

**Information on the cooperation between KGB and Bulgarian State Security
Scientific and Technical Intelligence directorates, Sofia, [June] 1989**

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USSR

Outgoing: 1989

Top secret!

INFORMATION*

REFERENCE: Cooperation between Directorate “T” PGU-KGB and Directorate for Scientific and Technical Intelligence, PGU-DS for the period October 1988 – May 1989

The information exchange between our services is developing intensively and corresponds to the tasks assigned to the two intelligence services. We are trying to continuously increase the level of information quality.

During the reported period, 318 documents with scientific and technical information were received from Directorate “T”, PGU-KGB, with the following level of confidentiality:

* The document was written in Russian.

Secret – 26

For confidential use – 88

Unclassified – 204

All materials were processed and submitted to our customers who rated them in the following way:

Valuable – (Grade “2”) – 16

Interesting information (Grade “1”) – 11

Not graded – 87

Materials, not rated by customers, have the following preliminary assessments:

Valuable (Grade “3”) – 9

Valuable (Grade “2”) – 69

Interesting information (Grade “1”) – 10

1. Technological documentation
2. Diagnostics for VAX 11/730 and VAX 11/750
3. Production of vulcanizers CA-150 and antioxidants type 460 and A-732.
4. Technological documentation for the production of the anti-bacterial substance TRIMETHOPRIM.
5. Technology for the production of H-ACID
6. Know-how for the production of the stabilizer IRGATIV 17M.

During the same period we submitted 78 scientific and technical documents to the Soviet comrades.

Cooperation took place in the following areas:

I. Military and special equipment

1. With reference 2052/5.12.1988 we sent materials about:

- Materials from the 17th NATO international conference on modeling air pollution, conducted in Cambridge in September 1988;
- Material from NASA conference, conducted in Washington in November 1988.

Work on these topics continues.

2. In December 1988, we made a proposal related to testing of helicopter turbo engines. We received a reply that the suggested installation was not of any interest.
3. With reference 2055/5.12.1988 we sent materials on computer simulation of two-part manipulator and space models, including:
 - Manipulator for snatching objects in space;
 - A visual system for detecting images;
 - Algorithms for steering robot movements;
 - Research of manipulators.

In your letter 283/20.02.1989 you point out your interest in the development of robots for space purposes.

To our regret, our source is not in a position to receive information any more.

4. With our reference 2056/5.12.1988 we offer materials TANGENTIAL THOMSON SCATTERING which discuss the introduction of THOMSON for plasma diagnostics in TURTUR accelerators.

In your letter 281/20.02.1989 you assigned a task to obtain information of developing tools that could be used for remote detection of materials on board of space ships and aircraft. The implementation of the task is in a working stage.

5. With our reference 2059/1.12.1988 we sent a sample of a disc protector, manufactured by the American company DATA – SHUTTLE following the Tempest standard. The sample meets the requirements of the customer.
6. With reference 2073/8.02.1989 we sent materials and a video tape about the system FULCRUM of the ITS company. Production in compliance with Tempest standard. Current stage – coordination.
7. With our reference 2085/29.03.1989 we sent materials about the destruction of the ozone in the upper atmosphere layers.

You inform us that the materials correspond to your tasks, and the materials on controlling the state of the round-the-earth space were rated with grade “3”.

Work continues on this issue.

8. With our reference 2086/18.04.1989 we sent a video tape and specifications of a device for intelligence system using unmanned aircraft from RPV SPARROWHOWK SYSTEM. There has been no reply.
9. With our reference 2089/18.04.1989 we sent the material “Fast welding with the help of a laser”.
10. In your letter 2504/14.12.1989 you demonstrate your interest in acquiring the technology from NEC Company for production of resins and radio absorbing polymers.

With our reference 2091/18.04.1989 we received samples of resins, resin elements, and a short description of the method of pasting (produced by NEC Company).

With your reference 934/17.05.1989 you inform us about your interest to receive information and samples of materials type NEBOA RS W-124.

The question is under discussion.

11. With your reference 2394/28.11.1988 you inform us about your interest to receive a sample of the board computer HAWK 32 from the US company ROLM.

After studying the channel of delivery, this proposal was turned down by you.

12. With your reference 2412/28.11.1988 lists of C³I and coding devices were sent.

In your letter 184/2.02.1989 you inform us that you are interested in the acquisition of samples of coding devices model TST and you are interested to buy TST-087 sample.

The task has been assigned and we are expecting delivery.

13. At the working meeting in 1988, you expressed your interest in the acquisition of 130 mm shells.

The task is being worked on.

14. In your letter you inform us about your interest in the acquisition of ammunition MAPATS, non-metallic tank forecastles MERKAWA, and unmanned aircraft type SCOUT (produced by Israel).

The task has been assigned to our sources.

15. Digital modular radio communication systems MVS/XA.

The task has been completed.

II. Computing engineering

1. In your letter 2423/28.11.1988 you inform us about your interest to acquire priority program systems MVS/XA.

In our latest mail we are asking you to inform us about the purpose of the requested materials.

III. Electronics

In compliance with the agreement from the meeting in November 1988, our services exchanged information on automobile electronics.

IV. Biotechnology

1. In response to your interest, we sent a strain of vaccine against atrophy rhinitis in pigs with a protocol for production.
2. In response to your interest to acquire strains for research, producing cellulose, this problem is being worked on.
3. The question about acquisition of documentation about follicle-stimulating hormones FSH is being worked on.
4. You informed us about your interest to receive materials on bioreactors.

We are ready to send documentation on regulating appliances, as well as a reply to your request for documentation and samples of filters for gas purification.

5. In response to your interest in acquiring hybrids for the production of MKA against botulism toxin, we sent a sample (1ml) and a description of MKA 1A10. After testing, please inform us if the sample corresponds to the task.
6. With your reference 2427/28.11.1988 you inform us about your programs in the area of genetic engineering.

With reference 2079/1.03.1989 we informed you about our interest in the acquisition of these programs.

V. Metallurgy

1. Dust for the steel-casting industry

You inform us about your interest in the acquisition of receptures for dust for the steel-casting industry (our reference 2041/25.10.1988).

We are working on your question. Due to operational considerations, the response could be expected at the end of the year.

2. Platform for thermal processing of aluminum casts.

In response to your interest, we prepared a set of documents about the platform for thermal processing of automobile rims made of aluminum alloys.

3. Automation of the processes for pouring steel from the KOBE STEEL Company

We offered documentation for the method of continuous measuring the temperature in the process of continuous pouring of steel.

We received a reply from you that the final assessment and the possibilities for applying this method have not been clarified yet (reference 970/19.05.1989).

We are waiting for the final reply.

In the same reference you inform us about your interest in receiving closed proprietary information about the system for automation of the processes in continuous steel pouring and its equipment.

We do not have any specific solution yet.

4. Sensors for controlling the concentration of elements and compounds in melted metals

With our references 2071/8.02.1989 and 2085/18.04.1989 we sent samples of sensors and a methodology for defining the content of silicon in melted metal. We also informed you about the possibilities to receive documentation on the production of sensors for controlling the silicon concentration.

We have not received a reply yet.

VI. Chemistry

1. Pipes made of composite materials following the UNI PROCESS method

In our reference 2081/18.04.1989 we prepared a description of pipes made of composite materials with a polymer matrix and a complex scheme of armor following the UNI PROCESS method, and we suggested that in case of interest we will start work to acquire the technical documentation.

You asked for additional questions for clarification and a final decision (reference 911/12.05.1989).

The questions have been submitted for clarification.

2. Photo resistant materials

With your reference 2410/28.11.1988 we received questions on photo resistant materials type AZ-4000 and luminofors.

We sent you information on photo resistant materials positive type (our reference 2075/8.02.1989). In this reference we included some questions about obtaining resins, necessary for the production of photo resistant materials.

With your reference 849/3.05.1989 you inform us that you are not interested in any information about the preparation of raw materials based on resins and photo sensitive components. You also tell us that our questions are being discussed and the materials will be delivered. In addition to reference 2410/28.11.1988 you indicate some

specific questions on the production of photo resistant materials and you mention some companies.

On our behalf, the questions are also being worked on.

3. Polyolefin

With your reference 2505/14.12.1988 we received a request for additional information regarding polyolefin materials from MITSUBISHI PETROCHEMICAL , and more specifically receptures for types PM 700B (COPOST) and PR 800 M (HOMO), as well as the technology for their production.

The questions are under discussion.

4. Alkyd resins

With reference to our proposal, submitted at the meeting in Sofia in May 1987, a confirmation was received about your interest to receive industrial regulations for the production of resin type ALKYDAL R35W, ALKYDAL F41, and programs for the formation of receptures for resins.

At the beginning of June 1989, we sent regulations for the above-mentioned resins and a description of the modified program version.

We are expecting your confirmation about your interest in the modified program version.

5. Purification of gases in the production of ammonia

With your reference 2261/8.11.1988 you inform us about your interest in receiving technological information on absorption purification of converted gases from carbon dioxide, applied in ammonia production by BASF-FRG.

Right now, we are not in a position to solve the problem.

6. Purification of copper conductors

With our reference 204 b/25.10.1988 we informed you about the possibility to receive technologies and receptures for substances for cleaning copper conductors from insulating covers.

We inform you that we are not in a position to acquire any documentation.

7. Purification of matrices from rubber deposit

With our reference 2044/25.10.1988 we informed you about the possibility to receive receptures and technologies for the production of substance for chemical purification of steel, aluminum and steel-aluminum matrices from rubber deposit.

We inform you that we are not able to solve this problem.

8. With our reference 2072/8.02.1989 we informed you about the possibility to deliver technological documentation about the production of glass-strengthened profiles with application in construction works. Price of documentation – 1000 US dollars. We also sent two receptures.

With your reference 850/3.05.1989 you inform us about your interest.

We are looking into your questions.

VII. Energy

1. Nickel (silver) – hydrogen batteries for the space industry.

At the working meeting in Moscow in 1988, we submitted a proposal about the acquisition of documentation and “know-how” for the production of “nickel (silver)-hydrogen” batteries (our reference 2033/26.10.1988). In addition, we sent reference 2063/26.10.1988 with information about the possibility to deliver 20 silver-hydrogen and nickel-hydrogen batteries at the amount of 50 000 West German Marks.

With reference 161/31.01.1989 you inform us that the commissioner is not in a position to receive the documentation upon the conditions, suggested by our source.

Further on it is said that this topic is of considerable interest and there is readiness to receive a number of samples of batteries with specific technical characteristics.

The task is assigned for completion.

STATE OF THE INFORMATION EXCHANGE BETWEEN DIRECTORATE "T" –
USSR AND DIRECTORATE FOR SCIENTIFIC AND TECHNICAL
INTELLIGENCE – PR BULGARIA

I. MILITARY AND SPECIAL EQUIPMENT

Assignment:	State:
1. We offered to receive BULCKRUM system, ITS company, TEMPEST standard	In a process of coordination.
2. We offered to receive an intelligence system with unmanned aircraft from RPV company	Waiting for a reply.
3. Directorate "T" informed us about their interest in receiving information and samples of radio absorbing materials from NEC company type NEBOA RS W-124 and glue for them.	The task is under completion.
4. Directorate "T" assigned the task to acquire coding devices models	The task is under completion.

TST-087.	Waiting for delivery.
5. Acquisition of documentation for the production of 130 mm shells.	The task is under completion.
6. Acquisition of ammunition MAPATS, non-metallic tank forecastles MERKAWA, and unmanned aircraft type SCOUT (produced by Israel).	The task is under completion.
II. COMPUTING ENGINEERING	
1. Directorate "T" sent a list of materials on the operational system MVS/XA	We informed them that we do not have them available. We also inform them that we have sources working on these materials. We ask them to specify the names of materials.
III. BIOTECHNOLOGIES	
1. Documentation about follicle-stimulating hormones FSH	The acquisition and payment of documentation from Italy is being studied.
2. Documentation on regulating fixtures and documentation and samples of filters for gas purification.	We are going to send documentation on regulating fixtures. It is necessary to order filters.
3. We sent a sample and a description of antibodies 1A10 against botulism toxin and informed about a possibility to receive a hybrid worth 1 000 US dollars.	We are waiting for testing results from your customers and your opinion on receiving the hybrid.
IV. METALLURGY	
1. Receptures for dust for steel-casting	Due to operational reasons this task has

industry.	been postponed for the end of the year.
2. Method for continuous measuring of the temperature of melted steel.	This method is being studied by the users in the USSR. We are waiting for a reply.
3. Automation of continuous steel pouring.	We have no capabilities yet.
4. Documentation about production of sensors for defining the content of silicon in melted metal	We are waiting for a reply.
V. CHEMISTRY	
1. Documentation for the production of pipes with large diameters from composite polymer materials following the method UNI PROCESS.	Additional questions were asked, clarification is needed.
2. Receptures for polyolefin from MITSUBISHI	Official connection has been established.
3. Technological regulations for the production of resin and a program for the preparation of receptures.	The task is being clarified.
4. Receptures for substances for cleaning copper conductors.	There are no more capabilities.
5. Receptures and technologies for purification of matrices from rubber deposit.	There are no more capabilities.
6. Receptures for the production of glass-filled plastic.	Additional questions are being clarified.

VI. ENERGY

1. Technological documentation and samples for nickel-hydrogen and silver-hydrogen batteries.

The task for acquisition of samples is under completion.

[Translated by Greta Keremidchieva. Edited by Jordan Baev]