National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
2101 NASA Road 1
Houston, Texas 77058-3696

Reply to Attn of: W-JS

MAR 2 8 2000

TO: NASA Headquarters
Attn: M/Associate Administrator for Space Flight

FROM: AA/Director

SUBJECT: Verification of Payments to Biopreparat

This letter responds to your request that I perform a verification of NASA payments to Biopreparat through the Russian Aviation and Space Agency. The request was documented in your January 27, 2000, memorandum to the Deputy, Piloted Space Flight, Russian Aviation and Space Agency. Also, as you requested, a member of the NASA Office of the Inspector General worked as part of the Johnson Space Center team.

Enclosed are two documents depicting the NASA team's finding associated with verification of payments to Biopreparat. The verification was conducted the week of February 6, 2000.

Enclosure 1 – Final Report
Enclosure 2 – Protocol with Rosaviakosmos at the completion of verification

If you have any questions, please call me or any of the team members identified in the report.

George W. S. Abbey

George W. S. Abbey

2 Enclosures

cc:
AC/S. H. Garman
AC6/M. Baker
AC6/T. E. Cremins
BG/K. L. Pagel
LA/J. H. Beall
LO/C. Claunch
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Verification of Payments to Biopreparat

Introduction

On January 27, 2000, the NASA Associate Administrator for Space Flight directed that a NASA team be formed to review the funding process for biotechnology research under the Russian Space Agency (RSA)[1] contract (NAS15-10110) to determine whether NASA funds were used for their intended purpose. NASA directed the review because a January 25, 2000, *New York Times* article reported an allegation by certain Russian scientists that some of the $1.65 million that NASA provided to fund biotechnology research may have been inappropriately redirected by Biopreparat, a major Russian pharmaceutical firm, to fund biological warfare research. The NASA team included financial, procurement, and technical officials from the Lyndon B. Johnson Space Center (JSC) and an auditor from the NASA Office of the Inspector General. (A list of the participants is at the end of this report.) The team performed the verification at JSC in late January and early February 2000 and at Rosaviakosmos during February 7-11, 2000. Appendix A provides details on scope and methodology.

Background

The RSA contract is a firm-fixed-price contract, originally priced at $400 million, initiated in December 1993 via letter contract, and definitized in June 1994. As of February 2000, the contract value was about $537 million, of which $529 million has been obligated and $523 million has been spent. The RSA contract includes two phases. Phase I involved Shuttle missions to the Russian *Mir* space station. Phase II involves Russian services and supplies for the International Space Station (ISS).

The RSA contract specifies a variety of deliverable items and services to be provided to NASA by RSA (Appendix B describes the acceptance and payment process for deliverable items). These include not only U.S. crew missions and Shuttle docking at *Mir*, but also crew training; integration, accommodation, and operation of U.S. research hardware on *Mir*; cosmonaut time for the operation of experiments; and technical data regarding the characteristics of *Mir*. The research program to be conducted on Mir was coordinated between the NASA and RSA by a joint Mission Science Working Group. In addition to the flight research program on Mir, the contract required a separate program of predominately ground-based research to be conducted by Russian investigators.

The contract earmarked funding of $20 million for the solicitation, selection, administration, and execution of a research program to be carried out under the RSA Scientific and Technical Advisory Council (STAC). The contract also identified specific deliverable items, which RSA was to complete between August 1994 and August 1997 (Appendix C shows the list of

[1] Now known as the Russian Aviation and Space Agency (Rosaviakosmos).

deliverable items). A total of $18.2 million was available for distribution to investigators (scientists), with the remainder of $1.8 million allocated for administrative and reporting expenses, including the solicitation, review, and selection of project proposals. The contract provided that RSA, through STAC, would use the proposals to develop an integrated research plan containing scientific investigations to be performed, milestones, goals, objectives, and cost. The Deputy Associate Administrator, Office of Life and Microgravity Sciences and Applications, was responsible for reviewing the research plan for NASA.

STAC was organized into ten discipline sections (Appendix D shows the ten discipline sections); each section was chaired by an acknowledged leader in the field who was the director (or, in some cases, a senior official) of a research institute or design bureau. Each section had multiple investigations, representing a variety of research institutions. One of the sections was Biotechnology, which was led by Biopreparat and which had funding requirements of about $1.65 million.

Results of Verification

Between February 1995 and January 1998, NASA paid RSA $20 million for space-related scientific research under terms of the RSA contract. Of the $20 million, RSA paid Biopreparat $1.529 million[2] for space biotechnology scientific research.[3] Of the $1.529 million, Biopreparat distributed $1.368 million (89.5 percent) to its eight subcontractors and retained $0.161 million (10.5 percent). (Appendix E shows the distribution of the $1.529 million.) The activities associated with the $0.161 million were carried out directly by Biopreparat under terms of an RSA contract with Biopreparat. The contract price structure showed how Biopreparat planned to use the funds that they retained. Also, RSA submitted periodic reports to NASA as contract deliverable items, which NASA accepted as satisfactory completion of the planned research. Within the scope of our verification, we saw no indication that the funds were used for other than the intended purpose.[4] We concluded, based on the evidence collected, that there was no need to expand the scope of the verification.

[2] The $1.529 million was actually paid in rubles (about 7.904 billion) at an average pre-1998 conversion rate of about 5,170 rubles to a dollar.

[3] RSA also paid about $0.121 million to the Shemyaking Ovchinnikov Institute of Bioorganic Chemistry, which constitutes the balance of the $1.65 million that NASA paid for biotechnology research.

[4] A verification of the funding process can determine the sources, recipients, and amount of funds paid. However, only through additional steps, such as gaining an understanding of the entity, observing its operations, and obtaining independent third party information, might a positive assurance be given on how the funds were actually used. Contractual access is limited to examination of financial information of RSA and its first-tier subcontractors.

Appendix A. Scope and Methodology

We selected our sample of payments and performed initial verification steps at JSC. We then met with Rosaviakosmos representatives in Moscow to discuss their financial process and perform further verification steps.

Steps Performed at the Johnson Space Center

Before we visited Rosaviakosmos, the JSC Financial Management Division identified all payments made for implementation of scientific and research activities under the scientific program of contract NAS15-10110 between NASA and RSA, carried out by Biopreparat under subcontract with RSA. The Financial Management Division identified 18 contract milestone payments to RSA totaling $20 million, with which RSA paid Biopreparat $1.529 million for 6 subcontract milestones (Appendix C shows the contract milestones). We reviewed contract payment records from November 1994 through January 1997 and subcontract payment records from September 1995 to February 1998. To verify payment amounts and dates, we compared the amounts and dates of the six invoices to JSC payment records.[5]

Steps Performed at the Russian Space Agency

At Rosaviakosmos, we compared our data to RSA financial records to verify NASA payments to RSA and the funding flow to Biopreparat. Through discussions with Rosaviakosmos representatives, we gained an understanding of the financial processes and procedures used by RSA to disburse funds to the subcontractors for biotechnology research. Rosaviakosmos assembled all associated financial records, contract files, and the bank payment orders associated with the six milestones. In addition, Rosaviakosmos and Biopreparat presented copies of subcontractor payment orders that supported the transfer of funds from Biopreparat to its subcontractors.

We reviewed RSA documentation supporting applicable milestones, associated payment orders, and bank transfer notices. To determine how Biopreparat planned to distribute and use the funding provided by NASA, we reviewed the RSA/Biopreparat price structure and related subcontract documents. We examined ten funding transfers from RSA to Biopreparat, which represented the $1.529 million paid by NASA. We also examined and summarized 140 funding transfers from Biopreparat to its eight subcontractors, which represented $1.368 million paid by NASA, and thereby calculated the $0.161 million retained by Biopreparat (Appendix E shows the calculation).

[5] The payment records were the EFT Tape Transmission Report (R81P6C20) and the Cash Management Detail Schedule Listing (R81P6C04), which were generated by the JSC Cash Management System.

Appendix B. Acceptance and Payment Process for Deliverable Items

The RSA contract includes a schedule of deliverable items showing the amounts NASA will pay RSA for providing specific goods and services. NASA acknowledges receipt of a deliverable item when the NASA contracting officer's technical representative determines that the item conforms to contract requirements and notifies the NASA contracting officer at JSC. The contracting officer prepares and sends an acceptance document to RSA, which in turn prepares and sends an invoice back to the contracting officer. The invoice specifies where NASA should make payment, usually to the RSA account at the Bank of New York.[6]

When NASA receives an invoice from RSA, the contracting officer matches it to the acceptance document, approves the invoice for payment, and sends the invoice to the certifying officer at JSC. The certifying officer certifies the payment of funds (in dollars) to RSA by the Department of the Treasury. The payment usually covers several invoices. The certifying officer electronically transmits a payment schedule to the Austin Regional Finance Center, which routes the funds through the Federal Reserve System to the RSA account at the Bank of New York. The Bank of New York receives the funds from the Treasury, electronically transfers the funds to the RSA account at the Bank of Foreign Trade, Moscow (Vneshtorgbank), and notifies RSA of the transactions. Vneshtorgbank receives the transfer from the Bank of New York and then notifies RSA of the transaction.

RSA directs Vneshtorgbank to convert dollars into rubles in the amount needed to pay its subcontractors and to comply with conversion requirements of the Central Bank of the Russian Federation (the Central Bank).[7] Since 1999, the Central Bank has required Russian entities to convert at least 75 percent of foreign currency (dollars) into rubles within 14 days.[8] If an entity does not direct the Central Bank to convert the dollars within the 14 days, the Central Bank executes the mandatory conversion on the 15th day. RSA timing of the remaining conversion depends on the requirements to pay its subcontractors and the expectation of the exchange rate fluctuation. After conversion, RSA transfers the rubles to RSA accounts at various Russian banks, primarily the *Mir* Bank in Moscow.

RSA pays its subcontractors in rubles. The amount RSA must pay its subcontractors is initially established in both dollars and rubles in agreements between RSA and its subcontractors. However, because of volatile fluctuations in the dollar/ruble exchange rate, soon after RSA converts dollars to rubles for a milestone payment, RSA and its subcontractors amend their

[6] Invoices for reimbursable travel expenses and for support of RSA offices in Houston and Washington DC specify the RSA account at the F&M Bank of Northern Virginia. These funds stay in the United States. The payment process described in this report refers only to the Bank of New York since those funds are routed to Russia.

[7] Before August 1998, Vneshtorgbank charged its customers a currency exchange commission of not more than about one-half percent per transaction.

[8] Before 1999, the mandatory conversion amount was 50 percent.

agreements to reflect the current amount of rubles payable.[9] Upon receipt of a valid invoice from a subcontractor, RSA makes payment by transferring the rubles to a subcontractor bank account.

[9] When Vneshtorgbank charged a currency exchange commission or fee, RSA decreased its payments to subcontractors by the amount it paid Vneshtorgbank.

Appendix C. Deliverable Items for Science Research

Line item #	*Description*	*Completion date*	*Funding, $M*
0003C3a	Solicited Requests for Proposal Report	8/1/94	0.2
0003C3b	Integrated Plan for Science Research (initial)	11/1/94	0.2
0003C3c	Implementation of Integrated Plan for Science Research (installment 1 of 6)	11/1/94	3.2
0003C3d	Administrative Expenses	11/1/94	0.2
0003C3e	Integrated Plan for Science Research (final)	2/1/95	0.1
0003C3f	Interim Research Report	8/1/95	0.1
0003C4	Implementation of Integrated Plan for Science Research (installment 2 of 6)	8/1/95	3.0
0003C5	Administrative Expenses	8/1/95	0.2
0003C6	Interim Research Report	2/1/96	0.1
0003C7	Implementation of Integrated Plan for Science Research (installment 3 of 6)	2/1/96	3.0
0003C8	Administrative Expenses	2/1/96	0.2
0003C9	Interim Research Report	8/1/96	0.1
0003C10	Implementation of Integrated Plan for Science Research (installment 4 of 6)	8/1/96	3.0
0003C11	Interim Research Report	2/1/97	0.1
0003C12	Implementation of Integrated Plan for Science Research (installment 5 of 6)	2/1/97	3.0
0003C13	Administrative Expenses	2/1/97	0.2
0003C14	Interim Research Report	8/1/97	0.1
0003C15	Implementation of Integrated Plan for Science Research (installment 6 of 6)	8/1/97	3.0
		Total	**20.0**

Note: Shaded areas denote the six line items (milestones) that included payments for research done by Biopreparat.

Appendix D. Sections of the Scientific and Technical Advisory Council

Discipline/Lead Organization	*# Investigations*	*# Institutions*	*Funding, $K*
Space Technology and Materials Science; Institute of Crystallography, Russian Academy of Science	17	16	2450.0
Geophysical Studies; Institute of Earth Magnetism and Radiowaves, RAS	6	4	1019.32
Space Biomedicine; State Scientific Center-Institute of Biomedical Problems	71	17	6230.0
Earth Natural Resources and Environment Monitoring; Institute of Radioengineering and Electronics, RAS	21	11	3086.786
Investigations of Planets and Small Bodies; Space Research Institute, RAS	10	3	1203.55
Space Biotechnology;* RAO "Biopreparat"	13	7	1649.465
Technical Studies and Experiments; Rocket-Space Corporation "Energia"	8	7	708.86
Space Astronomy; Institute of Astronomy, RAS	5	5	370.65
Program Integrated Analysis & Formation Effectiveness Analysis; Consortium "Space Regatta"	6	2	806.45
Problems of Space Power and Propulsion; Keldysh Research Center, RAS	4	2	674.95
		Total:	**18,200.031**

*Space Biotechnology: Diverse set of investigations similar to U.S. biotechnology interests, including protein crystal growth, effect of microgravity on genetic and cellular processes, antibodies, and polymers; electrophoresis, etc.

Appendix E. Distribution of Payments to Biopreparat[10]

Total Amount Paid by RSA to Biopreparat		$1,528,865 (100.0%)
Less: Amounts Distributed by Biopreparat:		
Joint Stock Company, "Komposit"	$ 97,686 (6.4%)	
State Research Institute of Applied Microbiology	287,373 (18.8%)	
Scientific Technical Center, Ecology and Space	95,010 (6.2%)	
State Research Institute of Highly Pure Biopreparations	94,784 (6.2%)	
Joint Stock Company, "Biochimmash"	91,671 (6.0%)	
Saint Petersburg Vaccine and Serum Research Institute	90,567 (5.9%)	
Joint Stock Company, The Institute of Engineering Immunology	228,658 (15.0%)	
State Research Center of Virology and Biotechnology ("Vector")	381,961 (25.0%)	$1,367,710 (89.5%)
Amount Retained by Biopreparat		$ 161,155 (10.5%)

[10]Although payments are shown in dollars, the payments were actually made in rubles at an average pre-1998 conversion rate of about 5,170 rubles to a dollar.

Team Members

John H. Beall, Chief Financial Officer, Johnson Space Center

Dennis E. Coldren, Program Director, Human Exploration and Development of Space Audits, NASA Office of the Inspector General

Thomas E. Cremins, Deputy to the Assistant to the Director for Human Space Flight, Russia

K. Lee Pagel, Administrative Contracting Officer

PROTOCOL
ON NAS15-10110 Biopreparat Funding Information Exchange
Moscow, February 7 – February 11, 2000

General Purpose:

To verify and confirm the correctness of the financial relationship and obtain an understanding of Rosaviakosmos's (prevously RSA) financial activities and business process associated with Russian firm Biopreparat under contract NAS15-10110. Also, to verify NASA funding transferred through Rosaviakosmos to Biopreparat and the resulting flow-through of funding to subcontractors.

Specifically:

1. Review Rosaviakosmos' internal documents supporting the transfer of payments to Biopreparat.
2. Review the support for the individual cost elements contained in the Rosaviakosmos contract with Biopreparat
3. Verify the receipt of NASA funds by Biopreparat and subsequent transfer of those funds to subcontractors (research institutes).

Participants:

Tom Cremins – NASA

John Beall – NASA

Lee Pagel – NASA

Dennis Coldren – NASA/OIG

Anna Andreeva – TTI (interpreter)

Anatoly Ermolaev – Rosaviakosmos

Roman Yakimenko – Rosaviakosmos

Alla Nazarova – Rosaviakosmos

Larisa Lazutina - Biopreparat

Enclosure 2

Methodology:

Prior to arrival at Rosaviakosmos headquarters, the NASA team identified all payments made for implementation of scientific and research activities under the scientific program of contract NAS15-10110, between NASA and Rosaviakosmos, carried out by Biopreparat under subcontract with Rosaviakosmos. Six contract milestone payments paid to Biopreparat were identified for review. Verification covered records for the period from November 1994, through January 1997. The scope of financing in accordance with the terms of contract totaled $1.529million.

Rosaviakosmos assembled all associated financial records, contract files, and the bank payment orders associated with the six milestones. In addition, Rosaviakosmos (with the assistance of Biopreparat) presented copies of subcontractor payment orders that supported the transfer of funds from Biopreparat to its subcontractors.

The team verified the flow of NASA funds from Rosaviakosmos to Biopreparat. From Biopreparat documentation, the team verified 140 funding transfers to subcontractors for the six milestones.

To identify how Biopreparat planned to distribute and use the funding provided by NASA, appropriate contract documents were reviewed as well as price computation on the basis of the Rosaviakosmos/Biopreparat price structure.

Conclusion:

NASA funds of $1.529 million, which were paid under the Rosaviakosmos/NASA contract, were received by Biopreparat. Biopreparat distributed $ 1.368 million between its subcontractors and retained $0.161 million. The activities associated with the $0.161 million, which were carried out directly by Biopreparat, amounted to 10.5 percent of the amount under the Rosaviakosmos/Biopreparat contract for space biotechnology scientific research.

The contract price structure showed how Biopreparat planned to use the funds that they retained. The NASA team saw no indication that the funds were used for other than the intended purpose.

Of special note, Rosaviakosmos and Biopreparat representatives were extremely cooperative and cordial in providing explanations of Rosaviakosmos financial process and supporting documentation for the transactions reviewed. Representatives of Rosaviakosmos and Biopreparat expeditiously submitted all the necessary supporting documentation.

Done in Moscow on February 11, 2000, in English and in Russian with wordings in both languages in the equal force.

Tom Cremins, NASA
Deputy Assistant Director,
JSC for Human Space Flight
Programs, Russia

John Beall, NASA
Chief Financial Officer, JSC

Lee Pagel, NASA
Administrative Contracting
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Head Specialist, Accounting

ПРОТОКОЛ

по обмену информацией о финансировании РАО «Биопрепарат» в рамках контракта NAS15-10110, Москва, 7-11 февраля 2000

Основная цель:

Проверить и подтвердить корректность финансовых взаимоотношений и достичь понимания финансовой деятельности Росавиакосмоса (ранее РКА) и делового процесса в отношении российской компании РАО «Биопрепарат» по контракту NAS15-10110. Кроме того, проверить прохождение средств НАСА через РКА в РАО «Биопрепарат» и последующее прохождение средств к субподрядчикам.

Конкрентно:

1. Рассмотреть внутренние документы Росавиакосмоса, обеспечившие перевод средств РАО «Биопрепарату».
2. Рассмотреть документы, подтверждающие правильность назначения отдельных составляющих цены в контракте РКА с РАО «Биопрепаратом».
3. Проверить получение РАО «Биопрепаратом» средств НАСА и последующую передачу этих средств субподрядчикам (исследовательским институтам).

Участники:

Том Креминс – НАСА
Джон Билл – НАСА
Ли Пейгл – НАСА
Деннис Колдрен – НАСА
(отдел Генерального инспектора)
Анна Андреева –
переводчик TTI

Анатолий Ермолаев - Росавиакосмос
Роман Якименко – Росавиакосмос
Алла Назарова - Росавиакосмос
Лариса Лазутина – РАО «Биопрепарат)

Методология:

До прибытия на на территорию Росавиакосмоса группа НАСА выявила все платежи, сделанные за выполненные РАО «Биопрепарат» по субконтракту с Росавиакосмосом научно – исследовательские работы по научной программе в рамках контракта NAS15-10110, заключенного между НАСА и Росавиакосмосом.

Для рассмотрения были выявлены платежи по 6-и этапам контракта, которые были осуществлены РАО «Биопрепарату». Проверка охватила документацию за период ноября 1994 г январь 1997 г. Объем финансирования в соответствии с условиями контракта составилу $ 1. 529 миллиона.

Росавиакосмос представил все финансовые документы, контрактные документы и банковские платежные поручения, имеющие отношение к этим 6-и этапам. Кроме того, Росавиакосмос (с привлечением РАО «Биопрепарат») предоставил копии платежных поручений субподрядчикам, которые подтвердили перевод средств от РАО «Биопрепарат» к его субподрядчикам.

Группа проследила прохождение средств НАСА от Росавиакосмоса к РАО «Биопрепарат». На основании документации РАО «Биопрепарат» для этих 6-и этапов группа проверила 140 платежных документов на перевод средств к субподрядчикам РАО «Биопрепарат».

Для того, чтобы выявить то, как РАО «Биопрепарат» планировал распределить и использовать средства, предоставленные НАСА, были рассмотрены как контрактные документы, так и расчеты цены на основании ее структуры,представленной в контракте между Росавиакосмосом и РАО «Биопрепарат».

Заключение:

Средства НАСА, в размере $ 1.529 миллиона, которые были выплачены по контракту между Росавиакосмосом и НАСА, были получены РАО «Биопрепарат». РАО «Биопрепарат» распределил $ 1.368 миллиона между
своим субподрядчикам и оставил у себя $ 0.161 миллиона.
Эти $ 0.161 миллиона, на которые были ыполнены работы непосредственно РАО «Биопрепарат», составляют 10.5 процента от суммы контракта между Росавиакосмосом и РАО «Биопрепарат» на научные исследования в области космической биотехнологии.

Представленная в контракте структура цены показала, что РАО «Биопрепарат» планировал использовать эти средства по назначению. Группа НАСА не обнаружила никаких признаков того, что эти средства были использованы как либо иначе, чем по назначению

Особо следует отметить, что представители Росавиакосмоса и РАО «Биопрепарат» были в высшей степени корректны в разъяснениях финансовых процедур Росавиакосмоса и в предоставлении необходимой документации по рассмотренным переводам средств. Представители Росавиакосмоса и РАО «Биопрепарат» весьма оперативно представили всю необходимую документацию.

Составлено в Москве 11 февраля 2000, на английском и русском языках, с формулировками, имеющими одинаковую силу.

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