DEPARTMENT OF
EXTERNAL AFFAIRS
OTTAWA,
CANADA

INI SN10/88
DATE 10 March 1989
COPY 24

EXTRACTS FROM THE SOVIET PRESS ON THE SOVIET NORTH AND THE ANTARCTIC

OCTOBER - 1988

Comments or queries regarding this publication should be directed to

Department of External Affairs, INI
A-2 Lester B. Pearson Building
125 Sussex Drive
Ottawa, Ontario
K1A 0G2

TABLE OF CONTENTS

Page No.

THE ANTARCTIC

From the Banks of The Neva River To The Distant Antarctic..... 1
Polar Explorers From The GDR And India. 2

ARCTIC DEVELOPMENT

Meeting On The Ice..... 4
Setting Up A New Drifting Research Station..... 6
Polar Watch..... 13

CONSTRUCTION

Is Leonid Nesterchuk To Blame?..... 15
A Supermarket on Yamskaya Street - Tyumen'..... 19
To The Place of Assembly..... 20
A First In the Polar Circle..... 21
The Country's Housing Programme to the North and South of Tyumen'.... 22

ENVIRONMENTAL PROTECTION

Scars Around the Baikal-Amur Railway..... 39
An Ecology Centre in Nadym..... 44

OIL & GAS

Streams of Gas..... 46
Junction..... 62

Page No.

POWER GENERATING STATIONS

The Story Of A Very Long Energy Project..... 63
Kureika: A Second Hydroelectric Unit..... 67

TRANSPORT AIR

For the Sake of .03% Problem between Aldan and Neryungri Air Detachments..... 69
From the Wholesale Market to Northern Tables..... 74
Why Did the Plane Crash?..... 77
Course for Indigirka..... 80

TRANSPORT LAND

Those Long "Pencilled-In" Kilometres..... 81

TRANSPORT RAIL

Grain Shipments..... 86

TRANSPORT WATER

Supplying The Yamal Pipeline..... 89
Work Quotas Completed Ahead of Schedule..... 89
Tourism..... 90

Page No.

POWER GENERATING STATIONS

The Story Of A Very Long Energy Project..... 63
Kvesiksi: A Second Hydroelectric Unit..... 67

TRANSPORT AIR

For the Sake of .03¢ 69
Problem between Aldan and Neryungri Air Detachments..... 69
From the Wholesale Market to Northern Tables..... 74
Why Did the Plane Crash?..... 77
Courses for Indigirka..... 80

TRANSPORT LAND

Those Long "Pencilled-In" Kilometres..... 81

TRANSPORT RAIL

Grain Shipments..... 86

TRANSPORT WATER

Supplying The Yamal Pipeline..... 89
Work Quotas Completed Ahead of Schedule..... 89
Tourism..... 90

Page No.

MISCELLANEOUS

On The Kola Peninsula..... 91
A Cave Instead of a Refrigerator.... 92
Conclusions and Proposals on Transportation..... 92
An Unusual Run..... 95

Page No.

MISCELLANEOUS

On The Kola Peninsula..... 91
A Cave Instead of a Refrigerator.... 92
Conclusions and Proposals on
Transportation..... 92
An Unusual Run..... 95

ANTARCTIC

From the Banks Of The Neva River To The Distant Antarctic

A second group of participants in the 34th Soviet Antarctic expedition sailed from the Neva River towards the distant sixth continent. In September, one month earlier, an IL-18D plane flew from Leningrad to the Antarctic Molodyozhnaya station. In the Antarctic it will perform important research work as a flying laboratory. On board the IL-18D scientists will conduct a variety of air gravimetric, meteorological, and other types of studies.

Now there is another scheduled flight on this long-distance route. This particular flight is an IL-76TD with 85 Arctic researchers from the 34th Soviet Antarctic expedition on board. "It's interesting to observe", said Yury Zusman, Deputy Head of the Soviet Antarctic expedition; "that the volume of traffic on this route linking Leningrad and the Molodyezhnaya Antarctic Station is growing year by year. Air transport makes it possible to cut travel time drastically and to make use of the most favorable period of the Antarctic summer for efficient work, construction, and research. This year, for instance, over 350 Antarctic researchers have travelled this route in one direction alone. In addition, many of those who have completed their work with the 33rd Soviet Antarctic expedition have returned home by air.

Vozdushnyi Transport
22 October 1988
Page 4 (full text)

Polar Explorers From The GDR And India

Shirmakher's oasis in the eternal ice in the Land of Queen Mod. In the unique natural conditions of the Antarctic region, one of the oldest Soviet research stations has been active since 1961 - Novolazarevskaya.

On the basis of national and international programmes, we conduct year-round observations and many experiments in the fields of aero-meteorology, geophysics, glaciology, seismology, the condition of the environment, and other branches of the Earth Sciences. We serve as a base for field expeditions to the mountain ridges and lakes of the adjoining area of the White Continent.

Now we are extending our co-operation with specialists from the GDR. Last October, with some Soviet assistance, the first permanent station of this fraternal socialist country was opened not far from us. It was named after the outstanding German scholar Georg Forster, a naturalist, geographer, democratic educator and traveller.

Together with our German colleagues, we have drawn up and are implementing a topical programme to study the ozone layer. We regularly send up specially constructed probes. The telemetric information they transmit is received by radar. The incoming data is processed on a computer. Knowing the composition and distribution of ozone in the upper layers of the atmosphere over the Antarctic is of considerable importance for this significant scientific problem.

On the shore of the Lazarev Sea, on the gigantic shelf glacier of the same name, right next

to Cape Ostryi, the first Indian station, Dakshin Gangotri, was established five years ago. Its staff co-operates fruitfully with scientists from the USSR and the GDR. Scientific and technical information is exchanged by radio.

At the invitation of P. Ganesan, the leader of the Indian expedition, his base was visited by a group of Soviet and German polar explorers on three tracked vehicles. We shared in celebrations of the 41st anniversary of the proclamation of India's independence. The national flags of the three countries were flown. We learned about the research being done at the station, we visited the scientific facilities and laboratories, and we exchanged souvenirs.

The Republic of India intends to open another station, called Métri, in the area of Shirmakher's oasis. The location chosen is three kilometres from Novolazarevskaya on the shores of Lake Zub. Three snowmobile convoys from Dakshin Gangotri have already been through, delivering bulldozers, materials and equipment. We helped the Indians with our own means of transportation in the more difficult parts. We were delighted to receive these guests, we showed them our little research town, and we organized a film show. During our meetings it was stressed that successful co-operation, friendly relations and mutual assistance bring together the scientists of the USSR, the GDR and the Republic of India, who have become close neighbours in the Antarctic.

Vodnyi Transport
15 October 1988
Page 4 (full text)

ARCTIC DEVELOPMENT

Meeting On The Ice

After sailing for 10 days, the diesel electric ship, Vladimir Arsenev, accompanied by the icebreaker, the Admiral Makarov, is approaching its goal - setting up the new floating station, North Pole - 31. Making their way through heavy ice, these expeditionary ships are now in areas of the Arctic Ocean, where, according to experts, Soviet vessels have never been before.

This area, which is located beyond 76° longitude, north-east of Wrangel Island, is of great interest to science. The Arctic had a surprise in store for the explorers. An ice-floe on which the Soviet floating station, North Pole-25, had operated from May 1981 to April 1984, was encountered en route. The expedition leaders decided not to stop at the ice-floe, although this would have been fascinating. The group had to hasten to set up North Pole-31 as the daylight hours grew shorter and the weather more unreliable each day.

At first North Pole-25 was examined from a helicopter (Mi-2) dispatched from the icebreaker, the Admiral Makarov. The head of the new station, North Pole-31, V. Sidorov, a Hero of Socialist Labour who had opened North Pole - 25, was able to take a look at the station once again after so many years from the air. How many miles had it travelled in the ocean? Had any one been on it since its research group left it on April 23, 1984? At the time it was evacuated, the weather forecast was not good and both personnel and equipment were removed on AN-2 planes.

For this purpose a temporary airstrip was set up 70 kilometres away from the station.

The day after the helicopter flew over North Pole-25, another flight was made by an Mi-3 helicopter based on the Vladimir Arsenev. Its crew was headed by Yury Kharitonov, Deputy Head of the Air Navigation Division of the Magadan Civil Aviation Administration. On board was a group of Arctic researchers headed by V. Kiselev, leader of the expedition and head of the Sever Aviation group operating in the northern latitudes from the Arctic and Antarctic Research Institute.

Almost everything left behind on North Pole-25 was well preserved. Much of the station's property was of interest to A. Kudelev, the station's former mechanic, who was among the last to leave it in April, 1984, and who is now the head of the diesel-powered electrical station at North Pole-31. The most essential equipment was loaded onto the AN-2 at that time.

The Arctic complex, which includes a mess-room, a mechanical workshop, a diesel SKB* with a diesel engine still intact, and a galley, was elevated by nature onto a pedestal of sorts: over the past 4 1/2 years it has been raised to a height of almost 4 metres on a mushroom-shaped ice pedestal. A tractor was also to be found on an 'historical foundation' of this type. A piece of plywood in the

---

* Revisor's note: No expansion of the original Russian abbreviation SKS suitable for this context, is available.

messroom bore the family names and signatures of the crews of the An-2 which evacuated North Pole-25. A message to the finders of the station was left behind in a sealed bottle. The coordinates of the new location at which the station was encountered were added.

After everything that could be used on North Pole-31 was loaded onto the Mi-8, the helicopter returned to the Vladimir Arsenev.

The expeditionary ships arrived soon afterwards at the site where North Pole-31 was to be set up. The two crews from an Mi-8 helicopter bearing the number 22262 from the Chaun aviation organization, sailors, and Arctic researchers will now need to unload assorted items, large and small, scientific equipment, huts, and approximately 5,000 barrels of fuel.

Within the next few days, the Soviet flag will be raised over North Pole-31. It will begin its research work together with two other Soviet stations, conducting research in the Arctic Ocean, North Pole-28 and North Pole-30.

Vozdushnyi Transport
25 October 1988
Page 4 (full text)

Setting Up A New Drifting Research Station

In the cabin of our airplane there are just a few seats, and they are all taken. Sitting at the

front, I take in the unusual interior: the radar is set out right next to a hot plate, on which a pot is bubbling away, and the dining table's neighbour is an instrument panel. Can you imagine what this is all about?

It is an IL-14, an ice patrol plane. It has just taken off from Pevek and is headed due North. The task is to find an ice-floe for a new drifting research station - the "Severnyi polyus-31" ("SP-31" - "North Pole-31"). The station itself, with all the equipment and staff, will be delivered to the Arctic by a special vessel, the "Vladimir Arsen'ev", but first the unloading location has to be pinpointed. Hence our flight.

The flight is to be a long one, which is why the plane is equipped not only with flight instruments, but also with everyday appliances. And as the soup bubbles on the electric cooker, there is time to interview the director of the future station, Vasilii Semenovich Sidorov.

- Is SP-31 a "standard" station or is it special in some respect?

- We will be making the usual weather observations, but this time the station's personnel will also include geologists, as the polar marine geology expedition. Their goal is to study the bottom of the ocean.

- It would be interesting to know the SP's cost. Or is that a secret?

- Take a look - this sheet shows all the figures. The fittings, equipment and clothing will come to 1,250,000 roubles. Leasing the ship

and the ice-breaker - almost as much again. Delivering everything to the ice-floe costs 86,000. Food supplies amount to 66,000. 1,160,00 are set aside for transportation of equipment and personnel from Leningrad to Pevek. The search for the ice-floe costs 160,000. There is also an item called "Delivery to base of delayed equipment and personnel", that is, the cost of slipshod organization. There is a provision of 100,000 roubles, but we will not need it. The total comes to just over 4,000,000, but that only covers the organization of the station. Next year's maintenance costs are estimated to be in the range of 2.757 million roubles.

- Will this investment pay for itself?

- Definitely. The main return is successful navigation of the Arctic Ocean. The geologists paid our department more than a million roubles for the use of the base. In addition, there are many secondary sources of revenue. For example, in the spring we will be hosting producers and cameramen from NHK, the Japanese television and radio network. At SP-31 they will be filming one part of the documentary series "the Polar Circle". They are even planning to shoot underwater. The Japanese have already paid several tens of thousands of dollars for this.

Sidorov is a living legend. Inspired by the example of Papanin's team, he has crisscrossed the snowy routes of both the northern and southern polar caps. The "Vostok", "Molodezhnaya" and "Mirnyi" stations, and the base on Shackleton Ice Shelf are all the work of Sidorov in the Antarctic. He spent five winters at "Vostok" alone, the most severe spot

on our planet, and all five of them as the station's director. Sidorov started in the Arctic back with SP-4, he celebrated his sixtieth birthday on SP-26, and is now establishing the Thirty-First SP. For his outstanding contributions to Arctic and Antarctic development, Visilii Semenovich was awarded the title of Hero of Socialist Labour.

- SP-31 is not the end, is it?

- I think the time has come to wind down. Something has to be left for the young.

- Won't the Arctic be dull without Sidorov?

- But it won't be left without a Sidorov. My middle son has already wintered at Kotel'nyi and on Zhokhova Island. And just recently, when we were unable to recruit a hydrologist for our SP, the head of staff said: "What about inviting Aleksander Vasil'evich?". My "Who is that?" was answered with "Your son". I knew that Sasha had been dreaming of an SP for a long time, but he did not want to be selected on the strength of my prestige. Under the circumstances there could be no doubt that he had earned it.

We are carrying mail for SP-30 - letters, newspapers and parcels. The only way to deliver it is by dropping it from the airplane, because right now there is nowhere in the whole Arctic Ocean for a plane to land. So when we took off, it had to be decided what to do first - search for the ice-floe or make the drop. "First to the SP", ordered Sidorov. "That is a sacred task."

And now we are coming up to SP-30. All the letters, periodicals and parcels, together with fresh

newspapers we picked up at the air terminal news stand, are packed in barrels, with parachutes attached. This is an invention of the "Sever" expedition leader, Vladimir Kiselev. A young successor to Shmidt (for the first leader of this expedition was the illustrious Otto Yul'evich Shmidt), he has already crossed the Antarctic and managed to do a lot of useful work in the Arctic. Now Kiselev and his assistants are preparing the drop.

The plane flies over the station. What an expansion! Last year, at about the same time, I witnessed its unloading. Then there were just a few houses. Now it is an entire settlement.

That was a range-finding flight, and now the actual drop starts. At the blast of a siren, the door is opened and a barrel placed on its edge. The navigator waves his hand and over it goes. "How is the drop?" "Perfect!" This is repeated eight times, for there are eight barrels.

And now to find the ice-floe.

- Vacilii Semenovich, what are the criteria for choosing an ice-floe?

- It has to be many years old - the older the floe, the thicker, and therefore the stronger it is. The surface features of such ice-floes have been known for a long time: their hummocks have become smooth, taking on a soft, oval appearance, there should be lakes (frozen by now, of course) and even small river courses. They are bright blue in colour. The surface layer of such ice-floes consists of fresh water. This too is important, because a station needs a lot of water.

- And how does one choose the area in which to look for such an ice-floe? For the subsequent course of this ship of the elements is not known.

- In fact, it can be calculated to some extent - approximately, of course. Because we know the general direction of the drift in the Arctic Ocean. Moreover, our SP has thirty predecessors, and the itinerary of each of them was followed from start to finish. In our particular case, there are two main factors influencing the choice of a starting area for SP-31: first, we must find ourselves in the spring in the regions that the geologists want to study, and second, we must try to avoid running into Jeannette and Henrietta. These are two tiny islands of the De Long archipelago. At one time Henrietta broke up the ice-floe on which SP-14 was drifting, and the station had to be evacuated. This is why we need a floe to the north of 76 degrees.

- But accidents occur even without islands. Many ice-floes on which drifting stations were established, split into several pieces within a month or two.

- That is precisely why I will be looking not for an ice-floe, but for ice fields. When building a station, it is very important to have the area to create an ice strip. A single ice-floe, even a big one, provides no guarantees: a fissure may run through the strip, and then what can you do? But if there are several fields nearby, the strip can be created over and over again.

The plane in which we are flying belongs to the Kolymo-Indigirskii aviation enterprise. Its team

includes many outstanding pilots, with years of flying experience in the Arctic. One of these is Evgenii Ivanovich Solomchenko, captain of our Il-14.

- And who has the main say in the process of looking for a place to land on an SP? - I asked Sidorov.

- The main work is done by the hydrologist, for he is the expert specialist on ice. The Pevek hydro-meteorology centre has seconded Il'ii Mikhailovich Yakubov for the search. Of course, I will have the last word, because I bear full responsibility for the station. Naturally one also needs excellent pilots. But there is another aspect of the search: it is not only important to choose a good ice-floe, but even more important not to lose it. Just last year a good floe was found for SP-30, but when the ship reached the area and the time came to land, they could not locate it. They had to use whatever was on hand, and that has caused many problems. First the station was carried southward, and now it is headed straight for Jeannette. This is why I insisted, in my negotiations with the Kolymo-indigirskii aviation enterprise, that the crew's navigator be Arslanov. Vladimir Yakubovich Arslanov is a master at his work. With him navigating, not only will we find an ice-floe in the Arctic, like a needle in a haystack, but we will not lose it. As we approach the landing location on the "Vladimir Arsen'ev", Arslanov will be out on ice patrol every day to monitor the ice-floe and its drift.

The ice patrol plane will hug the Arctic Ocean, at an altitude of one hundred metres, for many hours to come. And tomorrow again. And the day

after tomorrow. In order to find, in that boundless icy expanse, the single ice-floe that will then become a stronghold for forty people.

The plane will be at work for a long time yet. But the polar explorers will live on that ice-floe for even longer.

- How long, in fact?

- That is a secret, - laughs Sidorov. - My wife has let me go for just six months, and if she finds out the truth, I will not get the time of day.

Vozdushnyi Transport
10 October 88
P. 4 (full text)

Polar Watch

The "Vladimir Arsen'ev", a Diesel-electric ship, sailed today from Pevek for the location of a new drifting station, the "Severnyi polyus-31".

Led by the ice-breaker "Admiral Makarov", this powerful ship, specially designed for work along unequipped Arctic shores, will have to cross the icy expanses of the Central Arctic. It is the first time that Far Eastern sailors have set their course for such high latitudes.

After passing Vrangel' Island, and to the north-east of it, they will unload personnel and equipment on drifting ice-floe SP-31 for yet another winter's scientific watch. These polar explorers

will observe the amazing Aurora Borealis phenomenon, they will study the Earth's magnetic pole and the relief of the sea bottom, and they will monitor the climate in the region, which is the "weather kitchen" for our planet's Northern hemisphere.

Pravda
8 October 88
P. 4 (full text)

CONSTRUCTION

Is Leonid Nesterchuk To Blame?

Last year, Tyumenstroi, a construction organization, failed to complete 10,000 square metres of housing in the region between Tyumen-Surgut-Novyi Urengoi on time. The same delays in new housing construction were true at Purpe, Pur, and Korotchaevo stations. The same situation has arisen at various construction sites this year.

"Tyumenstroi is not performing well. I have the impression that L. Nesterchuk, the head of the organization, isn't running things right", said V. Narbutik, deputy head of the Sverdlovsk Railway Line, pointing to figures illustrating the failure to use the means available to build housing, heating plants, schools, and other facilities needed by communities in the Soviet North.

The facts are disturbing, but in themselves they do not explain anything. There are other figures, too. Let us take this one, for example: the supply of bricks to construction sites. Only 18 million out of the 46 million bricks needed annually are delivered to construction crews. This is the cause of the constant delays on sites, leading to late completion of construction projects. In order to partially make up for the grossly inadequate supplies, sub units of Tyumenstroiput' traded bricks for wood in Moldavia, Kazakhstan, and other parts of the country. This year alone, mobile construction units nos. 329 and 269 based in Noyabrsk obtained 250,000 and 120,000 bricks respectively - materials needed for the construction of projects within the total building plan.

Centralized supplies of cement, metal, and construction details needed for large-panel construction projects are no better. With materials in such short supply, it is no wonder that construction plans are a continuing disaster.

How, then, can the senior management of Tyumenstroi, especially L. Nesterchuk, who only took on his present position in March, 1987, be blamed for the delays? Is it really his fault?

Leonid Nesterchuk can be found most frequently in Surgut. It might seem strange that he is not in Tyumen, the capital of the republic, where there is so much to do. Yet the most urgent business is now in Surgut. Crews and equipment are streaming into Surgut from a number of construction sub-units. This is not the usual push to finish a construction project on time. The task at hand is much more encompassing, even political in scope: will the high-speed development of the Tyumen area continue without a firm construction plan or will it finally acquire a solid, planned basis?

A factory for manufacturing large construction panels has been build in Surgut during the past 22 months - at least, its first stage is complete. The first test panels will be produced soon, to be followed by 75,000 square metres of panelling, or 1,500 apartments annually. In 1989 the second stage should be completed and capable of producing 65,000 square metres of panelling. Need we say how important this project is? The Surgut factory is a totally up-to-date enterprise with a fully mechanized and automated production line and excellent working conditions, containing the first covered warehouse for panel storage - at least the first at a factory belonging to the Division of

Large-Panel Plants within the Ministry of Transport Construction.

This is not everything Tyumenstroiput is doing to create its own housing and community services. There will also be a division for the production of polystyrol panel insulation at the Surgut factory. Production capacities for clayite and a unit for large-block construction are under construction in Tobolsk. Fundamental reconstruction of two brick factories is underway in Irbit and Nezevay.

We are now beginning to see the answer to our question about who bears the responsibility for the building materials shortage. Leonid Nesterchuk is not to blame. We could say a lot about delays and fiascos in the building industry. Every year crews could work overtime to complete projects by Dec. 31, but until a basic solution is found, the situation itself cannot be improved. Leonid Nesterchuk should be given his due. He knew in choosing this risky, but strategically correct path that no one would make excuses for him or try to understand why he sacrificed the completion date for a given project in order to achieve the major goal - after all the plan is all-important.

Of course, after creating the necessary material base, Tyumenstroiput will still have its problems. Who can guarantee that the Surgut large-panel plant will not suddenly have to shut down one day because it has no cement?

However, we're not going to try to read the future. Something valuable has been achieved after all! By all normal standards, the Surgut factory should have taken at least 5 years to build, yet it

took less than 2 years, even given the inevitable shortages of construction materials. An illustration of the situation which arose this past July when construction on the Surgut factory stopped due to a lack of cement was the ironic poster with the heading "Glory to the best workers!", and the announcement underneath: "No prizes for excellence due to non-completion of the plan for July by the entire sub-unit". All this has been overcome today. Only the finishing touches need to be added, and the final product will be ready for operation.

Naturally, the Tyumen transport construction workers alone could not have built the factory in such a short time. They were supported in their efforts by construction crews from outside organizations - Uraltranstekhmonazh, Transteplommontazh, Zapsibgidrostroi, Surgutdorstroi, etc. But after all, housing and community service facilities for the entire region will be constructed with panels from the surgut factory.

No, Leonid Nesterchuk can neither be blamed nor praised for his organization's work: he is only implementing the general plan for railway housing construction set out by the Ministry for Transportation Construction. He is displaying initiative, persistence, and cool-headedness even in the most difficult situation.

Gudok
15 Oct 88
P.1 (full text)

A Supermarket on Yamskaya Street - Tyumen'

A new and unusual commercial establishment is being opened for the 71st anniversary of the October Revolution on old Yamskaya Street in Tyumen'. Specialists from the Metallokomplekt engineering trust, of the People's Republic of Bulgaria, needed less than a year to build a supermarket with a surface area of three and a half thousand square metres.

Let us listen to the trust's manager, Ivan Netsov:

- Here in Western Siberia, our team represents the "Metallicheskie konstruktsii" union, which is quite well known not only in Bulgaria, but even abroad. It includes manufacturing enterprises, building organizations, and design and research institutes. The company's specialization is very broad, ranging from design and feasibility studies on the location of future structures, to the delivery of "finished turnkey" facilities. Customers just choose from our catalogues the facility that best suits their purse and their taste. We do all the rest.

To these words of I. Netsov I would add: "Metallicheskie konstruktsii" union is working in Western Siberia on the basis of a Soviet-Bulgarian inter-governmental agreement for the "Progress" gas line. In exchange for Yamburg's gas, the Bulgarian side has undertaken to provide Siberians with a number of rapid-assembly social and cultural facilities, and mobile manufacturing plants.

The Tyumen' supermarket is the first of these, so it is worth giving a few details about this new building. The store was assembled by about 80 workers in two brigades. The finishing work needed

only minimal time. All this was the result of the high degree of readiness of the light components shipped in from Bulgaria. The thousands of kilometres separating the source plants from the construction site were not an obstacle. As confirmation of this, we need only cite the fact that similar facilities take a year and a half to build in Bulgaria itself. The work is organized by the brigade contract method.

Shoppers' assessments will have to wait, but the opinion of Tyumen' designer Aleksandr Cherkashin is of interest. He and his comrades were entrusted with giving shape to the new store.

- I think that the residents of Tyumen' will be satisfied: both outside and inside, the building is fully in line with modern concepts of commercial architecture. That is what we tried to do with our design. We worked with double the pleasure, because there were virtually none of the usual problems with materials.

Stroitel'naya Gazeta
26 Oct 88
P. 1 (full text)

To The Place of Assembly

A unique operation, involving the delivery of an extensible bridge superstructure by water, has been completed successfully in Arkhangel'sk.

Specialists of bridge section No. 9, who are building a new bridge across the North Drive, have never before transported such a gigantic component by

water to the location of its installation. And they completed this difficult task in just one day.

In Arkhangel'sk, as in Leningrad and in other shipping cities, the bridges are drawbridges. At a specific time, they are separated by special lifting devices, and motor vessels pass through the opening. The bridge builders have to include such lifting devices in the bridge's towers or columns for the superstructure over the North Dvina's left channel, in order that ships might pass freely into the freight port of Bakaritsa.

But this will have to be done later - first it was necessary to deliver and install the superstructure itself. This operation was carried out by the bridge builders together with workers of the port's fleet. The extremely long superstructure was laid out on barges, equipped with supporting metal structures. And then the tow, in the hands of experienced ship's captain G. Larionov with a watchmaker's precision.

Stroitel'naya Gazeta
26 Oct 88
P. 1 (full text)

A First In the Polar Circle

"Arktiktiivi" is the name chosen for the first joint Soviet-Finnish enterprise in the polar circle.

The "Murmanskstroi" territorial building society and the Finnish company "Tiivi" have

concluded an agreement for the joint construction of a large plant to manufacture millwork products.

Under the agreement, two thirds of the production will be used on construction sites within the region, and the rest will be exported.

Pravda
26 Oct 1988
P. 1 (full text)

The Country's Housing Programme to the North and South of Tyumen'

In the issue dated 2 August 1988, we published an article in our new series "The country's housing programme. 'Stroitel'naya gazeta' journalists in the field". "SG" correspondents wrote about the problems that have to be overcome in Moldavia, in order to provide every family with an apartment or an individual home by the year 2000.

Today we invite you to read the next article in the series. This time the "SG" expedition went to the Tyumen' Region.

At our request, one week before the mission the newspapers "Tyumenskaya Pravda" and "Tyumenskii Efir" ran invitations to their readers to discuss urgent housing problems. Their offices, as well as the "SG" mission headquarters in Tyumen', received many readers' letters, which helped the journalists by suggesting topics and providing addresses.

The "SG" expedition studied the housing situation in the region, spending time in its various

districts. On the last day of the mission, there was a discussion on Tyumen' television between the "Stroitel'naya gazeta" journalists and leaders of the region's Soviet, party and economic bodies and organizations. The broadcast was live. In the course of the discussion new questions came in from Tyumen' residents, and many of them were answered. Extracts from this televised debate have been used in today's article.

1. Demand and supply do not match

"SG": On the basis only of the figures given in the draft programme, we did the following calculations. All in all, it is intended to build 830,000 apartments by the end of the year 2000. There are now 366,000 people waiting in line for housing in the region's town and factory housing estates. Subtraction gives 464,000 apartments left over. Now it has been estimated that the region's population will grow by one and a half million. With an average family size of 3.4, all these remaining apartments will be taken up by newcomers. This means that the draft does not provide at all for apartments for those now living in communal housing, or for rural inhabitants.

Yu. Rogachev, Vice-Chairman of the Regional Executive Committee:

- You did not allow for the fact that families often have not just one member in line for housing, but both the husband and the wife - each through his own place of work. This means that those in the queues will need considerably fewer than 366,000 apartments. Moreover, upon receiving new housing, a family frees up its

smaller, old apartment, which can then be occupied by a family with fewer members.

(Television studio conversation)

And yet the Vice-Chairman's arguments did not fully dispel our doubts. In the Russian Federation's housing programme estimates, the "Tyumen' Region" column shows a different figure: 879.4 apartments. Moreover, in the report to a session of the RSFSR Supreme Soviet, it was noted that the Russian programme had been drawn up on the basis of calculations made at the local level, and it was also stated that programmes had been worked out and adopted in the federation's autonomous republics, territories and regions. But now it turns out that in Tyumen', as, in fact, in may other regions, such a programme is only in the study phase. If inaccurate information was provided at such a high level, as a session of the republic's Supreme Soviet, then it is not unreasonable to assume that there may be quite a few inaccuracies at the local level. And we did find them.

For example, in a document submitted to the region, the Yalutorovskii District Executive Committee provided for supplying fewer apartments in the fourteenth five-year plan than in the thirteenth. When we asked about the basis on which this projection had been made, the Chairman of the Committee's Planning Commission, A. Krasil'nikov, was unable to refer to any statistical calculations whatsoever, and said that the figure would have to be corrected. Just like that - cross it out and write in another one.

One does not have to be a great seer to understand what happened: as in the past, the local and regional draft programmes were drawn up in offices, and are not consistent with the population's real needs.

At the Tyumen' Regional Party Committee, they agreed with us and explained the situation quite simply: this time around, the party organizations gave the Soviets complete independence, refusing to stand in for them, as had been the practice, and it would seem that the local Soviets reduce the real work to paper shuffling. At the same Regional Committee, we were quoted a different, unofficial (they did the calculations nevertheless) figure: the region will need approximately one million new apartments by the end of the year 2000.

But both locally and in the regional organizations, we heard the following view: "In the final analysis, all these figures are just a formality. We will build as many as are required."

This confidence is not plucked out of thin air. For two years now, priority has been given in the region, not in words but in actions, to housing and buildings for community use. In that time, the rate of construction of new housing has increased by 25%, of pre-school institutions - by 54%, of schools - by 40%, of hospitals and polyclinics - by a factor of 1.5-2.5. We found even more convincing arguments in the USSR State Statistics Committee's reference report for the first six months of this year. In terms of new provision of housing and day-care places, Tyumen' has overtaken, and by a substantial amount, Moscow, which was the traditional leader by those indicators.

There is another detail of some importance that should be stressed. One of the main reasons for the region's accumulation of housing and social problems was connected with the fact that population growth in districts under development was not controlled in any manner. Ministries and departments conducted a virtually colonialist policy, feeling free to use all resources, including human resources. People went North by the thousands, but there was nowhere for them to live, so the notorious shacks and trailers started to appear. As of the past year the region restricted the inflow of people going to work in the northern districts. As compared to last year, immigration is down by a factor of 2.5. Naturally, this demographic policy immediately yielded positive results.

Will it be possible to hold the line? Otherwise, no matter how much is built, there will never be enough. They say it will. Because of the estimated population increase, that figure of one and a half million, includes those who will come to Tyumen' to build petrochemical plants for complete processing of oil and gas. There is no doubt that this is of the utmost importance - how long can we go on selling raw materials? However, it would seem that local Party and Soviet bodies will have to fight one more round with the departmental bureaucrats, with their view that the petrochemical sector will settle everything, just as oil used to settle everything.

And yet, looking at grounds for the optimism of those who insist that as much will be built as is needed, one cannot share that optimism without reservations. In fact, those grounds are imported to a great extent. At present, the region brings in more than half of the required amount of

prefabricated ferro-concrete, 40% of components for large-panel construction, one third of its brick, and almost all the construction metal and insulation it needs. All this is sent mostly to the North. Tyumen' is very much a region of contrasts. The North, with its booming but difficult development, and the South - an agricultural area, which, until very recently, received but a minute, stale crumb of the multi-billion "loaf" of annual capital investment in regional development.

Our expedition separated. Some went north, and others south, or rather south-east, following the autumn Transural forest-steppe.

2. The "rich" and the "poor"

"On the third of August of this year, there was a fire in Surgut - 46 shacks burned down in Mira Street. The homeless were resettled, but not, as you can imagine, in individual apartments..."

(Telephone call to the television studio).

These shacks are the scourge of the North. Even of such a prosperous, by Siberian standards, town as Surgut.

As of 1 January of this year, there were 3,900 shacks, housing 13,600 people, registered in Surgut. But one has to keep in mind that two years ago there were almost twice as many shacks. Every year about 1,300 of these northern fire-traps disappear. In seven months of this year, 487 shacks were eliminated, with more than one and a half thousand people moving into new well-built homes.

Speaking of these stove-heated shacks, which are gradually becoming part of history, we should describe more fully the social profile of today's Surgut. As described in a copy of the town's "Social passport", given to us at the Party Town Committee, only polyclinics, fruit storage and freezing space are presently in surplus. Unfortunately, there is a shortage of everything else, with respect to the social welfare standards. For example, the number of day-care places is at 72.8% of the standard, school places - at 62.6%, shops - at 59.8%, clubs and houses of culture - at 65.9%, cinemas - at 24.2%, etc.

And yet, as the reader will remember, we called the town a prosperous one. We had in mind its residential construction potential.

The largest builders are the "Surgutneftegazzhilstroi" Minneftegazstroi design and construction society, and the Zapsibénergozhilstroi Minénergo USSR trust, with their local plants. They are now being restructured, and at the beginning of the next five-year plan, they will each be producing an annual 780,000 square metres of large-panel housing in the town.

To be sure, not all of this, far from it, will go to meet Surgut's needs. Right now, 200,000 square metres from each builder is "melting away" to Nizhnevartovsk, Noyabr'sk, Kogalym and other towns of the region.

Moreover, in our excitement over the present and future potential of the local building industry, we left out one significant aspect: the departmental accountability of the residential builders. The passion of bureaucratic interests runs very high here as well. It would be best to break down the

partitions and to combine all these enterprises, in the spirit of the times, into a single territorial building society. But just to speak of this is utopia for now. The all-powerful bureaucrats immediately protest: don't touch, it is ours, we built it for ourselves and not for someone's uncle!

It will not be so simple to take away from Siberians this bureaucratic egoism, which has penetrated northern life so deeply. But it will have to be done, for there is no other way. Just consider the following fact. Not one of the entire region's building enterprises has realized its assigned, planned potential. And if they were managed not by departments, but by local Soviets, which have hitherto been nothing but passive observers of bureaucratic dealings? You will agree that that would be a significant, and most importantly, an immediately effective step towards strengthening the power of Soviets at the local level.

"The twelfth five-year plan provides for an annual delivery in Urai of 10,000 square metres of housing. This volume does not ensure meeting the goal of providing every family with its own apartment by the year 2000. According to estimates by the "Uraineftegaz" society, in order to solve the housing problem, it will be necessary to build 100,000 square metres of housing every year, starting in 1991. When the restructuring is finished, the capacity of the Uraineftezhilstroi Minneftegazstroya trust's KPD plant will rise only to 50,000. How will we manage?"

Radikul'Tsev
Acting Deputy Director
General for Social Affairs
of the "Uraineftegaz"
Society

(Telex from Urai)

Urai was one of the first oil towns in Tyumen'. At the time, someone decided it was too costly to build a fully fledged residential housing enterprise in this isolated town, cut off from railways and major waterways. And now the residents of Urai are paying for this, languishing in housing queues with no end in sight.

"Pay attention to our concerns as well!"

(Telephone call from Langepas)

On a first examination, it seems almost sinful that Langepas should complain about its fate. Having been seconded here, the Byelorussian Minstroi trust is honourably answering, for the second five-year plan in a row, the Party's and government's call to help Siberians. Every year it puts up 70,000 square metres of excellent housing and three day-care centres. It is building schools, shops, a Palace of Culture, etc. And yet, year in year out, many facilities urgently needed by the town do not make their way into the Byelorussian's plans. By now there are almost twenty of them, for a total value of 48 million roubles: a milk plant, a sausage factory, a water intake/supply, etc.

"We must have our own general contractor!" - cry the "town fathers", knocking at whatever doors they can find. Last year it seemed that the situation would be unfrozen. While visiting Langepas, Yu. Batalin, the chairman of Gosstroi, who is also vice-chairman of Sovmin Soyuza, instructed units of Minneftegazstroi to take on the task of building purification facilities and a water intake/supply. And - nothing happened. The powerful

Minneftegazstroi is avoiding following these instructions under all sorts of pretexts, including the one that, apparently, in Sovmin their branch is under a different vice-chairman. Personal ambition replacing action.

The residents of Langepas also put their problems to the Minuralsibstroi management on several occasions. But here too their requests met with a deaf ear, even though just 70 kilometres away, in the Pokachi factory housing estate, this ministry's trust is now having difficulties in finding enough work for its capacity.

Not so long ago, "Izvestiya" published an open letter to Yu. Batalin from the deputies of Langepas. And in the region itself, in just the last few days, A. Grigor'ev, first secretary of the CPSU town committee, was severely criticized at a plenary session of the committee: instead of wasting his secretarial energies on creating new trusts and name-changing, he should get the town its own bricks and ferro-concrete.

Precisely! Consider what will be left in Langepas when the Byelorussian trust moves away: railway facilities for receiving materials, and a few shops for storing and assembling building components.

So with what will Langepas continue building its town? How can the problem of producing building materials locally be solved practically? Is it going to be necessary for someone "upstairs" to impose a surplus quit rent on, say, the residents of Surgut?

3. Remoteness

A. Fomin, Chairman of the Sladkovsk District Executive Committee:

- Here we are discussing how to provide each family with an apartment or individual home by the year 2000. But I have to tell you, that if we do not provide comfortable housing for rural dwellers within the next two to three years, then nobody will be demanding it by the end of the century - there won't be anyone left to need the housing. In fifteen years, eight thousand people, one third of the population, have moved out of our district.

(Statement in the television studio)

They were delighted with our visit to the district; they could not remember ever having received journalists from a national newspaper. This is why they tried to show us almost every cow-shed, every village, and they even took us, for comparison, to the neighbouring Nzyvaevsk District of Omsk Region. And the comparison was definitely not in Tyumen's favour. The neighbours have had modern housing for twenty years now, and the farms are built by a rural DSK (housebuilding combine). As a result, the closest villages of B. Peschank and Pokrovka resemble developed urban estates, without having lost their rural flavour. The people of Sladkovsk paid for a road here out of their own pockets. The residents of remoter Tyumen' prefer to travel for both produce and manufactured goods to Omsk Region, or, as they put it, abroad.

In Sladkovsk District several villages, such as Vasil'evich, are already completely empty. And

many others are just rows of time-worn frames sticking out of the ground, with work-weary old men and women sitting on the little earth mounds all about. The "Nikulinskii" sovkhoz has eighteen of these lonely old people. The sovkhoz is finishing off one home for them, but it only has room for six. They keep asking the director - when? They no longer have the strength to maintain their crumbling dwellings.

And what about the living conditions of those "fit to work"? We found out that it is not easy to find a housing start in the villages. The people of Sladkovsk are not building "family nests" even with the most advantageous conditions - with materials provided by the sovkhoz and with payment for their labour. In the sovkhoz director's opinion, they need at least 40 new homes every year. The district as a whole requires 2,000 houses or apartments. And that is just to keep people from moving away; all the more if new workers are to be attracted to the area, and they are needed urgently.

A. Renev, first secretary of the Sladkovsk CPSU District Committee, elected to that position two years ago, shared his worrisome concerns with us: "People have lost faith in the future. We live with no water supply and no gas; in the bad season the roads cannot be driven or even walked. The children grow up and go to study in town, and parents do not see their son the technician or their daughter the student for months on end.

Thus are peasant families torn from their roots. They up and move, some to nearby Tyumen' and some to the neighbouring regions of Omsk or Petropavlovsk.

"And what people! They are now working on their new farms, sitting in assemblies and on presidiums, as a silent reproach to us. The ploughmen and milkmaids we did not manage to keep!" - laments the first secretary. "On one such farm, a whole street is named after Sladkovsk, because it is populated with emigrants from these parts."

Difficult to believe and yet it is a fact: booming regional development, unprecedented in scale, about which we have been writing for so many years now, a southern zone, a bread-basket, and not far from the region's centre at that.

And yet attempts are being made to build here. The Nikul'skii sovkhoz has put up a new granary, farm-houses are being patched up, a few new cow-sheds are being built, and mechanization facilities are on their way.

Listening to the district's woes, we kept thinking: "And suppose the villages were given both labour and materials. Would the district leaders not just use them first for production, like now, and only whatever is left over for meeting people's needs?"

4. Growing roots in Siberian soil

"So who does most of the work? Travelling brigades, which used to be called "sabbathers'", - said A. Fomin, Chairman of the Sladkovsk District Executive Committee. - "And they are prepared to build production facilities only. We have no say in the matter. If the ministries and departments were to help in earnest, things would be different."

Yes, things are starting to change in rural areas: within the next few years, 10 percent of the annual capacity for construction and assembly work of the union's ministries and departments are to be assimilated by rural communities. For the remote parts of Tyumen' that is one billion roubles a year, in addition to 15 thousand builders - much could be done!

But it turns out that agroprom (agroindustry) is not ready for such a "gift". Next year the villages will only be given 290 million. Some say there was not enough imagination for more. The actual facts are both more complicated and simpler. The complications are obviously artificial. Rural district leaders are being required to provide not just lists of needed facilities, but complete technical documentation. And agroprom is hoping to scrape up documentation for a third of a billion.

But mental inertia also plays a role. For it was decided that villages would build homes and simpler production facilities, such as cow-sheds, from standard plans, or even from blueprints hastily put together by draughtsmen. However, agroprom and the rural managers do not know or insist on their rights. Meanwhile, the larger building organizations shake their heads: the documentation is incomplete, that is not our specialization, etc. As a result of this specialization, Tyumen', whose gas is sent abroad, to the Caucasus and to Ukraine, does not have gas lines for its own villages.

The heavy industry of the North will not start paying attention to rural areas as easily or as quickly as one would like. Slow-moving departmental "whales" are not the only reason for this. Frankly,

one gets the impression that the remote areas have no dynamism, having become accustomed to explaining everything by difficulties and poverty. And the South is slowly turning its eyes northward. This is obvious on the example of the "Tobol" agro-industrial society.

A few years ago the "Arktikneftegazstroi" society was attracted to the environs of Yalutorovsk for its resort base. The idea was to provide, in the region's southern zone, all the necessary conditions for rest and relaxation for builders between difficult tours in Yamburg. Right now workers are transported to the Polar Circle from all corners of the country! And here it is the same region. The savings on transportation expenses alone will run into the millions.

At present, having met its state delivery requirement, the "Tobol" farm construction society is preparing to send its first batches of meat products to Yamburg. But first of all, this newly created society put in order the little village of Krivolutskii, which it inherited from the "vernyiput'" sovkhoz: houses, roads, farm buildings. The villagers are much happier and now stand resolutely behind "Tobol".

Unfortunately these are just plans, ageing and yellowing in the drawers of decision-makers' desks. The idea is not favoured either by the Yalutorovsk party town committee, or the district executive committee. The arguments go back and forth: to build or not to build a town for northern workers?

How can people come to feel at home in Siberia? The problem is an extremely serious one.

Mikhail Sergeevich Gorbachev spoke of it most earnestly during his recent meetings in Krasnoyarsk. It cannot be resolved off-handedly.

The most reliable way would be to provide Siberians with living conditions that even Kuban' and Volga area residents would envy. All the more so since south Tyumen' is a resort area. It has pine forests left, mud-baths, lakes, fish and game. This is exactly what Yamburg residents want from their agricultural town. But they certainly have no shortage of "opponents". At the CPSU Regional Committee, we were shown a voluminous letter from a group of Tyumen' University scholars, in which it was proposed, in all seriousness, to move the northern workers' settlement to a remoter area, farther from roads and, incidentally, from curious eyes. For otherwise there would be a "demonstration effect". Translation: people would see how one can live. When no one "sticks out" or rises above the average, life is easier, of course, especially for the leadership. But we have been through all of that! We are still reaping the harvest of "equalizing socialism".

After returning to Moscow, we found out that the decision had apparently finally been taken to provide land for the northern workers' town. Let us hope that things will now happen more quickly around Yalutorovsk.

As we have noted, the Tyumen' "whales" are in no great hurry to turn aside from well-trodden paths in solving the housing problem. Consider the case of individual construction. When restrictions on building private homes within urban borders were lifted in Tyumen', the specialized "Zapsibzhilstroi" building society immediately took over one hundred

and fifty lots. But while the land appropriation formalities were being worked out, the number of potential home-owners dropped by a factor of ten - people just didn't have the patience. To be sure, in the course of our "round table" broadcast, the society's director S. Taslitskii optimistically said that things would now improve. I. Shkol'nik, director of Glavtyumen'stroimaterialy, and N. Bochkarev, director of Tyumen'glavsnab, were also unstinting of their promises to individual builders.

However, the letters to our journalists, the telephone calls to the "SG" headquarters and the television studio, bore witness, unfortunately, to the many obstacles remaining to individual construction. The numerical confirmation is superfluous - in the first six months, of the 36.6 thousand square metres of individual houses planned for the region this year, only 1.7 thousand were delivered.

It is a very difficult task to provide every family with an apartment or individual house in the short period remaining to the year 2000. For Tyumen' it is many times more complicated. And yet, despite all the shortcomings we have written about, it is impossible to ignore how energetically the conditions for fulfillment of the housing programme are now being created.

In just a few days, the regional session of people's deputies will examine the draft housing programme, taking into consideration the comments and proposals made by Tyumen' residents in the course of the debate.

Stroitel'naya Gazeta
6 October 1988
P. 1-2 (full text)

ENVIRONMENTAL PROTECTION

Scars Around the Baikal-Amur Railway

Last year Mysl' publishing brought out a book entitled "The Road to Siberia's Wealth". The story behind the book's publication is complicated.

In 1978 a geographer named Ludmila Ilina prepared a manuscript for another publisher, Lesnaya Promyshlennost, about the planned use of forest resources and nature conservation in the area of the Baikal-Amur Railway. However, the Ministry for the Wood and Paper Industry did not like the author's advocacy of fully protecting the forests around Lake Baikal, decreasing logging in Southern Yakutia, and reducing timber felling by the roadsides and near settlements. They demanded that the author modify her conclusions. However, as a scholar and citizen, Dr. Ilina did not feel she could give up her convictions.

What was the result? The manuscript was put aside for eight years.

When glasnost' began to make its way into ecological discussions, Mysl' publishing house asked Dr. Ilina to take up work on her book again. She was happy to do this, since she had continued to study ecological questions connected with the Baikal-Amur Railway.

Dr. Ilina arrived in Tynda a fully-empowered representative of her institute. Recently the USSR Academy of Sciences and the academic council of the Social Development office under the USSR Council of Ministers approved tne initiative by the Central Council of the Communist Youth League to establish a

centre in Tynda to develop the zone around the Baikal-Amur Railway and to create a temporary group consisting of the country's leading researchers and scholars with the aim of elaborating a program to fully develop the area. Th first group to support this effort was the Moscow Geography Institute under the USSR Academy of Sciences with which Dr. Ilina is affiliated.

Question: "Dr. Ilina, what is the main ecological problem connected with the Baikal-Amur Railway, in your opinion?"

Answer: "There is no effort being made today to study environmental conditions along the whole of the Baikal-Amur Railway. The Irkutsk Geography Institute only studies the western area, the Chitinsk Institute of Natural Resources only studies its own area, and the Amur Complex Scientific Research Institute only studies the central area. As far as I know, there is no study in progress of the whole of the Baikal-Amur area. This is a major error. Even scattered observations show disturbing tendencies in environmental changes throughout this area. Monitoring is required, the constant surveillance of interaction between man, technology, and nature.

My institute is making its contribution towards resolving this problem. At the request of the Central Council, we are preparing an ecological map of the railway area which will show all the 'hot' spots."

Question: "Where are they?"

Answer: "Mainly around Lake Baikal. The data at my disposal indicate that on the railway side

the lake is polluted with dozens of harmful substances. It is painful to say this. And yet construction on Lake Baikal's north shore and along the rivers flowing into the lake is continuing! Rest and leisure areas, state farms, factories - if these are not to harm the lake we must keep a close eye on the new factories and plants, which should be fully equipped with purification devices.

Irresponsible logging is still going on in the conversation areas around the lakes and rivers. The forested strip on the lake shore should be 200-300 metres wide on the streams and up to half a kilometre wide at the mid-sized rivers. But these norms are not being observed. The destruction of the taiga on the shores of streams and rivers is leading to rapid erosion of the shores. Nature is highly vulnerable here. Udokan geologists observed over a 10-year period how a rut left by an all-terrain vehicle turned into a ravine 800 metres long, 30 metres wide, and 8 metres deep. How many more scars like this have appeared along the highway!

Construction of most of the settlements and stations along the railway line began with clear felling of the forests and destruction of the soil surface. This was convenient for the construction workers. Administrative convenience is now costing the railway-builders who live here dearly: in the summer they swim in clouds of dust and in the winter they breathe in soot. There are dozens of methods to protect the trees, bushes, and soil during construction. These methods have been successfully used along the railway line, but unfortunately very rarely, although efforts to protect the green zone near settlements more than pay for themselves, because trees and vegetation absorb up to half the dust and harmful pollutants from heating units.

Gross infractions of standards of hygiene can be seen at many stations. In Yuktal', for instance, domestic sewage is polluting the water conservation area from which drinking water is drawn. The sewage system for the so-called industrial zone is in critical condition, and waste water is regularly discharged into the environment. As a result, thermokarstal erosion of permafrost has taken place here which has led to subsidence of the permanent railroad way."

Question: "Scientists are being strongly criticized for all the evils caused by "The construction project of the century" - for everything which was not foreseen and not thought-out ahead of time. Is that justified?"

Answer: "Unfortunately, scientists have only had the right to advise all these years. Let me give you a personal example. In 1978 I was investigating the ecological situation in the railway's 'capital'. Excavators were digging gravel out of the bed of the Tynda river, which was a gross violation of nature conservation norms. The 'nickels and dimes' mentality can be felt everywhere along the railway construction project. The Tynda municipal dump was created in the floodland of a stream dangerously close to the river, as well as close to the city - which was supposed to help economize on fuel costs for dump trucks. That was the reasoning of the municipal services department. Truck-drivers also began to think this way, and so to save on fuel they did not even take their loads as far as the dump, but disposed of it in the taiga just outside the city. The heavy rain in June washed away everything except scrap-metal and construction debris. The northern rivers are cleaned out very slowly and the harmful influence of the Tynda dump

will undoubtedly be felt in the Zeisky Sea. The municipal services department, in economizing on the cost of the dump, have cost us in the long run. We are the ones who will have to pay for this ecological damage, not future generations.

This is not the end of the story, however, The central Tynda heating plant was located in the same hollow as the city itself - probably in order to economize on heating pipes. A geographer or ecologist would only need to glance at the local wind patterns to know that a heating plant should not be located here because the winter winds would blow the harmful emissions directly into the city's built-up residential areas. As a result of "economy measures', atmospheric pollution in the centre of Tynda is several times higher than it should be. A new heating plant had to be built, and its new location needed to be outside the hollow. But, then again, why spend extra money? And so the new heating plant was located next to the old plant.

The main method to combat false economizing of this type is to introduce a system of payment for the use of natural resources. If the Tynda municipal services department pays for the polluted water and the power supply department pays for the soot-polluted atmosphere, there is no doubt they will find a way to keep the environment cleaner."

Question: 'Glasnost' is needed in all areas. Where it does not exist, society's moral health is affected. We need reliable information about environmental conditions. What do you think?"

Answer: "Everyone has the right to know about the condition of the water they drink, the air they breathe, and the food they eat. We also need to

know about the consequences caused by various types of pollutants.

The emissions from 98 Tynda heating plants, for instance, contain harmful gases, heavy metals, and small coal particles. All these cause serious diseases, including cancer. We should also remember the very poor hygienic conditions in the temporary settlements where the builders live. The chairman of the municipal executive committee said at a public meeting that pollution was the reason for serious liver diseases like hepatitis. It was the gross violation of hygienic standards that led to pollution of the city's water supply by run-off water and caused an outbreak of meningitis in Tynda this summer.

The organizations which regulate environmental conditions do not always inform the population about the complexity of the ecological balance. Unfortunately, there are not only 'court' scientific advisors, but also 'court' doctors and state inspectors responsible for the water supply. There is only one solution to this: to exert public pressure on these inspectors and to ensure that reliable information about environmental pollution is available to everyone.

Gudok
13 Oct 1988
P. 4 (full text)

An Ecology Centre in Nadym

The first all-union "Oil and Gas Ecology" conference closed with a noteworthy event: the foundations were laid here for an ecology centre.

It will bring under one roof all the organizations and institutions, whose activities are connected with nature and natural protection measures in the region.

- The return to rational, well-managed development of the Tyumen' North is an irreversible phenomenon, - said I. Mazur, deputy to the Minister for Oil and Gas Industrial Plant Construction of the USSR.

- We are moving into Yamal in the Arctic, and we want to reduce to the minimum any harm done to the fauna and flora, or to the interests of the indigenous population.

Stroitel'naya Gazeta
7 October 1988
P. 3 (full text)

OIL AND GAS

Streams of Gas

Academician A.A. Trofimuk Discusses the Strategy for Extracting Gas and Oil in Eastern Siberia

Question: "Dr. Trofimuk, you have been speaking publicly for many years about Eastern Siberia as a very promising region for the extraction of gas and oil. To quote only one of your statements: 'We expect to find concentrations of gas and oil deposits on par with those in the Western Siberian lowlands'. This is from a newspaper, For Science in Siberia, in 1969. Since then there have been articles from time to time in various publications showing that your predictions have come true. Speaking at a meeting between Mikhail Gorbachov and scientists during his recent visit to the Krasnoyarsk area, you proposed to create large-scale gas and oil fields in Eastern Siberia. What exactly do you have in mind? How effectively is the mineral wealth of this region being utilized?"

Answer: "There has not yet been a full-scale discussion about gas and oil in Eastern Siberia. The existence of large reserves of raw hydrocarbons in this region was established in the late sixties. There are nearly twice as many areas marked for exploration as exist in Western Siberia. Their potential oil and gas deposits are enormous. To provide some idea of the scale of their deposits, here are a few examples.

The Yurubcheno - Takhomskoe deposit was discovered in the middle of the Podkamennaya Tungunska River in Krasnoyarsk district which, according to estimates, contains several hundred

million tons of oil and enormous gas reserves. However, we cannot obtain the gas, which we need greatly, until we extract all the oil. The gas cap acts as a sort of plug, pressing down on the oil seam and significantly increasing its output. This indicates that the field should be exploited as quickly as possible. Sobinskoe field, a large field mainly containing gas deposits, has been discovered in the upper reaches of this same river. Beneath Preobrazhensky elevation in Irkutsk oblast there are deposits of several billion tons of oil, according to our estimates. I could mention dozens of smaller gas and oil deposits. An additional advantage of this new gas and oil region is its geographical location. Remember that the oil and gas deposits are located with a wealth of other mineral resources in an area which has always been acutely in need of products obtained from the processing of raw hydrocarbons.

That is why the idea of quickly creating centres in Eastern Siberia to extract and refine oil and gas products is only natural. Only then will we be able to avoid the yearly winter 'mini-energy crises' in this region, especially in Yakutia. It is not right that this area, which possesses gas and oil deposits, should have to transport fuel by helicopter. A litre of solar oil costs upwards of one rouble in the winter. The creation of such bases would ensure supplies of gas and oil and their products to satisfy Eastern Siberia's growing need for them. Moreover, the geographical location of the gas and oil deposits is valuable in that it makes it possible to solve a strategic problem - moving the location for oil drilling and refining almost two thousand kilometres eastward. It is important in every sense to create one more independent region with adequate energy sources, which oil and natural gas are at present. Taking this into consideration,

the idea was conceived of creating large-scale bases for gas and oil drilling in Eastern Siberia. In March 1988 this idea was discussed at a meeting of the Bureau for the Fuel and Energy Complex, under the USSR Council of Ministers, together with the State Planning Commission, the Ministry of Geology, and the Ministries for the Gas and Oil Industries. Their conclusion was that if the oil in Eastern Siberia was exploited too early and in a costly manner, it would be the most expensive oil in the Soviet Union. The proof of the expense involved in extraction is the following: the total estimated capital investment required for the extraction of the deposits is divided by the oil reserves proven to exist in early 1988. For instance, one billion divided by 10 million gives a specific cost of 100 roubles for the extraction of one ton of oil. This does not, however, take into consideration scientific estimates of deposits, and even if these estimates are only partially correct, the cost of extraction will be significantly reduced.

This does not suit those who take no interest in developing the oil-drilling industry in the Soviet-Union, and in significantly improving the location of the extraction and refining of raw hydrocarbons. Having discovered the vast Yurubcheno-Takhomka oil and gas field, the Ministry of Geology will now be able to increase its proven reserves by millions of tons annually. On the basis of this field, the plan for increasing oil and gas reserves can be met for several years without difficulty, and only towards the end of the present century or the next century can the true extent of this field be ascertained for the Commission on Reserves under the USSR Council of Ministers. Another 3-5 years will then be required to defend the reserves before this Ministry. Only after all these

bureaucratic procedures have been observed can the reserves be officially assigned to the Ministry for the Oil and Gas Industry. In its turn, it will develop a project over several years, and then carry out the exploitation of this enormous field.

It is more profitable for the Ministries today to devote their attention to the less rich deposits in Western Siberia.

The system of indices makes things easy for the Ministries. One such index refers to the number of metres drilled. I remeber how several years ago a crew led by F. Salmanov overfulfilled the plan for increasing reserves, but was several thousand metres short of their drilling plan. They only received their allotted bonuses with the help of the Party, yet no changes were made in the index system as a result.

Of course it is easier to drill in the upper soil strata of a field already under exploitation. The 'metre index' is a serious obstacle to the all-round exploitation of a given region. All regions with gas reserves have several 'levels'. Western Siberia, for instance, has four levels, but it is mainly the uppermost level which is being drilled. The attitude is 'As soon as we finish here, we'll just go on to the next one'. It would seem that there is a certain logic here, but it is only a formal logic without any scientific basis. Any large output always depends on the full exploitation of a given field. The large fields in Western Siberia are Samotlon, Fyodorvka, and Sovetskoe. These are the fields which significantly increased the over-all output, but these giants are now drying up. Now is the time to drill deeper into the lower 'levels', yet they have not yet been explored. This is a

consequence of the 'metre index' system, yet the ministries continue this system, which they find easy. For them, the important thing is to drill the necessary number of metres, write their reports, and receive the allotted funds and material resources in return.

Today the drive is towards stricter requirements and overcoming the wastefulness of the past. This should be applied to oil-drilling practices, as well. It is time to face the reality that raising oil output by increasing wastage is disastrous. Yet this is what is being done today in Western Siberia. The industrial price of oil is rising constantly. A system of criteria and incentives must be established so as to encourage oil and gas extraction without raising their price. Only then will the Ministries for the Oil and the Gas Industries, as well as the Ministry of Geology, finally begin to look at costs. Each and every well will produce at full capacity. There will be no more discarded mechanical equipment or extra pipes. The ministries and the State Planning Commission will stop trying to get as much drilling equipment as possible out of Uralmash. Then the ministries will see the point in exploring the Eastern Siberian deposits.

The initiation of drilling in these fields with their high well-yield will reduce the cost of oil and gas throughout the industry. A very favourable situation exists at present: for the first time in almost 70 years the opportunity exists to intelligently exploit a new oil region and make it a model of well-planned production and social infrastructure. If we begin now, we have enough time to do this. If we delay, we shall be forced to rush things later, to perform a 'heroic feat' against the

clock. I support the intelligent exploitation of Eastern Siberia by methods worthy of a civilized nation. It is a shame we must waste time and energy on proving the obvious. The intelligent exploitation of Eastern Siberia will lead only to outstanding results. Mikhail Gorbachov spoke of this repeatedly during his meetings with working people on his trip through the Krasknoyarsk Krai [Territory].

Question: "An incredible increase in output has been achieved in Siberia. Part of this gas and oil is being exported. As I understand it, the tendency now is to turn the Soviet Union into a supplier of refined products, rather than continuing as an exporter of crude oil."

Answer: "You have put this question very delicately. I would not be as delicate. It is shameful to sell crude oil this way. Refining oil into up-to-date products increases its value 10 times over. When we sell crude oil, we are giving away a large portion of our potential profits to banks in other countries. The level of our refineries is such that their production is rejected on the international market due to its low quality. We export a large quantity - one quarter of our entire output. The solution is to hasten the development of our refining capacity, especially the creation, together with our Comecon partners of up-to-date, of efficient refineries for gas and oil products. There are no obstacles today to establishing such enterprises on a mutually-advantageous basis with capitalist countries.

The approach adopted today forces us to be especially careful of even an apparently cheap form of energy like natural gas. Several years ago we would have sent it without even thinking about it

from the Sobinskoe field to Krasnoyarsk. However, today we can no longer mindlessly burn gas, which contains helium, a very valuable raw material. We must build a plant to separate helium from the hydrocarbons. Our own country does not have much demand for helium at present, but international demand is high. There is good reason to store helium in tanks created by atomic blasts in thick walls of rock salt. This is a sensible approach.

Minor reductions in atmospheric temperatures in the winter cause power breakdowns and interrupt the operation of oil and gas refineries: output is very low in freezing temperatures. In short, we need to create storage facilities for crude oil and gas. Salt deposits are ideal for this purpose. Storage space can be created by a blast. There is a simpler method too, - the temporary conservation of high-yield wells. When the need arises, they can always be used or the supply could be supplemented. We drill feverishly in search of hydrocarbons, spending huge amounts of money. We shout to the skies, announcing an heroic feat by the oil workers drilling a new well. But do we really need all these dramatic, empty gestures? What we need is solid, scientifically-sound work performed on a day-by-day basis.

Naturally, to begin the exploitation of the Eastern Siberian deposits quickly and at relatively low expense, the region must possess transportation links, power supplies, and a social infrastructure. In the past, chaotic, rushed solutions to such problems increased the cost of the construction and exploitation of gas and oil fields in Western Siberia by roughly 20%, as well as slowing down the pace of exploitation. It is already time to begin construction of gas and oil pipelines, railways and

roads in the new region. Power supplies to the region require relatively modest expenditures. Existing electrical power stations can be used, and several more should be built and completed. I would term this complex of measures an intelligent beginning to opening up this new region for exploitation."

Inevitable Expenses or Wasteful Excess?

Question: "Dr. Trofimuk, enormous funds are needed to create all this - oil and gas pipelines, railroads, atomic blasts, electrical power stations. There simply isn't enough money. Wherever you look, huge investments are needed - education, health care, machine-building, agriculture, housing construction..."

Answer: "Yes, money is needed. The ministries have estimated that 300 billion roubles will be needed from the current Five-Year Plan (period) to the end of the century to cover the cost of working the oil and gas fields in Western Siberia. And that is only to maintain output at current levels. But it is the State that is providing this money: after all, we are not talking about just anything, but about oil and gas. Yet the output level can be maintained by other means, too: those aimed at ensuring that maximum output can be obtained from the deposits. I mentioned several approaches, and there are others. For example, hydraulic fracturing of a formation is a method used everywhere. A well is 100 millimetres, or at best, 200 millimetres wide, and the drainage area is naturally not very great. The seam is blasted with various types of special equipment. Cracks appear leading hundreds of metres away from the well, greatly enlarging the drainage area. The Americans

and English realize that when a well is located in a body of water, where drilling is 10 times more expensive than on dry land, this method must be used. In the Soviet Union we used this method before, during, and after the war, yet today we do not use it, and even the equipment has been discarded.

Apart from hydraulic fracturing, there are other methods aimed at increasing output - specially directed explosions, treating the shaft with various chemical solutions, and using ultrasound on the oil deposits to reduce the oil's viscosity. Drilling into other 'levels' in a timely fashion after a preliminary search for fields with high-yield seams would also reduce total expense.

The costs of exploration could also be reduced by using contemporary scientific and technical achievements, above all, aerial photography with infra-red techniques, the latest forms of seismic and electrical exploration, and geochemical methods which would make it possible to discover and chart hydrocarbon deposits without drilling. These are so-called 'direct' methods, which are revolutionizing raw material exploration. In order to understand the innovative nature of the methods, suffice it to say that before this method was discovered, out of 100 test wells drilled, only 30 had oil or gas deposits, while 70 were empty - and this was true both in the Soviet Union and abroad. Using the new exploration methods, these figures are reversed. Exploratory drilling becomes essentially a confirmation of the predictions made by 'direct' methods.

This past year I repeatedly proposed to assist the Ministries for the Oil and Gas Industries and the Ministry of Geology in establishing a

temporary group to elaborate and introduce 'direct' exploration methods. With very little expenditure of time and effort it would be possible to locate huge new oil and gas fields within 3 years. Unfortunately, there was no response to my proposal. A group of this type would 'undermine' the established metre-index. It would become a real obstacle blocking multi-billion rouble expenditures. If a careful, rational approach to wells and oil seams existed, if new exploration methods were introduced, and if drilling from one 'level' to another was well-planned, there would be no need for the enormous funds being spent in Western Siberia to maintain output level, and moreover, output could be increased. At least one-third of the projected funds could be confidently redirected to the exploitation of Eastern Siberia. This region must be exploited, and I will continue to press for this. It is needed above all for our country's own requirements, although given new Soviet initiatives, end-products of intensive oil and gas refining could be exported to countries around the Pacific rim.

If Eastern Siberia began to furnish gas and oil, it would be possible to solve a number of ecological problems in the cities in Krasnoyarsk district, Irkutsk oblast, and the Yakutsk Autonomous Republic, many of which already require urgent attention. In its time the creation of gas-supply system at the Norilsk ore mining and smelting complex increased the basic production volume by almost 30% and greatly improved the condition of the air and water. Eight thousand miners were released from heavy manual labour in the coal mines. Between 1970-1983 the use of gas in Norilsk led to the saving of 8.2 billion roubles. You can imagine the impact this had on Krasnoyarsk. To point up the significance of these figures, I will say that the

relatively small quantity of natural gas supplied to the Norilsk ore mining and smelting complex paid for all (!) the expenditure involved in exploration and discovery of the oil and gas fields in Eastern Siberia - a cost of 7.5 billion roubles over a 45 year period.

The new region would very quickly pay for the cost of its exploitation, if only because it would help to remove several of our domestic planning problems. By the end of the present century, for instance, we could pay for the Baikal-Amur Railway by the transportation of millions of tons of oil and potassium salts to the Far East and the countries around the Pacific rim.

The discovery of gas deposits in Eastern Siberia created an international sensation as a scientific gift of world-wide importance. Oil and gas deposits are found here in strata which were regarded as unpromising for such discoveries. This was true not only in the Soviet Union, but also abroad.

Soviet experience is now being put to good use in America, Canada, and Australia. In the past, my colleagues and I had great difficulty in proving the need for exploratory work in Eastern Siberia, since hydrocarbons were not supposed to be found in Proterozoic strata 600-700 million years old. The discovery of rich gas and oil deposits in the Proterozoic strata in Eastern Siberia was the first such discovery in these strata."

What About the Applied Science Zone?

Question: "Dr. Trofimuk, during a discussion with scientists in Krasnoyarsk, they were

criticized for their lack of a firm position on many vital questions affecting the district as a whole..."

Answer: "The criticism was justified. I believe that a scientist without opinions on social issues is only a servant to the powers that be. Our own opinions do not always coincide with official positions. This should be stated publicly, not whispered behind closed doors. Naturally, the scientist's public stand should be determined by the importance of the problems being discussed, especially if they are issues affecting the national economy. I believe that the more important the question which concerns the scientist, the greater his sense of duty as a citizen should be. You can accuse me of whatever you like, but I want to remind you that the idea of oil deposits in even Western Siberia was regarded as nonsense at one time. Yet it would be hard to imagine today how we could get by without it.

It is a shame that the extraction of gas and oil in the Soviet Union has become linked to a system of indices which is gradually ruining the country. If this has not occurred yet, it is only because we have such amazingly rich deposits in the Soviet Union. Soviet deposits have withstood all our ruinous practices and kept us very well supplied. I hope, however, with regard to Eastern Siberia we will find a common language with all the ministries concerned, just as we found a language to deal with Lake Baikal, to discuss the problems involved in utilizing hydro power resources, the ecological improvement of Siberian industrial centres, and many other issues. I place my hopes less in individuals, than in perestroika, which is cleaning the cobwebs out of our minds. Perestroika should bring a better

planned, far-sighted approach to gas and oil extraction.

It is clear that a well-planned approach today is one based on science - the knowledge, means and methods which science provides to the industrial sector. I think the time is not far away when we will understand that the most advanced scientific fields should be as well funded as the defense budget - maybe even better. It is pure science and its research where all the revolutionary processes and changes in the economy and life begin. It is very sad that we often try to save money on science, which we distrust, cheating ourselves in the process. Recently we proposed a project to a Tyumen industrial enterprise by means of which machine spare parts would be simplified 5-6 times over. The idea was met with excitement, but then rejected. The explanation was that funds were not available for such a project now that the enterprise operates on a profit and loss basis.

This is an isolated example, but it is highly indicative of our approach to science, on both a small scale and a large scale. The idea of creating an "applied science zone" around Akademgoradok, ie. the relevant ministries would establish design offices in this area to apply the ideas of pure science, was not carried through as it should have been. For instance, the Ministry of Geology opened an office for the design of geophysical instruments, and then several months later began to assign various secondary tasks to the office, pushing the primary tasks into the background. It was a triumph of near-sighted bureaucratic meddling.

It would be better if the design offices were not under ministerial jurisdiction. They should be run by scientists, and then almost any problem could be solved quickly. No capital investment is needed here, only the full utilization of what already exists. The "applied science zone", created in this way, could attempt to solve ecological problems, for instance, creating technology to purify the atmosphere of harmful compounds, a very acute problem for Krasnoyarsk today. A full-scale attack on the problem of improving the technology for purifying water discharged from industrial plants could be made. If the ministries are involved, however, nothing short of a war would be needed to push these projects through. Very little outside support would be available for such a battle because everyone would be protecting their own interests.

I believe this approach will continue as long as the ministries exist for the purpose of issuing directives. It is time for their executive staff, at least the ministers and their deputies, to be chosen by the relevant industries. The ministries should be transformed into business firms operating on a profit and loss basis. Then they would adopt a sane approach to problems in their industries, acquire far-sightedness, even patriotism and a civic spirit."

Is There an Alternative Form of Energy?

Question: "You have stubbornly defended hydrocarbon-based forms of energy and linked the development of the Soviet economy to these forms. Today they are being discussed increasingly frequently as partial, or even total replacements, as alternative, ecologically harmless forms of energy."

Answer: "I do not share the bureaucratic point of view. Alternative forms of energy are still only at the discussion stage. Solid research is needed to replace even a very minor proportion of gas and oil. I am a realist: raw hydrocarbons are and will remain the 20th century's major form of energy for a long time, and they are cheap. However, alternative forms of energy should be used at small plants even today. For instance, when I was in Australia, I did not see a single farm without a wind turbine. I support a variety of energy forms being supplied to a given region. If oil and gas can be partially replaced today by wind, solar, tidal, or geothermal water energy, why not do it? We would be able to economize on oil. Moreover, I believe we should search for other forms of energy, for instance, hot gases dissolved in subterranean water, and we need to establish alternative forms of transportation like dirigibles. Some Japanese visitors once made me blush by asking why we use airplanes and helicopters, rather than dirigibles for large freight deliveries. How could I answer them? Tsiolkovsky, who was always correct - even in the most complicated cosmic calculations - said the dirigible was the only economically sound form of transportation to deliver large freight shipments over long distances. Why do we believe Tsiolkovsky about everything else, but not about this? There are many opponents to the idea of building dirigibles - above all, those in the aviation industry who do not want any competition which would prevent them from shipping freight at very high cost. In order to understand how expensive freight shipments are, let me tell you that the cost of shipping drilling equipment 70-100 kilometres is equal to its value.

However, dirigibles are another subject altogether. What strikes me in this story is our tendency to create monopolies."

Question: "Dr. Trofimuk, when you spoke about alternative forms of energy and their relation to traditional forms, you repeatedly urged us to economize. Does this mean that the day is near when our oil and gas supplies will dry up despite the promise held by Eastern Siberia and the seemingly inexhaustible resources in Western Siberia?"

Answer: "I want to reassure you: the untouched hydrocarbon reserves on the territory of the Soviet Union are equal to all the reserves discovered and extracted to the present day.

What is more, over 50% of the oil remains in fields which have been or are currently being exploited. There are a variety of reasons for this, including the low level of oil extraction technology. Oil and gas deposits along the ocean shelves and slopes have hardly been touched. These deposits also exceed the total oil and gas resources extracted, discovered, and forecast throughout the country. We have not yet used deposits of high-viscosity oil and hard bitumens. At present they are calculated at billions of tons. The most important thing is that Soviet scientists have discovered a new energy source - gas-hydrates. These are carbons associated with water. In certain conditions, water molecules attach themselves to gas and the compound falls onto the sea shelf. Gas-hydrates are also found in permafrost zones. According to calculations, these resources are twice as great as the free gas resources on all the earth's dry land. Our calculations have been confirmed by American and Canadian scholars."

Question: "Is this a new sensation?"

Answer: "Not yet. We will have a sensation when we design appropriate technology for gas extraction. We are working on this problem. The technology will appear as soon as there is a burning need for it. Right now there is a need for a new gas and oil producing region. We must work on the idea of opening up the subterranean wealth of Eastern Siberia."

Sovetskaya Rossiya
2 Oct 88
P. 3 (full text)

Junction

A weld of a "red" joint ends the laying of a gas pipe in the northern parts of Tyumen' Region - Surgut-Omsk. It will be used already this year to send fuel to the south of Western Siberia from the Urengoi and Vyngapur deposits. In the settlement of Krutaya Gorka, a siphon extended through Irtysh was linked with the main line by pipe layers from the "Omsknefteprovodstroi" trust. Already this autumn, the 1,220 millimetre diameter gas main will bring "blue fuel" to the TETs-3 and to Omsk's "Kirovska" regional boiler-house.

Sotsialisticheskaya Industriya
14 Oct 88
P. 2 (full text)

POWER GENERATING STATIONS

The Story Of A Very Long Energy Project

The River Kem' in Kareliya cannot, of course, be compared with the Volga or the Enisei. And yet, carrying its turbulent waters between rocky shores, covered with coniferous forests, it heads for the White Sea with implacable persistence and energy. The wilful Kem', with all its rapids, seems almost to have been born for the construction of hydroelectric power stations. It is already the site of a whole cascade of productive GES, which breathe life, as they say, into many centres of population and production.

Nevertheless, an energy supply shortage still has a negative effect on the development of the northern parts of the Kareliya Autonomous SSR. More than twenty years ago, locations on the Kem' were chosen for the construction of yet a few more power stations, including the Krivoporozhskaya. But its fate has not been an easy one. Why?

In order to answer this question, we had to become familiar with an entire chronicle, left for posterity by Minénergo USSR. It makes for dismal reading. The decision to build not only the Krivoporozkskaya, but also the Morskaya GES on the Kem' was taken by the government in 1968. But it takes longer to do the deed than to tell the tale. Twelve years (sic) later, when the deadline came for reporting on the opening of these facilities, it turned out that not a finger had been lifted. All those years, of course, the local Party and Soviet bodies constantly sounded the alarm, sending letters to various departments, which ultimately had to be

answered, by copying from one another, by a large number of directors.

The tiny Kareliya town of Kem' soon heard that the USSR Minister of Energy and Electrification himself, P. Neporozhnyi (now ex-Minister), was overseeing the Krivoporozhskaya GES project. The facility was promised for 1985. So what happened?

Minénergo, having so generously sent out written commitments to help, turned out to be untrustworthy in deeds. Not only was the construction site not equipped with the required human, machine and material resources, but there were even occasions when the ministry actually took funding away.

Changes finally came to our country. In October 1985, the new leaders of the autonomous republic insisted on a joint decision by a board of Minénergo USSR, the Kareliya Regional Committee of the Party, and the Kareliya Autonomous SSR Council of Ministers.

Concrete wide-ranging measures were to be applied by dozens of responsible, high-ranking officials from both the ministry, and the autonomous republic. Some were responsible for building the basic components of the generating station itself, and others for creating a new residential settlement, Krivoi Porog, for the station's builders and operators. In a word, the restless Kem' River was to be dammed in the first quarter of 1988.

As everyone knows, that first quarter is long finished. And so, more than a year and a half after the formal event of the joint decision, I went to visit the Krivoporozhskaya GES.

The enormous territory to be flooded was cleared of forest a very long time ago. The years went by. Now a new wall of growth has sprung up. Nobody knows who is going to take it away and with what means.

Dozens of families of "Karellesprom" society workers have not yet been resettled out of the danger zone. There is nowhere for them to move, since in the new settlement of Krivoi Porog, where they are to be given apartments, the only thing sticking up from the ground are the foundations of their future homes. Because of the housing shortage, the building crew is not growing either. Construction of basic social and cultural community facilities has not even started.

An innumerable number of the republic's directors have paid visits to the flood zone, each time promising condemned villages that the new settlement is on the verge of completion. But nothing moves forward.

- We are "proud" to hear our visitors call us steadfast and hardy, - says, not without irony, M. Vorobei, chairman of the eliminated (on paper) Yumsk rural Soviet of People's Deputies. - We are also "proud" to have our children attend day-care centres and schools more distant than anywhere in the world. They are transported tens of kilometres from their homes.

And what about the generating station? Its basic engineering components have just barely gone beyond phase zero. Thousands of cubic metres of concrete and metal reinforcement have yet to be poured, before work can start on the station building, the machine room and many other

structures. In all these years, just over half of the project is finished. And before the water reservoir can be filled, there is at least a year's work to be done on the dam, there are millions of cubic metres of rock and earth to be moved. And where are they going to put the enormous quantity of timber, intended for export, whose floating has been delayed for almost two navigation seasons because of the under-capacity of "Karellesprom", and which is getting in the way of work on the station. That is the situation with the generating station.

And this is a start-up facility for the current year, listed as a "state order" in the Minénergo USSR and Gosplan USSR programme.

> - They are pressing us to deliver the hydroelectric station in any form whatsoever, limited, truncated, right down to so called "dry" delivery, that is, without a water reservoir, without turbogenerators, without a dam, without buildings and without installations, - incredulously explain V. Barsukov, managing director of the builder "Sevgidrostroi", and V. Gellis, director of the Kem' GES cascade. - This is why the building and contracting crews protest against this "sham", this attempt by Minénergo to look good on paper at any cost.

Letters continue to be sent by the Kareliya CPSU Regional Committee and the Kareliya Autonomous SSR Council of Ministers to Minénergo and Gosplan, as well as other bodies, asking that ministry representatives be sent to the site, to see exactly what the situation is, to determine realistic deadlines for delivery of the works, and finally to finish with this "eternal" construction site.

Minénergo industriously sends answers signed by various directors. But for some years no one has been on the site, or is in any hurry to correct the situation by providing the necessary materials, machinery and human resources. For how much longer will the "guberniya" have to write? No doubt until we finally renounce bureaucratic methods of management, which are blocking "perestroika" in the country.

Pravda
13 Oct 88
P. 2 (full text)

Kureika: A Second Hydroelectric Unit

The builders of the Kureika GES have delivered a second 120 megawatt unit for industrial production, thereby completing another phase in the construction of this hydro-electric power station beyond the polar circle.

Many organizations are involved in the station's construction. A "Gidroélektromontazk" unit brought the TTS-1600 transformer to running order, a "Girdromontazh" team put up the frame of the now productive unit, and "Spetsgidroélektromontazh" workers prepared the facility's "electric core" for start-up.

The operators made ready as well, training staff ahead of schedule, running detailed tests of the equipment's readiness together with the builders, and taking care to maximize the new unit's performance and reliability. This co-operation is a natural consequence of the economic experiment

conducted at this site, for the Kureika GES is a "turnkey" project.

In all fairness, we must point to some of the experiment's negative aspects. Concentrating all rights in the builders' hands put the operators in a position of dependence, thereby restricting their initiative in quality control, and in personnel recruitment and training. Many of the errors and stoppages can be explained precisely by the contractor's management dictatorship. It is obvious that the practice of "turnkey" projects needs to be improved.

The second GES unit is going into production on schedule, adding to the energy potential of the towns of Noril'sk and Igarka, and of Svetlogorsk settlement, which has sprung up in Kureika in recent years. Water supply in the Kureika "sea" is sufficient for productive operation of both power units.

The builders are continuing their work, with a view to advancing the delivery dates of all five units of one of the most northerly GES. A hard frost in winter can bring the thermometer down to minus 64 degrees. Experience gained from building the Khantaiskaya GES, new technology for driving tunnels through hard dolerite rock, and other technical innovations are being used to speed up the work.

The Kureika GES will become fully operational in 1991. Its total capacity will be 600 megawatts, and the station will produce an annual 2.6 billion kilowatt-hours of electricity, so sorely needed for the development of North Enisei.

Izvestiya
10 October 88
P. 2 (full text)

TRANSPORT AIR

For the Sake of .03%
Problem between Aldan and Neryungri Air Detachments

N. Parschikov, a pilot based in Aldan and an amateur poet, has not been writing poems for a year. He wrote in a letter to the editors that he is occupied with working out a budget for the economic activity of his division, in which he flies an L-410. His poetry will have to wait until his calculations are complete: he has demonstrated to himself and, with the help of local economists, has indicated clearly how his small flying group could become profitable.

Why does a 'poet' have to perform an economic analysis for his group? To understand the situation, we have to look at the background, at what occurred in this region 7 years ago. At that time the entire command structure of the Aldan joint division moved 200 kilometres to the south - to Chulman, - now Neryungri auxiliary airfield. Naturally, there was more to this than just a wish to relocate southward. The reason was to hasten construction of an airstrip for modern planes. Neryungri, a town near Chulman, turned into a city with a large population.

However, the airfield was ordered to be built by one ministry, yet constructed by another, and the Aldan officers, who had neither money nor resources, but only the wish to build an airfield as quickly as possible, were unable to deliver it on schedule. True, the first group from Aldan was lucky: they were assigned housing in the city. People had been waiting for housing in Chulman for a long time. Some of them have still not improved

their housing conditions even today. Moreover, that all-too familiar 'housing sore' - family dormitories - soon appeared in Chulman. Why? After all, the officers had only come to speed up construction of the airstrip.

However, with all personnel, planes, and helicopters left behind in Aldan, the commander, together with his deputies, staff, and administrators, were now far removed from their subordinates. So a joint flying detachment was created in Neryungri, even though there was no additional flying to be done in the area. Why then did this joint Aldan division exist? It was given an original name: an aviation division with the administration of a joint division and with the rights of an auxiliary division - that is, it was stripped of any independence.

The Neryungri division grew quickly. Squadrons of Yak-40s and Mi-8 helicopters and sections of An-2 planes were formed. Work was needed for them, and so work was taken away from Aldan. Housing was needed and so housing construction was halted in Aldan. The number of workers engaged in housing repairs was cut by one-third. As a result, no new housing was made available to those waiting for it and old housing deteriorated without repairs. One month ago the pre-school care centre was closed due to the hazardous condition of its roof. At the same time a new pre-school centre opened in Neryungri. "That should have been our project", sadly remarked the head of the centre in Aldan which was closed.

A sense of futility and frustration dominated a meeting with the workers from the Aldan aviation division. The last three years of

perestroika have seemingly not had any impact here. The pilots and other specialists sense the exploitative attitude at the top level and have repeatedly approached their supervisors and senior officers with requests to openly discuss the division's situation with the present commander, V. Ostapenko. The situation has reached an absurdly trivial level: chairs cannot be brought for the pre-school centre. The main accounting office refuses to provide funds for this purpose, insisting that the shop provide an invoice and then wait for payment for the chairs.

There had never been any arrangements of this type in 7 years, yet the new authority exercised by Neryungri continues to the present day. There is still no dock in Aldan to perform adjustments and checks on the An-2 engine. Naturally, the work is supposed to be performed in Aldan, although there is a dock in Neryungri. Aldan possesses highly experienced technical personnel with expert knowledge of the Mi-8 helicopter - yet helicopters are serviced in Neryungri. It is well-paid work. Passenger flows have been redirected to Neryungri, which is profitable for this town. A passenger travelling to Aldan is obliged to buy a ticket from Irkutsk, for instance, to Neryungri, and then to buy another ticket from there to Aldan. Travellers prefer to take the bus.

The surprising thing is that the command structure of the Neryungri joint division and the Aldan flying division have not made the slightest attempt to correct this situation. Yury Krivoshapov, the commander of the Aldan division, can provide the facts when asked at what time these questions 'arose', 'became acute', and 'were raised'. However, nothing has changed. That is why activists in Aldan

have insisted that the public be drawn into resolving these problems.

Unfortunately, relations between the leaders in Aldan and the public are very simple and very negative. For instance, M. Nemytkin, a former pilot, requested a reference from the council of airplane captains in order to return to flying. The captains forbade the council to consider the request. At the council meeting applications were considered from reserve candidates for various ranks of command posts, but this particular request was not reviewed. Pilots insist on references from senior officers and selections made by commanders. The reply was: "No recommendation forthcoming".

That may be the reason why pilots blame all their difficulties on the divisional commander, Yury Krivoshapov. The opinion prevails that he does not make decisions about practical problems and lets things go.

The danger in lengthy service by such senior officers is that all the complexity of their organizational and leadership responsibilities is effaced, creating the illusion that a commanding officer's work is easy. As a result, some people say, "Make me a commanding officer. I can do just as well."

With the transition to a two-section organizational system, suggestions have been made at the Yakutsk civil aviation administrative headquarters to join the divisions together into large units with designated 'leading' and 'auxiliary' groups. The future of the unwieldy Neryungri joint division is also under discussion. It is envisaged to join the Aldan pilots together with the pilots in

Magadan, while the airport in Neryungri would be subordinated to the Yakutsk joint group. Neither in Neryungri nor in Aldan has this plan elicited a joyful response.

The Aldan group has already experienced one 'emergency' reorganization. There is another, unofficial version of why the Aldan command structure moved south, in addition to the official version: the officers were in a hurry to receive new, fully-equipped housing and a salary increment. In Neryungri the northern supplement is .03% higher than in Aldan. What a tiny difference, yet what a lot of trouble it has caused! Those who have suffered because of it have every right to be upset.

How can economic losses be cut? This raises a variety of questions. Is the bureaucratic structure too large? Might it be better to create an administrative unit in accordance with the nature and volume of work to be done, rather than in conformity with the bureaucratic structure established for each group? The Aldan group might be just as well off with a skillful manager and administration, rather than the entire administrative hierarchy set out for a joint division. An aviation specialist/administrator could fill the post of chief pilot or any other post specified by the group. Yet, one obligatory, unified structure exists at present for all regions, a faithful copy of the top-level administrative structure: central administrations and ministries with all their departments and divisions. The latter issue orders and requests, while their subordinates write reports.

N. Parschikov, the Aldan poet/pilot, focused his attention on this point. His calculations for an economically-sound, independent aviation division are

based on this group's administrative independence from a rigid, unified system. The system should be dictated by the work itself, just as in the new cooperative groups. Rental of specially-designated planes and helicopters should continue. Contractual relations with clients should be mutually-advantageous and negotiated locally, not in a distant 'central' office. Passenger routes should be modified in accordance with passenger requests, not at the whim of a commanding officer.

The Yakutsk pilots are not in a hurry. They are confident that all the ways in which to make their group's activity profitable have not yet been examined. They know that the two-section system in its present form will not provide any protection against financial loss. The opinions of both economists and poets should be taken into consideration. Sometimes a poet's fantasy is more realistic than the calculations of staff 'futurologists'.

Vozdushnyi Transport
15 Oct 88
P. 5 (full text)

From the Wholesale Market to Northern Tables

Fresh Produce Deliveries are Being Completed

One of the most difficult services performed by Aeroflot planes is the delivery of fresh produce. In the past journalists for this newspaper frequently pointed out the poor organization of these deliveries, prompted by numerous complaints about

sloppy work by either shippers or consignees in Siberia, the Far North, or the Far East.

There is no doubt that these deliveries are profitable for the aviation industry, and no solution has been found for long-standing problems like delays in plane arrivals and lost time as these planes wait to be loaded or unloaded at airports.

With today's new management methods, the situation has improved, however. How? First of all, as a result of new approaches developed in line with new organizational policies for fresh produce deliveries.

Iron-clad directives are no longer issued by the Main Administration for Air Freight Services under the Ministry of Civil Aviation instructing Krasnodar, for instance, to ship produce to one location or another, or Irkutsk to ship produce to some other location. How, then, are volumes of deliveries set by regions now?

The guiding principle today is for each area to supply its own region first. The economic self-sufficiency of each region is ensured in this way. A secondary consequence is that turnover of the aircraft pool is optimized. The simplest place to perform repairs on a plane will now be in its home base, without the need to send repair crews to distant airports where a plane has been assigned to fly under orders. It is also psychologically important that pilots be able to gauge the effectiveness of their deliveries against the stocks of produce in local shops.

Naturally, the inhabitants of regions without air freight service suitable for fresh

produce deliveries should not be deprived of nutritious food. The Ministry has kept their needs in mind and has issued recommendations. Before the beginning of this year's harvest, it sent out its suggestions to the various regional offices concerning distribution of local produce to their regions, in addition to supplying other regions. Air freight agencies responded to this hint. In March an inter-republic wholesale market was held in Moscow, at which the air freight agencies concluded delivery agreements with fruit and vegetable suppliers. All the agreements were then examined at the Ministry of Civil Aviation, which suggested only a few minor changes. As a result, it was these agreements which determined the scheduling of flights to one region or another during this year's fruit and vegetable harvest.

However, given the complexity of this process, whether fresh produce actually reaches the northern tables at the right time does not depend on the time at which the agreements were signed or on the provisions of the agreements. The fields of many produce-growers were hard hit by rain in May-June. Air freight organizations began to sign new agreements very efficiently in regions with good fruit and vegetable harvests. They were helped by freight shipment and postal freight services in the regions supplying fresh produce.

Taking this situation into account, the State Committee for the Agricultural Industry decided to include the produce deliveries beyond the quota within the country-wide Food Program. Air freight agencies did not neglect the deliveries they were scheduled to make as part of their quota, however; instead, additional resources were located for them and their deadlines were moved forward. By

mid-October air freight deliveries totalling 64,000 tons of fresh fruit and vegetables, well beyond the targeted 46,000 tons, had been supplied to consumers.

New recommendations aimed at optimizing fresh produce deliveries next year have bee issued by the Main Administration for Air Freight Services to the administrative agencies in each region. Experts from the Civil Aviation Research Institute took part in drawing up the recommendation. Responses to these recommendations will be analyzed and will form the basis for future planning.

Vozdushnyi Transport
25 Oct 88
P. 11 (full text)

Why Did the Plane Crash?

The "Pravda" office in Tyumen' receives quite a few telephone calls and letters from our readers, asking us to relate the conclusions reached by the commission investigating the air crash near Nizhnevartovsk. I met recently with V. Polyakov, first deputy of the Tyumen' civil aviation authority.

- Vladimir Nikolaevich, is there any new reliable evidence about this tragic airplane accident, so well known throughout the country?

- Yes. Just a few days ago we received an order from the Ministry of Civil Aviation, issued on the basis of tne detailed investigation carried out by the Gosavianadzor USSR Commission. We now have a credible assessment of what occurred. On 28 January of this year, at night, under easy

conditions weather-wise, and near the Nizhnevartovsk airfield, a YaK-40 airplane, bearing registration number 87549 and belonging to the Tatar aviation enterprise of the Privolga civil aviation authority, crashed while taking off.

During the climb just after the plane had left the landing strip, a drop in the number of revolutions of the second and third engines was registered, and then, one second later, the same in the first engine.

Subsequently the first and third engines were switched off. After a 74 percent drop in revolutions, the second engine reached take-off regime.

The plane reached an altitude of 35 metres by inertia. The flight continued on one engine with loss of speed. At a distance of 1,880 metres from the end of the landing strip, and 18 metres to the right of the extension of its axis, the aircraft, with a list angle of more than 60 degrees, struck the slope of a ravine, and then an electric transmission line support, and broke up completely. As a result, 4 crew members and 22 passengers died, and 5 passengers were hospitalized, one of them dying two days later.

The total duration of the flight over the landing strip, and then over very rugged and built-up terrain, providing no favourable conditions for the necessary emergency landing beyond the airfield, amounted to 91-92 seconds. As the emergency situation unfolded, the crew did not make contact.

- What did the Gosavianadzor USSR Commission find as to the causes of this tragedy?

- Top specialists agree that the most probable cause of loss of engine power was retraction of the engine controls by the crew, after which the first and third engines switched off. When the engine controls were subsequently moved to the take-off position, only engine number two achieved take-off regime.

- Does this mean that a crew member either mechanically, that is, unthinkingly, or deliberately retracted the controls, and then, coming to his senses, switched them on again?

- To switch them off deliberately would be suicide and a crime against the people sitting behind you. It is just not possible to believe that. Inadvertence is another matter.

- Our newspaper has also reported that the search for the aircraft was poorly organized. What conclusions were reached in that respect?

- Indeed, to our great shame, it took five hours to find the plane, even though it had crashed right next to the airfield. Certain specific officers are to blame for this: V. Pysenok, commander of the Nizhnevartovsk joint aviation section, M. Kalinin, his first deputy, S. Bakunin, PDSP director, and V. Yurchenko, deputy director of the airport. They have all been severely punished by a special administrative order. But more importantly, measures have been designed and implemented to prevent something similar from ever happening again. The personnel of all our branches has undergone training in the

conduct of search and rescue operations in all situations, and special technology and equipment have been allocated.

Pravda
16 Oct 88
P. 3 (full text)

Course for Indigirka

A new air route has connected the remote settlement of Kebergene to the regional centre of Belaya Gora. The residents of these places now have a round-the-year link with greater lands.

The entire population came out to meet the An-2 airplane, piloted by captain I. Zavershinskii and second pilot V. Koryakin, that was the first to touch down on the new landing strip. An improvised meeting was held on the spot.

A. Noskov's brigade, of the Irkutsk SMU-11 GA, delivered the facility a year ahead of schedule, and undertook to build a road linking the airport to the settlement by the end of the year. The route will be flown by experienced pilots of the Chokurdakhskaya joint air squadron.

Vozdushnyi Transport
4 October 88
P. 1 (full text)

TRANSPORT LAND

Those Long "Pencilled-In" Kilometres

Last winter, in the far northern town of Noyabr'sk, I once again saw a familiar sight: the driver of a powerful "Ural" had opened the tap of his fuel tank and was pouring gas on the ground. A stream of transparent, high-quality fuel was gushing into the snow, forming a puddle of impressive size under the wheels. There must have been two hundred and forty litres.

- Are you going to repair the tank? - I asked curiously.

- No, its not the tank, - he shrugged disgruntedly. - The tank is fine. It's the damned control. We are working on a new route and you can imagine what the conditions are like: either the road is blocked by snow, or there is no load, or you get stuck in mud. And so it goes, week after week. You cannot foresee everything, but that does not stop them from entering on the travel sheet the full amount of work that the machine can do in a shift, even though it very rarely does that much. The superintendents and foremen have no choice in the matter, because otherwise they won't get a transport allocation the next time. And they make the control mechanics enter the fuel left after each run. So what can we do but pour off the "surplus" gas.

The driver's voice betrayed his sincere bitterness. And I thought back to more than thirty years earlier. It was 1953, and the notorious piece-work system for paying drivers, on the basis of

"pencilled-in" ton-kilometres, was in full operation. Drivers of the Moscow communal automobile base No. 3, for high building construction, were pouring out gas right in front of the base's gates. They had even dug a ditch for that purpose. And then there were all sorts of ways of turning the odometer.

It cannot be said that the drivers themselves did not resent this procedure. On the contrary - they wrote to newspapers and magazines, and to decision-making organizations. Nothing helped. At the time it was fashionable to blame the drivers themselves for everything. The bureaucratic system of accounting additions operated smoothly, for it was no doubt very convenient for the workers' managers. How many orders and medals, and even Hero titles, were awarded for these paper ton-kilometres. And yet the drivers' justified resentment, and the search for the truth, did finally see the light of day. At the beginning of the sixties, new payment conditions for drivers were drawn up, on the basis of a time-bonus system. Attempts were made to find other forms of organization of labour and payment for work. But the ensuing twenty-year period of stagnation in our economy completely wiped away all these reasonable beginnings. Everything gradually went back to the old ways.

For how much longer will we continue to deceive ourselves, to "pencil in" fictitious runs on travel sheets, to turn odometers, and to pour out gas acquired with such great effort?

We also have to keep in mind that gasoline depots are accumulating enormous reserves of fuel, issued for paper "runs", which, given today's gas prices, inevitably results in abuse. As a people's controller, I was told by tank-truck drivers that,

three years ago, six (sic) tanks of 93 grade gasoline disappeared on Surgut's approach roads and were sent to Georgia. But on paper all this gas was consumed for haulage.

I can just hear all your questions: "What can you offer as concrete proposals?", "How do we get out of the present situation?", etc.

Drivers do not need deception - they are just as hard-working as anyone else, and they care just as much about their productivity. To begin with, I suggest doing away with piece-work wages for short hauls, especially on construction sites. It is difficult to account for the work of the machine because unforeseen circumstances arise every hour.

But people are still afraid of losing the convenience of piece-work. For some reason, it is felt that, without a daily ton-kilometre quota, drivers would necessarily sleep in their cabins for shifts on end, once again bringing down the notorious labour productivity. These fears are based on a deeply rooted mistrust of man, on doubts in his conscientiousness, which are harmful to our society. A driver is surrounded at work by many people who are interested in the machine's output. Moreover, a driver is a driver because he chose an occupation that suits him. Give him a loaded truck in running order and an open road, and he will never stand idly for hours on end. His soul cries out for travel, and all delays are so many irritants. I write these words as a driver, who first found himself the wheel thirty-seven years ago.

We have to develop reasonable forms of work organization and payment. For instance some enterprises in Surgut have moved away from

ton-kilometres to payment per ton-hour. The basis for remuneration is the number of tons hauled per hour of work. This frees the driver of the need to crank up odometers, and to make tons of fuel disappear.

I believe that ton-kilometres should be used only for runs of at least one hundred kilometres. In fact, they work very well for intercity drivers. On that kind of haul it is easier to organize vehicle loading for the return journey, and empty runs are reduced.

Maybe consideration should be given to leasing contracts. Much is being said now about outright leasing of trucks to drivers, and there are already examples of this, at the Lithuanian "Mir" sovkhoz, the "M. Mametova" sovkhoz in Tselinograd, and the "Zybino" livestock sovkhoz in Tula.

Six years ago I met some Moscow drivers coming back from Belgium, where they had been working under contract. It is noteworthy that the company was completely disinterested in odometers, and none of its employees ever checked them, on the perfectly reasonable grounds that the odometer is an instrument for the driver, just like the other instruments on his panel. On the other hand, the vehicles' working time was severely controlled. One of these drivers once decided to knock off work for 20 minutes to go about his own business. That very evening he was given a warning.

Leasing contracts are appropriate as starting points in small organizations. But for large, "basic" industries, with haulage on a massive scale, "basic" methods are needed.

This entire set of problems should be taken in hand, in the first place, by the RSFSR Ministry of Automobile Transport, and also by the USSR Goskomtrud (State Labour Commission). In any event, we must finally come up with a system that would banish "sham" tons and "pencilled-in" kilometres from our everyday practice.

Trud
6 October 88
P. 2 (full text)

TRANSPORT RAIL

Grain Shipments

A Lack of Co ordination in Severnaya

Relatively few vehicles carrying fresh produce had arrived at the Syktyvkar processing depot at Yazel' Station that morning, but now more and more were arriving by the hour. By noon there was a long line of vehicles. It was a familiar sight: long waits by vehicles in the daytime and a lull in the evening and at night. Fresh produce arrives at the station at irregular times, and consequently railway workers, produce supervisors and agricultural quality control inspectors also have to work at an uneven pace.

During a special meeting at the Komi ASSR Council of Ministers convened to discuss the reasons for delays in harvesting and distributing vegetables and potatoes to various cities and areas in the republic, N. Nekrasov, chairman of the board of the Komi Consumers' Union, said there were enough loaders in Yazel, but delays were a result of the railway workers' inefficient positioning of the freight cars beside the loading platforms.

Between 60-90 men are engaged in loading potatoes and vegetables daily in Yazel. However, the irregular numbers of loaders is also difficult to handle, especially because there are not enough loading platforms to process a large quantity of produce in a short period of time. Judge for yourself: last September 300 freight cars were dispatched to consumers from this station, while this year between 60-70 cars leave here daily.

The emergency situation which has arisen here could have been foreseen: the republic's agricultural managers knew what kind of harvest would take place on the northern fields and that this harvest would supply produce for the Arctic cities, not produce transported from other parts of the country as was the case last year. Late summer and early autumn provided ideal conditions for the harvest - potatoes were dug up out of the dry ground and vegetables on the vine ripened quickly. If the efforts of the produce-growers, processors, and transporters were co ordinated, produce could be delivered to consumers quickly and with minimal loss.

Now it is either snowing or raining in Yazel: bad weather has overtaken fields where the crop has not yet been harvested. To date 38.4 thousand tons of potatoes have been harvested against a quota of 42.6 thousand tons, and 13.7 thousand tons of vegetables, representing more than half the targeted quota. There is a very real possibility of not only filling the quota, but even over-fulfilling it. Efficient, co ordinated work is required at each state of the process from grower to consumer.

There are two sorting areas at the depot where produce undergoes a quality check and is weighed. The state farms which load the vehicles often overstate the weight, however. The fraudulent weights are not always detected, and therefore consumers often receive less freight in the wagons than shown in the shipping documents. Documents therefore have to be rewritten, and this takes the time of not only depot employees, but also railway workers. Floods of complaints about underloading have been received from Vorkuta, Inta, and Pechora. Piles of potatoes are scattered near the freight cars - more wastage.

"The shipper should prepare the freight cars properly before shipping fresh produce", said R. Belova, the Station Chief. "However, the Syktyvkar processing depot supplies them to us unequipped. There are no beams for hooks, no boards for doors, no seals. We don't know when things will be provided as they should be."

For the time being, then, there is very little co ordination here. Instead, reproaches are heard from all sides, making a bad situation even worse.

Gudok
25 Oct 1988
P. 1 (full text)

TRANSPORT WATER

Supplying The Yamal Pipeline

More than 400,000 tons of large-diameter pipe have been delivered by sea on boats travelling between Novyi Port and the Ob Inlet. The shipping plan has been over-fulfilled. Nonetheless, another 6 large freight ships carrying 28,000 tons of pipe in their holds arrived in Novyi Port in early October. Despite the stormy weather, the boats which sail along the Ob-Irtysh line, are attempting to deliver the last pipeloads in caravans.

The crews of the boats under Captain A. Zyryanov of Tyumen, as well as the crane-operators on SPK-32 and SPK-49 from Salekhard Port have discharged their duties splendidly throughout this Arctic shipping expedition. Thanks to their well-coordinated efforts, the pipeline workers of Nadym, Urengoy, and Yamburg will have essential construction supplies throughout the long winter anead.

Vodnyi Transport
11 Oct 1988
Page 1 (full text)

Work Quotas Completed Ahead of Schedule

By mid-September the crew of the diesel boat OTA-982 from the Surgut maintenance and operation base had completed their work plan for the fourth year of the Five-Year Plan. Now the crew has scored a new victory in completing their navigational plan ahead of schedule.

The administrative offices of the Ob-Irtysh shipping line has received yet more good news from Nizhnevartov Port. The group of diesel-driven ships of the Reidovyi type completed their navigational plan one month ahead of schedule. The crews earned 594,000 roubles in revenue and economized significant quantities of fuel. The crew of Tyumen-13 announced that they too, had completed their shipping quota ahead of schedule on the eve of Soviet Constitution Day. Work has begun on shipping quotas for 1989.

Vodnyi Transport
7 Oct 1988
Page 1 (full text)

Tourism

An Arctic Cruise

The Eisk travel and excursions office is offering an exciting trip in a comfortable motor vessel to the northern seas of our homeland. Tourists are provided with cabins including all amenities, a long-distance telephone, a souvenir shop and hair salons. Complete travel information is provided throughout the trip. A cultural entertainment programme is available for vacationers. Interesting meetings are planned in Murmansk, Franz-Josef Land, Dixon and on the Solovetskii Islands.

The cost is about 600 roubles, including the return journey from Eisk to Murmansk.

Sovetskaya Rossiya
19 October 1988
Page 6 (Extract)

MISCELLANEOUS

On The Kola Peninsula

"I've read that a shaft almost 15 kilometres deep is being drilled on the Kola Peninsula. How will this enrich our knowledge about the earth's inner core?" (T. Sinyavskaya, Perm). D. Guberman, Project Head, replies: "We've already drilled down more than 12 kilometres and are now almost at the 13th kilometre. It takes 8 hours just to lower the drill, another 8 hours to do the drilling, and just as long to bring the drill back up to the surface. Each day brings us 10-12 metres closer to the earth's core.

Research inside the shaft has already disproved some long-standing assumptions about the structure of the earth's crust. For instance, it was believed that 10 kilometres down the structure of the earth's crust changed radically. However, rock samples brought up from a depth of roughly 12 kilometres hardly differ from samples taken at a depth of 8, even 6 kilometres. The earth is not 'dead' at this depth, as scholars previously believed. It is 'alive': gases and mineral solutions have been discovered in crevices. This would indicate that the process of mineral formation at significant depths is continuing. This conclusion has practical significance in that new minerals can be searched for deep beneath the earth's surface.

Trud
22 Oct 88
P. 4 (full text)

A Cave Instead of a Refrigerator

One would think that the well-travelled roads criss-crossing the Belomorie region had been studied sufficiently. Nonetheless, a surprise awaited some of today's travellers. Speleologists from the Archangel Poisk (Search) club discovered a large karst cave near the settlement of Pineza.

Not only tourists are intrigued by the gloomy spaces beneath the earth. Geologists are also interested in them. Specialists in the karst division of the Arkhangel'skgeologiya complex have explored over 200 caves.

"This not only enables us to expand our knowledge about the geological features of the North", stated V. Malkov, a senior hydrogeologist. "There are enormous underground areas which could cause cave-ins if they are not taken into consideration during construction of large buildings. We have plans to offer several picturesque caves for visits by groups of tourists. Incidentally, Golubin Pass has already been included in sightseeing routes and caves with very low temperatures can be used to refrigerate food products."

Trud
20 Oct 88
P. 4 (full text)

Conclusions and Proposals on Transportation

Transport "knots" and "bottlenecks" have been tied up and growing larger for decades, and one

cannot hope to instantly untie them. This was the unanimous opinion of participants in a "Business Club" meeting. They noted that solving transport problems is organically connected with the elaboration and introduction of a waste-avoiding economic mechanism. As long as enterprises and societies are vitally interested in maintaining rouble turnover, at the level reached through planned production and salaries, they cannot reduce their accounting totals for acquisition of raw materials and semi-manufactured products, whose share of gross domestic product amounts to almost forty percent. The higher the cost of transport, the greater the rouble volume of marketable and finished production. Now the level of these expenses is not limited by anyone or anything, so for many enterprises they constitute a tasty morsel, without which the plan would never be fulfilled.

The meeting's participants stated that it was time to transform expenditure indicators into accounting indicators, and not just in words but in deeds, time to rid ourselves of the hypnosis of gross output, thereby creating more favourable conditions for specialization of production and rational distribution of productive capacity in the country. Many speakers stressed that the imbalance of the national economy, with respect to many significant types of production, has an extremely negative effect on rationalization of freight transport.

Neither does the economic mechanisms of transport departments and organizations have the desired impact of reducing long-range and cross-hauls. Each ministry watches over its own narrow bureaucratic interests, not caring enough about advantage for the economy as a whole. It is necessary to better co ordinate freight transport

throughout the country, and to pay more attention to rationalization of itineraries, with a view to making them less expensive. We need a single transport management body, that would be able to apply economic levers, rather than administrative decrees.

The "Business Club" meeting participants made some concrete proposals. Starting in 1989, to set higher rates for freight transport in directions not corresponding to rational freight flows, in mixed modes with two or more trans-shipments, and also for repeated haulages. It was also proposed that maximum transport cost standards (limits) be imposed on the market-supply organizations of the Gossnab USSR system, on Gosagroprom USSR, and on manufacturing and commercial organizations of other ministries and departments.

The many-sided nature of transport link rationalization, in the view of "Business Club" participants, is indissociable from, in particular, improvements in the country's economic relations, through new approaches to the development of productive capacity, and democratization of economic management. It is not enough to review transportation rates, and to reflect transport costs in wholesale prices at the place of delivery, rather than of shipment. The process of economic re-fitting must be thought through in depth and from all sides.

The passage of regions (republics, territories and districts) to self-sufficiency, with territorial economic accounting, may well, in its turn, promote the rationalization of freight transport in the country. This will be achieved thanks both to a strengthening of economic levers in the interactions among sectors with territorial bases, and to the principle of mutual advantage and

equivalent exchange among the country's regions. And here it is indispensable that transport aspects be taken into consideration right from the start, whenever concrete planning, investment or commercial decisions are taken.

But the main levers for reducing transport costs in the economy, for putting freight haulage in order - are in the hands of enterprises. With the move to full economic accounting and self-financing, with a dramatically enhanced role of profit in their socio-economic circumstances, the fight for every rouble will become a reality. Radical economic reform must be implemented more boldly, in order that the entire national economy really start to work differently as of the thirteenth five-year plan.

Pravda
4 October 1988
P. 3 (Extract)

An Unusual Run

For Captain V. Lebedev of the "Zarya-359" motor vessel, out of Khanty-Mansiiskii river port and of the Ob'-Irtyshskii steamship line, navigation is an anniversary this time. He has devoted thirty years to this difficult job. Navigating any run is a test of character, of loyalty to the river, an examination in professional qualifications. The runs are particularly demanding in uncertain autumn weather, when the days are short, and the Konda River is turbulent.

At the end of the 1988 season, V. Lebedev and his mates were called upon to make an unusual run, delivering students from Tobol's D.I. Mendeleev State Institute of Pedagogy to their first archaeological dig. Thanks to the captain's great

experience and keenness of wit, the young enthusiasts reached their remote taiga destination.

Vodnyi Transport
18 October 1988
Page 1 (full text)