a lot of bottlenecks here, you see.

Generally, the new line could turn into an appendage of the Trans-Siberian railway and people would start to disperse... Could it be that nobody is concerned about this? Maybe the builders of this All-Union top-priority construction project. What's it like for the person who gave BAM the best years of his youth, his strength and his health, working honourably throughout three five-year plans, to learn from the newspapers that he built a "monument to stagnation?"

V. Degtyarev, head of BAM's construction board, figures that "In the course of reorganization,

builders and operators come up against a lot of difficulties with respect to engineering design, examination of cost estimates and designs, planning and financing. Imagine having each piece of paper submitted for approval in three places. What a waste of time that would be! And what about equipment? A pile-up would result. We have over 300,000 designations. The confusion would lead to disorganization at the building site. And this during a period of mass commissioning of projects. BAM's completion would be prolonged as a result."

And there may possibly be nothing left to complete. Everything will be left as is. The new owners may need neither the carriage depot in Tynda nor the double track on the Bamovskaya-Berkakif line... And then 50,000 builders from the entire design-industrial-construction enterprise "Bamtransstroi" [Suggested expansion: Baikal-Amur Railroad Construction-and-Installation Trust] will be forced to find other work. A collective of highly-skilled builders will simply cease to exist. Who will gain what from this?

The settlement of and provision of public services and amenities for each person here in the BAM region costs 20,000-odd rubles more than in the midsection of the country. Let's multiply that by the number of those who have left and the number of replacements. Incidentally, the following figure was cited in Izvestiya: 5 billion rubles of government cash wasted over the past two five-year plan periods as a result of thoughtless shuffling of cadres.



And So What Is to Be Done?

I don't think the sleepy silence can last too long in these parts. Industrial enterprises will be built here; it's getting more difficult to find space for them out west, where some areas have become over-industrialized. Soon people won't be able to breathe because of the noxious emissions of industrial giants. But out here in the east we have a vast territory where in pre-BAM times, the density was 1 person per square kilometer. There is room for expansion here. And for the time being there is a builder. This expansion has been outlined and planned in accordance with a long-term comprehensive program for the development of the productive forces of Siberia and the Far East in the period up to the year 2000. BAM lies at the core of this program. And it would only be fair to have the newly-built railway line subsidized not by one, but several departments, who, in fulfilling the program, are responsible for developing the BAM zone. This will compel them to more energetically get on with their work in the east.

Be that as it may, before deciding whether we need BAM we must decide the bigger question of whether or not we need a "Far-East" State program. Will we fulfill it? Because if we do need it, will it be minus its first line, minus BAM? And if we don't need it, we must come clean before the people and say: Sorry, you were invited here by mistake. The Far East doesn't need your help for the time being; let the "deposits" remain "sealed" pending better times. And let us not compound our mistakes by investing money in a useless railroad, building cities with no future, or erecting houses for nobody.

This problem must be resolved from a government standpoint, in the interests of our entire society.

Gudok

8 December 1988

Page 2 (slightly abridged)

Highway Along Baikal-Amur Main Line (BAM)

Road-building detachments have set about rebuilding a temporary highway along BAM's central leg. The decision to build the new high-way was made in time: this summer the existing highway became impassable westward of Tynda. First to begin work on reconstruction of the highway were experts from the "Mostostroi-10" [No. 10 Regional Administration for the Construction of Bridges] Trust. They were starting on the construction of several major bridge crossings over a most capricious river. In 1990 the highway will be opened to traffic year-round for a distance of almost 400 kilometres right up to Yuktala Station.

Sovetskaya Rossiya

1 December 1988

Page 1 (full text)





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