Trackingship Kosmonavt Georgiy Dobrovolskiy arrived in Rotterdam on Monday 22-10-90, early in the morning. It left Rotterdam on 25-10-1990 and at noon 26-10-1990 the ship was bound for Leningrad in pos. 5410N 0052E.

I visited the ship on Tuesday 23-10-1990. The visit has been arranged by the agent of Soviet ships, TWM.

Reception took place in the cabin of the Chief of the Expedition. For a short period the captain was present, but as in his opinion the conversation was a technical one, he asked permission to leave!

Captain: SINITSYN, Vadim Nikolayevich.

Chief Expedition: SERPIKOV, Sergey Viktorovich.

Deputy-chief Expedition: SMETANNIKOV, Vladimir Nikolayevich.

Before the captain left he showed me some parts of the ship among which the normal radiostation (UZZV).

The ship now returns to Leningrad after an expedition of appr. 7 months. They worked from positions in the Central Atlantic (2 months east of Argentina, 2 months more to the north and again 2 months in another position.) There the Kosmonavt Viktor Patsayev took over. During a visit to Cape Verde they had several ambassadors on board and the chief of the expedition arranged some conversations between those ambassadors and the MIR-cosmonauts.

About the schedule: Akademik Sergey Korolyov near Sable island? The Kosmonavt Yuriy Gagarin was relieved there by A.S.K. (In my opinion A.S.K. is now near the Azores now, but Serpikov denied this.) K.V.Patsayev is now east of Argentina and will in the near future move more to the north (Canaries or so). Kosmonaut Vladislav Volkov, still in Leningrad now, will soon proceed to the first position of K.V.P. After leave the K.G.D. will return to the Atlantic in March 1991.

The ship has a crew of 129, 53 ships crew and 76 members of expedition.

Serpikov did not tell much about the Russian TDRS-s (Sputnik Retryanslyator). I asked him whether Cosmos-2085 or 2054 were SR-s, but he said that he did not know this. He said there have been too many Cosmosses to know all about. More open he was about the Molniya and Gorizont links. He showed 2 positions: 1 Gorizont above the equator at about 1 dgs West and 1 above Keniya. The ships never work via other communication satellites.

I tried to persuade him to give his opinion about their future in relation to the SR-s, but he only said that it was for TsUP to decide via which system the cosmonauts had to work. He had no influence at all, but if MIR and TsUP work via a RS the ship is not active, however they can go on with the reception and analysing the Telemetry. He admitted that during MIR-communications via SR the ships are just there to act as a backup. If the SR fails the ships take over. It also might happen that if the ship has problems. If so: SR takes over. He also admitted that aiming of the antenna of MIR to get a good signal via SR must be very accurate and sometimes it is impossible due to the attitudes of MIR for astrophysical and geophysical experiments. Aiming the ships antennae for MIR, Molniya and Gorizont gives no problems if windforces do not exceed force 7.

Serpikov said that they still were able to receive Telemetry from Salyut-7. He referred to higher frequencies than the HF (so he did not receive 19.956 mc). I did not succeed in persuading him to give the TLM frequencies of Sal-7 or the add-on Cosmos-1686. (He did not know this number; long ago: in the past he worked with Sal-7 while still engineer on the Morzhovets.)

Serpikov told that the ships of this (Volkov-class) do not have the means to give commands to satellites. They also do not have the possibilities for accurate tracking on high frequencies. Only the big ships have those possibilities. Ships of this class receive and analyse Telemetry for which they have an enormous computer arsenal. Sometimes they do not analyse the TLM, but relay that to TsUP. The second task of the ships is the relay of radiotelephony, TV and other means of communication between TsUP and MIR visa-versa.

He stated that the relations between the cosmonauts and his ship were very good. In contradictory to the big ships they never have had any cosmonauts on board during expeditions. On the bigger ships cosmonauts now and then are on board during short periods.

I visited some laboratories among which the Telemetry analysing room with the computers. There they also had possibilities to aim the necessary antennae. For each TLM transmission they have a programme on paper ribbons (perforated). This is loaded in one of the 2 computers for TLM analysis. The 2 computers can work independently (1 of them can be stand-by to take over), but they also can work simultanuously during TLM analyses of 2 different transmissions. (I somewhere read the number of 1500 channels!!)

In contradiction to that what I saw on the K.V.K. the installations were very modern and it was obvious that care and maintenance were 100%. For maintenance they have a very good technical staff. During the stay in Leningrad no special repairs are necessary, apart from eventual installating of new equipment.

Serpikov served as a chief engineer and -possibly deputy chief of expedition- on the Morzhovets. He confirmed that ships of that class (Morzhovets, Borovichi, Nevel and Kegostrov) left the service (to be sold to for instance India and Greece) definitively in 1989.

He told that the Marshall Nedelin (Far East) did not belong to the Academy of Sciences, but to the V.M.F. (the Soviet Fleet.) There is another trackingship under construction for service in the Red Fleet: the Marshall Krylov. Krylov and Nedelin are used for military purposes, but can be used for civil satellite operations, i.e. Buran, MIR etc. Marshall Krylov will also be added to the Far East Red Fleet.

The Akademik Nikolay Pilyugin is still under construction. Serpikov hopes that this ship will join the fleet (Academy of Sciences) somewhere in 1992 or 1993, but nobody cannot be sure due to the turbulent political and economic developments in the S.U. This also makes the fate of Marshall Krylov still unsure. I understood that Serpikov hopes to be transferred to the A.N.Pilyugin, which means more important work for him. Such a transfer also might be important for his present deputy, possibly in the picture for Serpikov's present job o/b K.G.D.

During the Buran flight in 1988 the K.G.D. had to proceed via Cape Horn to New-Zealand for analysing TLM of Buran during a critical phase the flight (burn of engines for descent manoevre during 2d orbit) in cooperation with the Marshall Nedelin. The ships have been in each others vicinity for a while.

About the K.V.Komarov: this ship will not be used for satellite tracking any more, but fully reconstructed for ecological survey in the Baltic and Finish gulf. There still have to be taken some definite decisions. He denied that the K.V.K. will serve as a relay for certain ecological satellites.

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