

НПО «ЭНЕРГИЯ»



ВОРОБЬЕВ

Павел Михайлович

Начальник отделения,  
канд. техн. наук

г. Калининград,  
Московская обл.,  
141070, Россия

Тел. (095) 516-43-26  
Телекс 911556 OZON SU  
Факс (095) 187-98-77  
(095) 274-00-25

**NPO «ENERGIA»**



**Pavel M. VOROBIEV**

**Head of Division**

**Doctor of Science**

**Kaliningrad,  
Moscow area,  
141070, Russia**

**Tel. (095) 516-43-26  
Telex 911556 OZON SU  
Fax (095) 187-98-77  
~~(095) 274-00-25~~**

prof. Vadim G. KRAVETS  
Deputy General Designer

———— NPO «Energia» ————  
after academitian S. P. KOROLEV

141070, Kaliningrad,  
Moscow reg., Russia

Phone: (095) 5162565  
Telex: 411952 MCC SU  
Fax: (095) 2845290

**К Р А В Е Ц**

**Вадим Георгиевич**

доктор технических наук,  
заместитель Генерального конструктора

—— **НПО «Энергия»** ——  
**имени академика С. П. Королева**

111070, Калининград,  
Моск. обл., Россия

Тел.: (095) 5162565  
Телекс: 411952 МСС SU  
Факс: (095) 2815290

**NPO**

**ENERGIYA**



**Victor P. LEGOSTAYEV**

*Deputy General Designer  
Doctor of Technical Sciences  
Professor*

Kaliningrad  
Moscow area  
141070 USSR

Tel.516-42-42  
516-61-65  
Fax: 284-52-90

НПО

ЭНЕРГИЯ



ЛЕГОСТАЕВ  
Виктор Павлович

*Первый заместитель Генерального  
конструктора*

*Доктор технических наук, профессор*

г. Калининград  
Московская обл.,  
141070, СССР

Тел. 516-42-42  
516-61-65  
Телефакс: 284-52-90



## KHRUNICHEV ENTERPRISE

Aerospace, Engineering, Special Equipment

---

*ALEXANDER V. LEBEDEV*

**Deputy Director General**

Russia,  
121309, Moscow,  
Novozavodskaja st., 18

Telephone: (095) 145-8343  
Telefax: (095) 142-5900  
Telex: 412427 MIR SU

## Clay Whitehead Associates

---

1320 Old Chain Bridge Road, McLean, Virginia 22101

Phone: (703) 847-8787  
Fax: (703) 847-8804

Clay T. Whitehead  
President

June 5, 1993

VIA FAX 011-7095-274-0025

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

Jeff Manger has told me of the recent confusion over who is who and who really represents PanAmSat in discussions with NPO Energia. Let me try to clarify the situation as I understand it.

As I wrote to you earlier, Mr. Fred Landman, President of PanAmSat, should be your only official contact with the company. Mr. Philip Rubin is PanAmSat's Chief Scientist and has responsibility for technical matters in satellite and launch procurements. You and your people can deal with him confidently. Mr. Shapiro, whom I do not know, is not associated with PanAmSat and should not be considered to represent the company in any way unless you hear otherwise personally from Mr. Landman.

As for my own status, I do represent PanAmSat on specific matters from time to time. My conversations with you in Houston and in Russia were pursuant to guidance from Mr. Landman and the Chairman, Mr. Anselmo. Both Mr. Landman and Mr. Anselmo were in full agreement with the letter you and I signed, and they still support the feasibility study that has been started with Mr. Rubin and Hughes.

There apparently is some confusion regarding position with PanAmSat, which I would like to clarify that in some detail since I would not want there to be any question about our confidence in one another. Clay Whitehead Associates has an agreement with PanAmSat to help develop the Pacific Ocean Region satellite business which will be served by PAS-2. My work to help establish relationships with Hughes and NPO Energia has been done pursuant to that agreement. Since PAS-3 and PAS-4 and their associated launch arrangements would be used to substitute for PAS-2 in case of a launch failure, it has been necessary for me to be involved in the procurement and launch arrangements for all three of PanAmSat's new satellites.

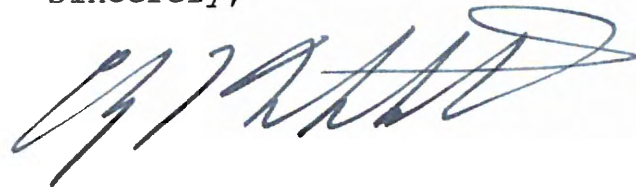


As for the title of Vice Chairman, it is purely honorary, and I am neither an officer nor an employee of the company. Since the letter you and I wrote and signed in your office was not a legal document but did reflect the close involvement and intent of Mr. Landman and Mr. Anselmo, it was appropriate to use the Vice Chairman title indicating my PanAmSat affiliation. Having reached an agreement that I knew was acceptable to you and PanAmSat, I delivered the document to Mr. Landman, and he wrote to you to on March 18 to confirm the company's intent and to establish the official line of communication between PanAmSat and NPO Energia.

To summarize, as I wrote you earlier, Mr. Landman is the only person with PanAmSat you should be dealing with on business matters. Mr. Rubin and Hughes Aircraft Company are authorized to discuss technical matters. While I have not been involved in this matter since my return from our last meeting in Russia, I remain available to provide any assistance that you and Mr. Landman might agree would be useful.

Best personal regards,

Sincerely,





**VIA FACSIMILE 011-7095-274-0025**

March 19, 1993

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

for to Jeff M ✓  
Henry W ✓  
6/4/93

Dear Dr. Semenov:

Clay Whitehead has informed me of his discussions with you in Russia and provided me with the Letter of Intent you concluded on March 1. Dr. Whitehead has given me and our Chairman a very positive report on his discussions with you and your colleagues, and we look forward to studying with you our possible use of the Proton launch vehicle.

In view of the recent news about political uncertainties in Russia, we believe that it is unrealistic to get this issue on the calendar for the meetings of our two Presidents on April 4th as we originally contemplated. However, in the interim, we would hope that technical discussions between NPO Energia and Hughes could begin, Mr. Houterman of Hughes will be directly in touch with Dr. Vorobiev, to initiate these discussions.

In the meantime, we are reassessing how best to deal with the political issues, including some more specific ideas about the communications services offset arrangements. Hughes has indicated that it should be possible, depending on further information from NPO Energia, to delay the final decision on launch vehicle beyond June. Therefore, we now believe that a less accelerated schedule for studying the Proton launch is feasible and will enable us to proceed in a more deliberate way.

At PanAmSat, Dr. Philip Rubin, Chief Scientist, and I will be handling this matter. I look forward to meeting you in person.

Sincerely,

Frederick A. Landman  
President

FAL:mf

cc: Clay Whitehead  
Philip Rubin

PanAmSat, L.P. (LIMITED PARTNERSHIP)  
PanAmSat, Inc. (GENERAL PARTNER)

ONE PICKWICK PLAZA • GREENWICH, CONNECTICUT 06830 • USA • TELEPHONE 1/203/627/6664 • FAX 1/203/622/9163



---

---

## FACSIMILE COVER SHEET

---

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: Mr. Fred Landman

COMPANY: (Your guest)

FAX #: 011-65-338-2862

DATE: May 17, 1993 TIME: 2:08 pm

FROM: Clay T. Whitehead

Pages following this cover sheet: 3 pages.

### COMMENTS:

The affair-Shapiro continues to escalate. I just learned about it yesterday, but Henry & I think we should nip it in the bud. Here is a draft personal letter I plan to send to Semenov and the draft I sent you on March 18 of a letter from you to Semenov. I thought you had sent this, but apparently not. I think you should mark this up and get it out promptly; can Maria sign it for you?

By the way, be sure to inform Semenov about the Ariane deal for PAS-3 before it is announced.

## Clay Whitehead Associates

---

1320 Old Chain Bridge Road, McLean, Virginia 22101

Phone: (703) 847-8787

Fax: (703) 847-8804

Clay T. Whitehead  
President

May 15, 1993

VIA FAX 011-7095-274-0025

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

Jeff Manber has told me of the recent confusion over who is who and who really represents PanAmSat in discussions with NPO Energia. Let me try to clarify the situation as I understand it.

As I wrote to you earlier, Mr. Fred Landman, President of PanAmSat, should be your only official contact with the company. I am sorry to learn that he did not write you as I understood he planned to do, but I believe that unfortunately the confusion in Washington about the Yeltsin/Clinton summit caused some uncertainty in PanAmSat about how to proceed. In any event, Mr. Landman is as distressed as I am about the confusion and assures me he will write you shortly.

Mr. Philip Rubin is PanAmSat's Chief Scientist and has responsibility for technical matters in satellite and launch procurements. You and your people can deal with him confidently. Mr. Shapiro, whom I do not know, is not associated with PanAmSat and should not be considered to represent the company in any way unless you hear otherwise personally from Mr. Landman.

As for my own status, I do represent PanAmSat on specific matters from time to time. My conversations with you in Houston and in Russia were pursuant to guidance from Mr. Landman and the Chairman, Mr. Anselmo. Both Mr. Landman and Mr. Anselmo were in full agreement with the letter you and I signed and still support the feasibility study that was started with Mr. Rubin and Hughes.

However, there apparently is some confusion regarding my title and position with PanAmSat. I would like to clarify that in some detail, since I would not want there to be any doubt about our confidence in one another. Clay Whitehead Associates has an agreement with PanAmSat to help develop the Pacific Ocean Region satellite business which will be served by PAS-2. My work to help establish relationships with Hughes and NPO Energia have been done pursuant to that agreement. Since PAS-3 and PAS-4 and

their associated launch arrangements would be used to substitute for PAS-2 in case of a launch failure, it has been necessary for me to be involved in the procurement and launch arrangements for all three of PanAmSat's new satellites.

As for my title of Vice Chairman, it is purely honorary, since I am neither an officer nor an employee of the company. Since the letter we jointly wrote and signed in your office was not a legal document but did reflect the close involvement and intent of Mr. Landman and Mr. Anselmo, the use of this affiliation was appropriate. Having reached an agreement that I knew was acceptable to you and PanAmSat, I delivered the document to Mr. Landman, and he assured me he would write you to confirm the company's intent and take the next steps. As you know, he did direct Mr. Rubin and Hughes to begin to work on the study with NPO Energia.

To summarize, as I wrote you earlier, Mr. Landman is the only person with PanAmSat you should be dealing with on business matters. Mr. Rubin and Hughes are authorized to discuss technical matters. While I have not been involved in this matter since my return from our last meeting, I remain available to provide any assistance that you and Mr. Landman might agree would be useful.

Sincerely,

DRAFT LETTER FROM FRED LANDMAN TO NPO ENERGIA

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

Clay Whitehead has informed me of his discussions with you in Russia and provided me with the Letter of Intent you concluded on March 1. Dr. Whitehead has given me and our Chairman a very positive report on his discussions with you and your colleagues, and we look forward to studying with you our possible use of the Proton launch vehicle.

In view of the recent news about political uncertainties in Russia, we believe that it is unrealistic to get this issue on the calendar for the meetings of our two Presidents on April 4 as we originally contemplated. However, we hope technical discussions between NPO Energia and Hughes can begin soon, and Mr. Houterman of Hughes will be directly in touch with Dr. Vorobiev.

In the meantime, we are reassessing how best to deal with the political issues, including some more specific ideas about the communications services offset arrangements. Hughes has indicated that it should be possible, depending on further information from NPO Energia, to delay the final decision on launch vehicle beyond June. Therefore, we now believe that a less accelerated schedule for studying the Proton launch is feasible and will enable us to proceed in a more deliberate way.

At PanAmSat, Mr. Philip Rubin, Chief Scientist, and I will be handling this matter. I look forward to meeting you in person.

Sincerely,

Fred Landman

# Communications Daily

The Authoritative News Service of Electronic Communications

WARREN PUBLISHING  
**48**  
YEARS OF EXCELLENCE

A SERVICE OF WARREN PUBLISHING, INC. 2115 WARD COURT, N.W., WASHINGTON, D.C. 20037. Phone: 202-872-9200

WEDNESDAY, MAY 5, 1993

VOL. 13, NO. 86

## Today:

**U.S. OFFICIALS IN MOSCOW TO ESTABLISH GUIDELINES** for launching U.S. satellites on Russian rockets. (P. 1)

**FCC CABLE RATE BENCHMARKS ANSWER FEW QUESTIONS** on how much individual system's rates will drop. Equipment costs cause biggest problems. Agency plans tutorial. Wall St. bullish. (P. 2)

**DESKTOP COMPUTERS GET NEW STANDARD FOR TELEPHONY** allowing users to control sophisticated telecommunications functions from inside Windows applications, developers Intel and Microsoft, said. (P. 4)

**GORE FORECASTS PUSH FOR PERMANENT R&D INVESTMENT TAX CREDIT:** At 'town hall' meeting with Bell Labs, he defends funding applied research projects rather than general effort. (P. 5)

**BOTH SIDES SEEK MUST-CARRY RECONSIDERATION:** CATA and NAB want relatively minor changes in rules. Cable operators begin notifying TV stations of must-carry status. (P. 6)

## Russian Rockets To Be Used

### U.S. OFFICIALS IN MOSCOW TO WORK OUT SATELLITE LAUNCH AGREEMENT

U.S. govt. officials are in Moscow this week to negotiate guidelines for launches of U.S.-made satellites aboard Russian vehicles, govt. sources told us. Delegation, headed by Office of U.S. Trade Representative, includes representatives of Commerce (Office of Space Commerce), Defense Dept., State Dept., Transportation Dept. (Office of Commercial Space Transportation), White House Office of Science & Technology, Treasury Dept., others. On agenda are transfer of technology, proliferation of missile-related technology, fair market pricing, injury to U.S. launch industry. U.S. officials declined to comment on progress.

Move is significant in that it could result in first formalized blueprint on how U.S. satellites will be launched aboard Russian rockets. Currently, only one U.S.-made satellite (GE 7000 series) Intelsat III has been approved for launch aboard Russia's flagship Proton vehicle (CD April 15 p3). That launch (deal was signed last month) was considered to be one-time-only deal under Bush Administration. But in what appears to be change in policy under Clinton Administration, negotiators hope to forge agreement on how many U.S.-made satellites Russia will be allowed to fly, and terms and conditions that will have to be met for American manufacturers to receive export licenses.

Agreement is thought to be similar to one State Dept. approved last year that allowed China to launch 5 U.S.-made satellites aboard China Great Wall Corp.'s Long March vehicle (CD Sept 16 p2). That agreement has been attacked by American launch manufacturers and others as vague. For example, it states that China is to price its launches "on par" with those of Western companies, but since agreement was signed Beijing has consistently set rates less than half those of western providers. Russia's KB Salyut charged Inmarsat \$36 million, about half what market leader France's Ariespace charges, and little more than 1/3 of typical General Dynamics, McDonnell Douglas and Martin Marietta rates.

Also part of bilateral agreement with China were assurances by companies involved that Beijing would adhere to provisions of Missile-Related Technology Control treaty, which prohibits sale of technology that could be used for ballistic missiles to nonnuclear states. That, too, is of concern in agreement with Russia. Russian space officials have said recently that Moscow would go ahead with sale of cryogenic engine technology to India. After that agreement became public last year, U.S. imposed sanctions on India's space program and Russia's Glavcosmos, semi-privatized entity that did marketing of Proton launch vehicle.



Talks, which began Mon. and will continue through week, are said to be first in series on Russian launches of U.S. satellites. Also expected to be discussed is whether SS-17 and SS-18 ballistic missiles being dismantled under START treaties should be converted to small commercial space launchers. However, U.S. govt. sources were silent on details of meeting. "If you're going to negotiate, you don't tell them in advance what your negotiating strategy is," U.S. official told us.

Agreement could be boon for Lockheed, which recently signed deal with newly privatized Russian entity Khrunichev Enterprises for marketing of Proton (CD March 10 p5, Feb 4 p11, Dec 31 p2, Dec 21 p6). Lockheed has been shopping Russian launches of U.S.-made birds, latest prospect being Hughes-built (HS-376) Palapa C birds (CD April 13 p7). Loser in agreement could be U.S. launch providers that have seen market share slipping as result of lower costs of more dependable Arianespace. Arianespace, meanwhile, is worried that it will be beaten out by Russians, who can price below market and who even Arianespace Chmn. Charles Bigot has admitted "are the masters" of dependability, with 2,000 successful launches.

Identities of all members of U.S. delegation couldn't be learned by our deadline, but confirmed as attending were: (Chmn.) Peter Allgier, Asst. Trade Representative for Europe and Mediterranean; Gerald Mussara, senior adviser for space policy, White House Office of Science & Technology; Kathryn Sullivan, dir.-international affairs, Commerce Office of Space Commerce; Donald Trilling, dir.-Office of Space Transportation, and Elaine David, its gen. counsel; State Dept. Science & Technology Desk Officers Alison Barkley, Joanna Shelton, Amy Winton, William Veal. Also present was Yuri Koptiev, dir.-Russian Space Agency.

## FCC Plans Tutorial

### **CABLE OFFICIALS SAY IT WILL TAKE WEEKS TO ASSESS IMPACT OF RATE BENCHMARKS**

It's impossible to tell how FCC's 450-page cable rate regulation order issued late Mon. (CD May 4 p1) actually will affect rates, in opinion of most people who have begun studying document. Benchmarks themselves are relatively clear, in form resembling tax table. But only cable systems -- and only some of them -- have adequate equipment cost information to determine whether their rates are below benchmark and how much individual MSOs, and even individual systems, will have to lower rates, officials inside and outside FCC said. Wall St. generally reacted positively to new rules, boosting most cable stock prices on assumption that benchmarks were less Draconian than they might have been. NCTA scheduled special board meeting for today to discuss rules.

FCC continued to predict that rollbacks would affect about 75% of all cable systems and save consumers about \$1 billion a year, but it admitted that it's likely to be impossible to assess impact on most individual systems for some time. Rulemaking repeatedly uses term "price cap" to describe impact of benchmarks on systems, saying that price caps are least-intrusive way of regulating cable rates. FCC said it will launch further rulemakings to refine cost basis of price caps and determine whether it can eliminate low-penetration cable systems from calculations in setting benchmarks, which it estimated would require lowering rates another 15-20%. Further notice also will address issues of what cost accounting and cost allocation requirements FCC should impose on industry, order said.

"This is worse than trying to fill out a tax form because at least there's some background on a tax form and people know how to deal with it," said Brenda Fox of Dow, Lohnes & Albertson (she's former NCTA gen. counsel). "This is much more complex than people thought it would be. Some people thought that once the benchmarks came out they would know fairly quickly where they stand, but there are no quick answers." Fox said some of her clients have plowed through work sheets (also resembling income tax returns) that FCC provided along with 8 pages of benchmarks, but "they're still confused."

FCC is well aware of likely confusion level, said Robert Pepper, head of FCC Office of Plans & Policy. Commission scheduled rate regulation tutorial for 3 p.m. May 13 (Rm. 856, 1919 M St.) at which it will use data from its rate regulation survey (CD March 4 p2) to create hypothetical systems, plug in hypothetical equipment costs, then walk attendees through worksheets to show how to figure relation of system's rates to benchmark. FCC also expects to distribute Q&A sheets later this week and will accept written questions until 5 p.m. Fri. to be answered during tutorial. Tutorial will be carried live on same microwave system used for FCC meetings, and videotapes will be available.

Benchmarks themselves are simply extrapolation of mathematical formula that FCC devised and included in Appendix E, with benchmark tables merely showing data points resulting from applying formula to various subscriber and channel counts. Alexandra Wilson, special asst. in Mass Media Bureau, acknowledged that key difficulty will be in applying cost-based equipment fees called for in work sheets, and that some cable operators' accounting systems

# Russia signs satellite deal

By Loyla Boulton in Moscow

THE Russian space industry yesterday signed its first contract to launch a western satellite in what it hopes will be the first step into a lucrative western market.

The \$36m (£23m) deal between Inmarsat, the international telecommunications satellite operator, and Russia's Salyut design bureau, is for the launch in 1995 of a mainly US-built satellite on a Russian Proton rocket.

Mr Olof Lundberg, director-general of Inmarsat, said the launch would cost "several million dollars" more than the \$36m once his organisation had paid extra costs including those of adapting its satellite to a Russian launch. But it would still be cheaper than a western launch - according to one Inmarsat official, up to \$10m less.

Mr Lundberg also made a plea in favour of more generalised Russian access to the western commercial satellite launch market. "The Russian economy cannot only be somewhere where westerners invest and sell goods."

Fear of powerful Russian competition for western satel-

lite launchers like Ariane-space, which charges \$62m for a similar service, has meant that the west has yet to remove obstacles to Russia competing in this market.

The Inmarsat deal was only made possible by a US promise to grant an export licence so that the Inmarsat-3 satellite, whose main contractor is Martin Marietta of the US but which also has some European components, can be exported to the former Soviet Union for launch from the Baikonur cosmodrome in Kazakhstan.

A draft agreement on the terms for this licence provides strict safeguards to guard the technological secrets in the satellite from Russians who will be working on the project.

The Russians have started parallel talks with the US and the European Community on a possible tripartite deal allowing them a certain number of launches a year and even setting price floors for their services.

Mr Dmitry Polukhin, Salyut's director general, said he expected agreement soon on what share of the Russian side's profits would go to Kazakhstan, which now owns the Soviet-built Baikonur.

*cc: J. Manber*

Russien  
launched

I

(2)

E

4

FAXED

LAW OFFICES  
GOLDBERG, GODLES, WIENER & WRIGHT  
1229 Nineteenth Street, N.W.  
Washington, D.C. 20036

Telephone:  
(202) 429-4900  
Telecopier:  
(202) 429-4912

FAX TRANSMISSION COVER

TO: Fred LANDMAN

FROM: HENRY GOLDBERG

DATE: March 30, 1993

TELECOPIER NO:

NUMBER OF PAGES INCLUDING COVER: 3

If you have any questions or do not receive all pages, please call (202) 429-4900.

NOTES:

Tom, Jon, Henny and I have discussed the Arianespace/Russian launch situation and think that, if we can get an indication from Arianespace now as to their reaction to a Russian IOR launch, we can pick up the pace on the Russian-U.S. political front. I've attached an possible approach to Arianespace along these lines. Rene has these papers and will be calling to discuss.

**FAXED**

LAW OFFICES  
**GOLDBERG, GODLES, WIENER & WRIGHT**  
1229 Nineteenth Street, N.W.  
Washington, D.C. 20036

Telephone:  
(202) 429-4900  
Telecopier:  
(202) 429-4912

**FAX TRANSMISSION COVER**

TO: Rene ANSFLM()

FROM: HENRY GOLDBERG

DATE: March 30, 1993

TELECOPIER NO:

NUMBER OF PAGES INCLUDING COVER: 3

If you have any questions or do not receive all pages, please call (202) 429-4900.

**NOTES:**

Tou, Jon, Henny and I have discussed the Arianespace/Russian launch situation and think that, if we can get an indication from Arianespace now as to their reaction to a Russian IOR launch, we can pick up the pace on the Russian-U.S. political front. I've attached an possible approach to Arianespace along these lines. I've faxed the same document to Fred in Hong Kong. Call me to discuss.

March 30, 1993  
CONFIDENTIAL

Possible Arianespace Approach

1. Amend contract to commit to AOR launch, but reschedule payments along the lines of POR schedule.
2. Make clear to Arianespace that, while we would like to go forward, given the lack of progress, we have to look at other possible launch/financing arrangements. This does not reflect an unwillingness on PanAmSat's part to reach an agreement on financing that will allow for a third Arianespace launch, only a need to protect itself if satisfactory financing cannot be obtained.
3. Consider a later decision date on termination (without liability) for third (IOR) launch, if no agreement on financing is reached. A three month extension would correspond to the difference in the launch periods for the AOR and IOR satellites.

March 30, 1993  
CONFIDENTIAL

Some Arianespace/Proton Launch Considerations

1. How much lead time does Hughes need to prepare for a Proton launch?
2. How much (if any) will Hughes charge to do so?
3. If Hughes prepares for a Proton launch, how much lead time to switch back to Ariane model?
4. We have told M-NET and SABC that we have a March-May launch window and will try to get the IOR satellite in operation by May 31, 1993. We would lose the M-NET/SABC contract (and, once we sign, probably be in breach of it) if we were to agree to a Hughes construction/Proton launch schedule that is slower than what we have now.



**VIA FACSIMILE 011-7095-274-0025**

March 19, 1993

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

Clay Whitehead has informed me of his discussions with you in Russia and provided me with the Letter of Intent you concluded on March 1. Dr. Whitehead has given me and our Chairman a very positive report on his discussions with you and your colleagues, and we look forward to studying with you our possible use of the Proton launch vehicle.

In view of the recent news about political uncertainties in Russia, we believe that it is unrealistic to get this issue on the calendar for the meetings of our two Presidents on April 4th as we originally contemplated. However, in the interim, we would hope that technical discussions between NPO Energia and Hughes could begin, Mr. Houterman of Hughes will be directly in touch with Dr. Vorobiev, to initiate these discussions.

In the meantime, we are reassessing how best to deal with the political issues, including some more specific ideas about the communications services offset arrangements. Hughes has indicated that it should be possible, depending on further information from NPO Energia, to delay the final decision on launch vehicle beyond June. Therefore, we now believe that a less accelerated schedule for studying the Proton launch is feasible and will enable us to proceed in a more deliberate way.

At PanAmSat, Dr. Philip Rubin, Chief Scientist, and I will be handling this matter. I look forward to meeting you in person.

Sincerely,

A handwritten signature in black ink, appearing to read "Frederick A. Landman", with a long horizontal line extending to the right.

Frederick A. Landman  
President

FAL:mf

cc: Clay Whitehead  
Philip Rubin



Kaliningrad, Moscow Region, Russia

Fax: (095) 187-98-77

From: Y.P. Semenov  
Director General  
Designer General of  
NPO "Energia"

To: Clay T. Whitehead,  
President

Through fax: (703) 847-8804

Dear Mr. Whitehead,

I was very glad to receive the message about the results of Your information sent to Rene Anselmaux and Fred Landman. We are ready to proceed with joint studies aimed at the Proton use and more extensive marketing of NPO "Energia"'s capacities relative to the development and injection of space vehicles into orbit. We are looking forward to more specific proposals from Mr. Landman.

Information to Hughes Space Company for Mr. Houterman to provide communication with Mr. Vorobyev was sent on March 25, 1993.

With best wishes,

Y. Semenov

Kaliningrad, Moscow Region, Russia

Fax: (095) 187-98-77

From: Y.P. Semenov  
Director General  
Designer General of  
NPO "Energia"

To: Clay T. Whitehead,  
President

Through fax: (703) 847-8804

Dear Mr. Whitehead,

I was very glad to receive the message about the results of Your information sent to Rene Anselmaux and Fred Landman. We are ready to proceed with joint studies aimed at the Proton use and more extensive marketing of NPO "Energia"'s capacities relative to the development and injection of space vehicles into orbit. We are looking forward to more specific proposals from Mr. Landman.

Information to Hughes Space Company for Mr. Houterman to provide communication with Mr. Vorobyev was sent on March 25, 1993.

With best wishes,

Y. Semenov

Kaliningrad, Moscow Region, Russia

Fax: (095) 187-98-77

From: Y.P. Semenov  
Director General  
Designer General of  
NPO "Energia"

To: Clay T. Whitehead,  
President

Through fax: (703) 847-8804

Dear Mr. Whitehead,

I was very glad to receive the message about the results of Your information sent to Rene Anselmaux and Fred Landsman. We are ready to proceed with joint studies aimed at the Proton use and more extensive marketing of NPO "Energia" s capabilities relative to the development and injection of space vehicles into orbit. We are looking forward to more specific proposals from Mr. Landsman.

Information to Hughes Space Company for Mr. Souterman provide communication with Mr. Vorobyev was sent on March 18 1993.

With best wishes,

Y. Semenov

*Handwritten signature*

Калининград.Московской обл.Россия  
факс:(095) 187-98-77

от: Ю.П.Семенова  
Генерального директора,  
Генерального конструктора  
НПО"Энергия"

кому: Клею Т.Уайтхэду  
Президенту

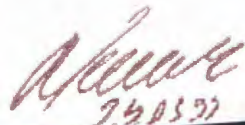
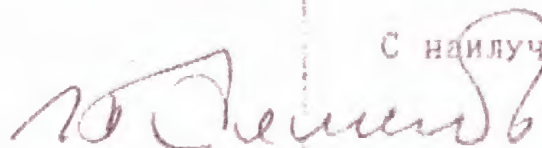
через факс:(703) 847-8804

Уважаемый Клей Т.Уайтхэд!

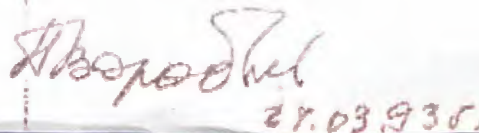
Я с большим удовлетворением получил сообщение о результатах Вашей информации Генэ Ансельмо и Фреду Лэндману. Мы согласны продолжить совместные исследования по использованию "Протона" и более широкому маркетингу мощностей НПО"Энергия" в области разработки и выведения космических аппаратов. Ожидаем более конкретных предложений в письме г-на Лэндмана.

Информация в компанию Хьюгс для г-на Хутермана для связи с г-ном Воробьевым направлена 25 марта 1993 года.

С наилучшими пожеланиями  
Ю.Семенов



740377



27.03.93г.



**VIA FACSIMILE 011-7095-274-0025**

March 19, 1993

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

Clay Whitehead has informed me of his discussions with you in Russia and provided me with the Letter of Intent you concluded on March 1. Dr. Whitehead has given me and our Chairman a very positive report on his discussions with you and your colleagues, and we look forward to studying with you our possible use of the Proton launch vehicle.

In view of the recent news about political uncertainties in Russia, we believe that it is unrealistic to get this issue on the calendar for the meetings of our two Presidents on April 4th as we originally contemplated. However, in the interim, we would hope that technical discussions between NPO Energia and Hughes could begin. Mr. Houterman of Hughes will be directly in touch with Dr. Vorobiev, to initiate these discussions.

In the meantime, we are reassessing how best to deal with the political issues, including some more specific ideas about the communications services offset arrangements. Hughes has indicated that it should be possible, depending on further information from NPO Energia, to delay the final decision on launch vehicle until July. Therefore, we now believe that a less accelerated schedule for studying the Proton launch is possible and desirable to us to proceed in a more deliberate way.

At this time, Dr. Philip Rubin, Chief Scientist, and I will be handling this matter. I look forward to meeting you in person.

Sincerely,

Frederick A. Landman  
President

FAL:mf

cc: Clay Whitehead  
Philip Rubin

---

---

## FACSIMILE COVER SHEET

---

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: Jeffrey Manber

COMPANY: PSA Associates

FAX #: ~~202~~ 478-7281

DATE: March 18, 1993 TIME: 9:11 pm

FROM: Clay T. Whitehead

Pages following this cover sheet: 1 pages.

**COMMENTS:**

Here is my letter to Semenov. Please coordinate with Liisa on transmittal. If you see anything that you think should be changed or added, please call.

*Jeff,  
I noticed Tom did this on CWA letter-  
head instead FAS. Does it make  
a difference? Tom is leaving on  
vacation soon today and will  
be gone all next week.*

*L*

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101

Phone: (703) 847-8787  
Fax: (703) 847-8804

Clay T. Whitehead  
President

March 18, 1993

VIA FAX 011-7095-274-0025

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

I want to thank you for your hospitality and for the time you and your colleagues gave me while I was visiting NPO Energia. As I told you at the conclusion of our meetings, I am personally satisfied that it is reasonable both technically and politically for PanAmSat to explore more closely the possibility of working with NPO Energia for Proton launch services.

I have briefed Rene Anselmo, the Chairman of PanAmSat, and Fred Landman, the President, on our meetings and given them the Letter of Intent that we concluded. Given my positive report, I believe it is appropriate that Mr. Landman take over working directly with NPO Energia, and he has told me he will be writing to you soon.

I also have briefed Hughes, and Mr. Houterman is expecting to hear directly from Dr. Vorobiev. He can be contacted as follows:

Mr. Michael Houterman  
Associate Division Manager  
Commercial Programs Division  
Hughes Space & Communications Company  
Bldg. S64/A490  
P.O. Box 92919  
Los Angeles, California 90009  
Phone: 1-310-364-7902  
Fax: 1-310-364-6869

I will be in touch with you later regarding my thoughts on broader marketing of NPO Energia's satellite and launch capabilities.

Best personal regards.

Sincerely,



GOLDEN GATE UNIVERSITY  
1200 ...  
SAN FRANCISCO, CALIF. 94133

FRANK J. LOJERO  
JOSEPH A. MOULDS  
JONATHAN L. WIENER  
HENRIETTA WRIGHT  
MARY J. ...  
THOMAS G. GERARDI, P.C.  
...

TELECOPIER TRANSMISSION

TO: John Whitehead  
FROM: John Wiener  
DATE: 3/18/75  
TELECOPIER NO.: 4116

NO. OF PAGES (INCLUDING COVER SHEET) 2

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL ...

NOTES AND COMMENTS

cc John Whitehead



LAW OFFICES  
GOLDBERG, GODLES, WIENER & WRIGHT  
1229 NINETEENTH STREET, N.W.  
WASHINGTON, D.C. 20036

HENRY GOLDBERG  
JOSEPH A. GODLES  
JONATHAN L. WIENER  
HENRIETTA WRIGHT  
THOMAS G. GHERARDI, P.C.  
COUNSEL

(202) 420-4800  
TELECOPIER  
(202) 420-4912

March 18, 1993

VIA TELECOPIER

Mr. Clay T. Whitehead  
1320 Old Chain Bridge Road  
McLean, Virginia 22101

Re: Arianespace Termination Liability

Dear Tom:

Henry told me that you wanted some additional background information regarding PanAmSat's liabilities to Arianespace in the event that it terminates either its second or third launch under the existing agreement.

As previously discussed, under a recently reached amendment with Arianespace, if, by May 31, 1993, PanAmSat has not reached a financing arrangement satisfactory to it covering 85% of the launch services price for all three launches, PanAmSat may terminate the second and/or third Arianespace launches, at no cost or obligation, by giving notice to Arianespace no later than June 21, 1993. (See enclosed Section 18.3.1, as shown in Article 7 to the amendment.)

Unless PanAmSat exercises this termination right, if PanAmSat terminates the second and/or third launches, and assuming that PanAmSat will launch the satellites with another service provider, PanAmSat's termination liability will be a percentage of the total contract price for each launch (\$81 million), as set forth in the schedule in Section 18.2.1 of the Arianespace agreement (enclosed). This schedule is, in turn, based upon the first day of the scheduled launch periods for each satellite, which is shown in Section 6.1 of the contract (also enclosed). As reflected in these schedules, unless PanAmSat terminates the contract by June 21, 1993, for lack of financing, its minimum termination liability will be \$8.1 million per launch, with this liability increasing (exponentially) the later PanAmSat exercises its termination right.

Mr. Clay T. Whitehead  
March 18, 1993  
Page 2

While on this subject, you should also keep in mind that our construction contract with Hughes gives Hughes a relatively open ended right to delay delivery and increase the cost of construction, if PanAmSat changes to a Proton launch. I understand from Henny that you have some conversations with Hughes people who indicated that a Proton launch would not be a problem. Obviously, before committing, we would want Hughes' commitment to go forward, hopefully without delay or (significant) additional costs, to be nailed down in a contract amendment.

Please let me know if you have additional questions.

Sincerely,



Jonathan L. Wiener

Enclosures

cc (w/enclosures):  
Mr. Fred Landman  
Henny Wright, Esq.

## ARTICLE 6

Paragraph 11.4 of Article 11 of the Agreement (Launch Postponements) shall be amended as follows:

11.4 Any Launch postponement provided for in this Article 11 of this Agreement shall not modify the progress payment schedule set forth in Paragraph 10.1 of Article 10 of this Agreement.

Notwithstanding the foregoing, should a Launch be postponed one or more times by ARIANESPACE in accordance with Sub-paragraphs 11.3.1 or 11.2.4, then Customer shall be allowed, for the corresponding Launch, to defer the payments remaining due under Paragraph 10.1.1.A)i) (to the exception however of the "A" payment) and Paragraphs 10.1.1.B)i) and 10.1.1.C)i) of Article 10 at the date of request for postponement by a length of time equal to the postponement period. Deferments will be determined from the first day of the last agreed Launch Period or Launch Slot.

## ARTICLE 7

Paragraph 18.3.1 of Article 18 (Termination by Customer) of the Agreement shall be amended as follows:

18.3.1 If at latest by May 31, 1993 a financing arrangement reasonably satisfactory to Customer covering 85% of the Launch Services Price of Launch #1, #2 and #3 guaranteed by the relevant export credit agencies is not concluded, Customer may, by written notice to ARIANESPACE at latest on June 21, 1993, terminate Launches #2 and/or Launch #3 at no cost or obligation [ ] (and without the payment of any late payment interest for the period under Paragraph 10.4.2.). In such event, ARIANESPACE shall, within thirty days of notice of termination under this Subparagraph 18.3.1, refund to Customer all payments previously made (if any) by Customer for the Launch(es) terminated under this Subparagraph 18.3.1. If, notwithstanding the fact no such financing arrangement has been concluded, Customer decides not to terminate Launch #2 and/or Launch #3 under this Sub-paragraph 18.3.1., the provisions of this Article 18 other than this Sub paragraph 18.3.1 shall be applicable in the event of termination by Customer of the corresponding Launch(es).

ARTICLE 18TERMINATION BY CUSTOMER

- 18.1. Customer shall be entitled to terminate any Launch under this Agreement at any time prior to Launch. Customer's right is not subject to any condition, and shall cover termination situations for reasons of convenience as well as those of delay or impossibility in which one of the Parties may find themselves. Notice of termination shall be given by registered letter with acknowledgment of receipt, and shall take effect upon receipt of such letter by ARIANESPACE or by way of telecopy with copy by registered letter with acknowledgement of receipt and shall take effect upon receipt of the telecopy by ARIANESPACE
- 18.2. Whatever the reason for termination of a Launch under this Article 18.0, ARIANESPACE shall be entitled to cancellation fees equal to the aggregate of the following:

- 18.2.1. A basic cancellation fee as follows:

<u>EFFECTIVE DATE OF CANCELLATION</u>	<u>PERCENTAGE OF LSP</u>
On or before C-15 months	10%
Between C-15 & C-13 months	15%
Between C-13 & C-10 months	25%
Between C-10 & C-6 months	40%
After C-6 months	45%

LSP means the Launch Services price of the Launch terminated excluding any price increase resulting from the exercise of option(s) (i.e. Relaunch Credit Option - Cash Option), and any mass increase of the Satellite.

C means the date obtained by i) adding to the first day of the initial Launch Period, the aggregate duration of Launch Period or Launch Slot postponement(s) requested by ARIANESPACE for such Launch pursuant to Sub-paragraph 11.2.1. of Article 11.

- 18.2.2. Plus i) any other amount(s) beyond the LSP paid or due (including postponement fees - late payment interest) for the Launch at the effective date of cancellation, and ii) the price of those Associated Services, ordered by the Customer after the signature of this Agreement for the Launch concerned and performed at the date of cancellation.

*[Handwritten initials]*

ARTICLE 6  
LAUNCH SCHEDULE

- 6.1. The Launch of the Satellites shall take place during the following Launch Periods
- Launch #1: 1 April 1994 to 30 June 1994  
Launch #2: 1 December 1994 to 28 February 1995  
Launch #3: 1 March 1995 to 31 May 1995
- 6.2. The Launch Slot within the Launch Period shall be determined by mutual agreement of the Parties no later than twelve and a half (12<sup>1/2</sup>) months prior to the first day of the Launch Period, taking into account the available Launch Opportunities and the Satellite construction and delivery schedule.
- 6.3. The Launch Day within the Launch Slot shall be determined, no later than four and a half (4<sup>1/2</sup>) months prior to the first day of the Launch Slot, by mutual agreement of the Parties, based on a proposal made by ARIANESPACE.
- 6.4. The Launch Window set forth in Paragraph 1.6 of Annex 1 to this Agreement shall be determined, no later than the Final Mission Analysis Review, by mutual agreement of the Parties, based on a proposal made by ARIANESPACE.
- 6.5. In the event that, for any reason whatsoever, the Parties fail to agree upon the Launch Slot within the Launch Period, the Launch Day, or the Launch Window, ARIANESPACE shall determine said Launch Slot, Launch Day, or Launch Window taking into account the available Launch Opportunities, and the requirements and respective interests of Customer and of the Third Party Customer of ARIANESPACE provided that ARIANESPACE shall notify the Customer of each applicable date not later than ten (10) days after the last day specified for selection under paragraph 6.2 or 6.3 above as applicable..

CMB  
B

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101 Phone 703-847-8787 Fax 703-847-8804

### FACSIMILE MEMORANDUM

**To:** Rene Anselmo, Fred Landman  
**CC:** Henry Goldberg, Henny Wright, Phil Rubin  
**Fax:** 1-203-622-9163  
**From:** Clay T. Whitehead  
**Date:** March 17, 1993  
**Subject:** Meeting with Hughes on Russian launch

I met today with Rick Masoni and Mike Newman regarding the Russian launch situation; Phil Rubin also was in the meeting. The following key points emerged:


- Hughes would like to explore Proton launches and would like to work directly with the Russians.
- Hughes intends to ask the Department of Commerce for permission to exchange technical information on generic HS-601 satellites without reference to PanAmSat. I explained that PanAmSat was not in a position to ask for such permission for its satellites.
- Hughes has considerable flexibility in satellite construction and test to accommodate either Ariane or Proton and does not consider it to be a big deal. This clearly would extend to several months beyond the June date that (I believe) is currently in the contract. Given their desire to work with the Russians, I got the feeling we could negotiate an extension for some months at not much, if any, cost.

The question remains as to how long it would take to negotiate a contract and get U.S. government approval once we begin, what cancellation penalties we would be exposed to with Ariane, etc.

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101 Phone 703-847-8787 Fax 703-847-8804

### FACSIMILE MEMORANDUM

To: ✓ Rene Anselmo, ✓ Fred Landman  
CC: ✓ Henry Goldberg, ✓ Henny Wright, ✓ Phil Rubin  
Fax: 1-203-622-9163  
From: Clay T. Whitehead   
Date: March 16, 1993  
Subject: Meeting with Hughes on Russian launch

I met today with Rick Masoni and Mike Newman regarding the Russian launch situation; Phil Rubin also was in the meeting. The following key points emerged:

- Hughes would like to explore Proton launches and would like to work directly with the Russians.
- Hughes intends to ask the Department of Commerce for permission to exchange technical information on generic HS-601 satellites without reference to PanAmSat. I explained that PanAmSat was not in a position to ask for such permission for its satellites.
- Hughes has considerable flexibility in satellite construction and test to accommodate either Ariane or Proton and does not consider it to be a big deal. This clearly would extend to several months beyond the June date that (I believe) is currently in the contract. Given their desire to work with the Russians, I got the feeling we could negotiate an extension for some months at not much, if any, cost.

The question remains as to how long it would take to negotiate a contract and get U.S. government approval once we begin, what cancellation penalties we would be exposed to with Ariane, etc.

## Clay Whitehead Associates

---

### MEMORANDUM

To: ✓ Rene Anselmo, ✓ Fred Landman  
From: Clay T. Whitehead *Tom*  
CC: ✓ Henry Goldberg, ✓ Henny Wright, ✓ Phil Rubin  
Date: March 12, 1993  
Subject: Proton launch

We had two good days of meetings in Moscow on the Proton launch. I set forth two major areas for discussion:

1. Is NPO Energia the right organization for us to deal with in Russia? Can we be assured that they have the support of the government and Krunichev? Can we be confident that they can deliver the launches on schedule?
2. Will NPO Energia and the Russian government work with us to secure approval from the U.S. government by the Hughes' June deadline?

In general, I was pleased with their attitude and their responses in both areas. NPO Energia clearly is a no-nonsense, tightly-run operation. The meetings were led on their side by Dr. Yuri Semenov, the head of NPO Energia.

NPO Energia asked for a Letter of Intent that they could use within Russia and Kazakhstan to help them coordinate the with organizations that will be involved. We agreed on the attached letter, which Semenov and I signed and agreed to keep the matter confidential until mutually agreed otherwise.

I have attached the following:

- Names and titles of people in the meetings.
- Summary of the key points that were discussed.
- List of action items required to meet June deadline.
- Summary of pros and cons.

Based on these meetings, I believe the Proton launch option should be explored further. However, as we have discussed, it is not sensible to launch the full-court press necessary to get government approval if that will trigger intense opposition from Arianespace. Since it will take Hughes some while to pursue the



technical compatibility issues, one possibility is to table the issue until May if Hughes will give us the flexibility in schedule and cost to pursue the matter then. Or we may want to pursue the discussion with Arianespace that you and Rene suggested or some other option. I will let you know on Wednesday the results of my discussion with Hughes on Tuesday.

Key Points in Meetings with NPO Energia  
February 26 - March 1, 1993

Russia plans to create in a month or so a new organization in the form of a "joint stock company" to coordinate their space operations; this company will be owned by NPO Energia, Krunichev, the Russian Space Agency, and maybe the Russian military which runs the launch facilities at Baikonur. NPO Energia currently has and will continue to have in this new structure the responsibility for all manned space missions and all geosynchronous launches.

I said we would need assurances that the government supported our dealing through NPO Energia in this arrangement, rather than through Lockheed; a few hours later, a representative of the Prime Minister arrived to give just that assurance. He also emphasized that the government would help assure that everything worked well. The number-two man at Krunichev attended the meetings and endorsed NPO Energia as the best organization for us to deal with.

NPO Energia builds the fourth stage of the Proton and performs payload integration. The satellite is integrated with the fourth stage at the NPO Energia facility at Baikonur (in Kazakhstan) in a horizontal position; then the fourth stage is mated with the lower stages (built by Krunichev) and moved to a vertical position at the launch pad. Mission operations at Baikonur have responsibility for the first phase of the launch (I think through the operation of the third stage), at which point control passes to the NPO Energia mission control center in Kaliningrad (a Moscow suburb) through injection into geosynchronous orbit and separation.

NPO Energia and Krunichev have a large inventory of launch vehicles (about two-years worth at current launch rates) and stated that our launch dates would present no problem.

I asked for a technical representative for Hughes to deal with. They named Pavel Vorobiev, whom I met. His English is limited, so Hughes will want to insist that they provide a good English-speaking assistant for him. I will forward Vorobiev's name and phone numbers to Phil Rubin and Mike Houterman.

Both NPO Energia and the representative of the Prime Minister stated that they would deliver a contact for us in the Kazakh government to address the address any concerns we might have about their continued cooperation at Baikonur.

I emphasized that we would insist that Hughes be satisfied with the technology, operations, etc. in all respects and that we would want Hughes and NPO Energia to work together cooperatively to perform between them everything necessary to execute a successful launch. They were very supportive of this, noting

that in Russia, the satellite builder has the final say on all launch issues.

They understand the principle of the trade offset and the need for it to get approval from Clinton. They volunteered that they thought this might be on the order of 20% of the launch price, and I said that probably was in the ballpark (or soccer field). They also will take responsibility for interfacing with the Russian Ministry of Communications.

I emphasized to Semenov and the Prime Minister's representative that we would have to work together very effectively as a team if we are to get approval from the Clinton administration to proceed with these launches. They assured me that they understood and agreed to do so. They said they would see to it that the issue was raised by Yeltsin with Clinton at their summit on April 4. It appeared to me that NPO Energia has a lot of support from the government and that there is a close working relationship between them.

We agreed on the attached tentative schedule of action items that would be required to meet the June deadline. It is very important that we begin promptly to figure out what kind of specific offset proposal we want to make; that should include approximate services and prices.

Attendees at Meetings with NPO Energia  
February 26 - March 1, 1993

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
(Top Dog)

Dr. Victor P. Legostayev  
General Designer  
NPO Energia  
(Number Two man in NPO Energia)

Mr. Boris P. Artemov  
Chief of Department  
NPO Energia  
(Head of U.S. trade)

Prof. Vadim G. Kravets  
Deputy General Designer  
NPO Energia  
(Satellite design and construction)

Dr. Pavel M. Vorobiev  
Head of Division  
NPO Energia

Mr. Alexander V. Levedev  
Deputy Director General  
Krunichev Enterprise  
(Deputy to Kisilev)

Mr. Vladimir Pvnuk  
(Assistant to Prime Minister)

## Proton Launch Pros & Cons

### PRO:

- PAS saves \$50-100 million on launches and insurance. The variables are:
  - How low a price the U.S. government will permit.
  - The cost to PAS of the offset package.
  - Hughes added costs.
  - The timing of payments and Ariane finance costs.
- Greater flexibility in scheduling launch dates.
- Early access to the telecom markets of Russia and other CIS states.
- PAS provides Clinton with an attractive, low-cost way of assisting Russia without increasing the deficit, gaining his knowledge and support for what PAS can do in the world.

### CON:

- The political and economic conditions in Russia and Kazakhstan may deteriorate to the point that the launches cannot be carried out or the U.S. government withdraws its approval. The cost and schedule delays of such an event would have to be worked out with Hughes.
- We apparently cannot begin negotiation with NPO Energia until after May 21 or we otherwise resolve matters with Arianespace, and such a delay may make it infeasible to conclude an agreement before we need to give a final decision to Hughes. Hughes seems to want to do the Russian launch, and we would have to see what we can work out with them.

## Clay Whitehead Associates

---

1320 Old Chain Bridge Road, McLean, Virginia 22101

Phone: (703) 847-8787

Fax: (703) 847-8804

Clay T. Whitehead  
President

March 10, 1993

Mr. Michael Houterman  
Associate Division Manager  
Hughes Space & Communications  
Bldg. S64, MS A490  
P.O. Box 92919  
Los Angeles, California 90009

Dear Mike:

I met February 26 - March 1 in Russia with NPO Energia. The number-two man from Krunichev Enterprise attended most of the meetings. I also met with a representative of the Prime Minister. My goal was to answer two sets of questions:

1. Is NPO Energia the right organization for us to deal with? Can we be assured that they have the support of the government and Krunichev? Can we be confident that they can deliver the launches on schedule?
2. Will NPO Energia and the Russian government work with us to secure approval from the U.S. government by Hughes' June deadline for committing to a change in launch vehicle?

In general, I was pleased with their attitude and their responses in both areas. NPO Energia clearly is a no-nonsense, tightly-run operation. The meetings were led on their side by Dr. Yuri Semenov, the head of NPO Energia, who I have met before. Based on these meetings, I believe the Proton launch option is worth exploring further.

Russia plans to create in the next month or so a new organization in the form of a "joint stock company" to coordinate their space operations; this company will be owned by NPO Energia, Krunichev, the Russian Space Agency, maybe the Russian military which runs the launch facilities at Baikonur and maybe the government of Kazakhstan. NPO Energia currently has and will continue to have in this new structure responsibility for carrying out all manned space missions and all geosynchronous launches. This was endorsed by the man from Krunichev and the representative from the Prime Minister.

NPO Energia builds the fourth stage of the Proton and performs payload integration. The satellite is integrated with the fourth stage at the NPO Energia facility at Baikonur (in Kazakhstan) in a horizontal position; then the fourth stage is mated with the lower stages (built by Krunichev) and moved to a

vertical position at the launch pad. Mission operations at Baikonur have responsibility for the first phase of the launch (I think through the operation of the third stage), at which point control passes to the NPO Energia mission control center in Kaliningrad (a Moscow suburb) through injection into geosynchronous orbit and separation.

NPO Energia and Krunichev have a large inventory of launch vehicles and stated that our launch dates would present no problem.

We reached an agreement to work together to study the possibility of PanAmSat using the Proton for launch of PAS-3 and PAS-4, including the granting of approval by the U.S. government. The existence and terms of this agreement are confidential, and it should not be mentioned without approval from PanAmSat.

I emphasized that we would insist that Hughes be satisfied with the technology, operations, etc. in all respects and that we would want Hughes and NPO Energia to work together cooperatively to perform between them everything necessary to execute a successful launch. They were very supportive of this, noting that in Russia, the satellite builder has the final say on all launch issues.

We agreed on a tentative schedule of action items that would be required to meet the June deadline for modifying the spacecraft for the Proton launch. The items affecting Hughes are as follows:

- Establish communications between Hughes and NPO Energia on technical issues by March 12.
- Hughes technical team makes first visit to NPO Energia in Kaliningrad and Baikonur no later than April 12.
- PanAmSat and Hughes get approval from the U.S. government to provide technical information on the satellites to NPO Energia by April 30.
- Hughes and NPO Energia have further meetings as required.

I asked for a technical representative for Hughes to deal with. They named Dr. Pavel Vorobiev (Vor-RAHB-iev), whom I met, but not for long enough to form any impressions. His English seems limited, so be sure you have a good translator when you meet; I hope you have your own.

Dr. Pavel M. Vorobiev  
Head of Division  
NPO Energia  
14170 Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA  
Phone: 011-7095-516-4326  
Fax: 011-7095-187-9877

I gave Dr. Vorobiev the attached two sheets of information on the satellites based on what Phil Rubin told me I could give them and asked him to send you whatever generic technical information he thought you would want. I gave him your name, but owe him your address and phone and fax numbers. If you want to nominate someone else, let me know, but my hunch is that you and he are at roughly equivalent organizational levels.

They have limited hard currency for travel expenses, but are embarrassed to admit it, so you probably will find it easier to meet with them in Russia than in El Segundo. The U.S. government also might be more comfortable with that in the short run.

I would be happy to go over this in more detail in person or on the phone.

Sincerely,



cc: Mr. Rene Anselmo  
Mr. Fred Landman  
Mr. Philip Rubin



## SPACECRAFT CHARACTERISTICS

---

- PAS-3 and PAS-4 are model HS-601 satellites manufactured by Hughes Aircraft Company.

- Spacecraft dimensions:

Stowed width: 2.8 x 3.4 meters

Stowed height: 3.6 meters

- Spacecraft mass:

Delivered to geosynchronous transfer orbit: 1,725 kg, or more

Delivered directly to geosynchronous orbit: 2,850 kg

- Desired orbit:

Direct injection into geosynchronous orbit.

Inclination: 0°

Spin of spacecraft around longitudinal axis:  $\geq 5$  rpm.

## REQUIRED GROUND FACILITIES

---

- The spacecraft integration facility at the launch site must be controlled as follows:
  - temperature: 20-25°C
  - relative humidity: <55%
  - cleanliness: Class 100,000
- All movements of the spacecraft must be in an environmentally-controlled enclosure, and conditioned air must be available to the spacecraft once it is encapsulated in the fairing.
- Cranes are required in the integration area with suitable lifting capacity and control for the spacecraft and support equipment.
- An RF link at C-band and Ku-band is required between the pad and the processing facility.
- Electrical power is required for ground support equipment at 60Hz, single phase, 115 VAC and 208 VAC, up to 100 amps.
- A separate hazardous material facility for propellant loading is required.

---

---

## FACSIMILE COVER SHEET

---

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: Fred Landman

COMPANY: PanAmSat

FAX #: 1-203-622-9163

DATE: March 10, 1993 TIME: 1:40 pm

FROM: Clay T. Whitehead

Pages following this cover sheet: 11 pages.

COMMENTS:

As discussed. Give me a call and I will finalize the Pros & Cons and anything else you think we should go over with Rene.

I will send the letter to Houterman unless you see a problem.

## Clay Whitehead Associates

---

### MEMORANDUM

To: Fred Landman  
From: Clay T. Whitehead  
CC: Rene Anselmo, Henry Goldberg, Henny Wright, Phil Rubin  
Date: March 9, 1993  
Subject: Proton launch

We had two good days of meetings in Moscow on the Proton launch. I set forth two major areas for discussion:

1. Is NPO Energia the right organization for us to deal with in Russia? Can we be assured that they have the support of the government and Krunichev? Can we be confident that they can deliver the launches on schedule?
2. Will NPO Energia and the Russian government work with us to secure approval from the U.S. government by the Hughes' June deadline?

In general, I was pleased with their attitude and their responses in both areas. NPO Energia clearly is a no-nonsense, tightly-run operation. The meetings were led on their side by Dr. Yuri Semenov, the head of NPO Energia.

NPO Energia asked for a Letter of Intent that they could use within Russia and Kazakhstan to help them focus the coordination of their government and the other organizations that will be involved. We agreed on the attached letter, which Semenov and I signed. We also agreed to keep the matter confidential until mutually agreed otherwise.

I have attached the following:

- Names and titles of people in the meetings.
- Summary of the key points that were discussed.
- List of action items required to meet June deadline.
- Summary of pros and cons.

Based on these meetings, I believe the Proton launch option is worth exploring further. However, before we proceed too much further, Henry and I think that Rene should decide if he is willing to contemplate seriously a Proton launch and to launch the full-court press necessary to get government approval.

I suggest that I come to Greenwich on Monday so you and I can spend some time on this and then go over it with Rene.

Attendees at Meetings with NPO Energia  
February 26 - March 1, 1993

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
(Top Dog)

Dr. Victor P. Legostayev  
General Designer  
NPO Energia  
(Number Two man in NPO Energia)

Mr. Boris P. Artemov  
Chief of Department  
NPO Energia  
(Head of U.S. trade)

Prof. Vadim G. Kravets  
Deputy General Designer  
NPO Energia  
(Satellite design and construction)

Dr. Pavel M. Vorobiev  
Head of Division  
NPO Energia

Mr. Alexander V. Levedev  
Deputy Director General  
Krunichev Enterprise  
(Deputy to Kisilev)

Mr. Vladimir Pvnuk  
(Assistant to Prime Minister)

Key Points in Meetings with NPO Energia  
February 26 - March 1, 1993

Russia plans to create in a month or so a new organization in the form of a "joint stock company" to coordinate their space operations; this company will be owned by NPO Energia, Krunichev, the Russian Space Agency, and maybe the Russian military which runs the launch facilities at Baikonur. NPO Energia currently has and will continue to have in this new structure the responsibility for all manned space missions and all geosynchronous launches.

I said we would need assurances that the government supported our dealing through NPO Energia in this arrangement, rather than through Lockheed; a few hours later, a representative of the Prime Minister arrived to give just that assurance. He also emphasized that the government would help assure that everything worked well. The number-two man at Krunichev attended the meetings and endorsed NPO Energia as the best organization for us to deal with.

NPO Energia builds the fourth stage of the Proton and performs payload integration. The satellite is integrated with the fourth stage at the NPO Energia facility at Baikonur (in Kazakhstan) in a horizontal position; then the fourth stage is mated with the lower stages (built by Krunichev) and moved to a vertical position at the launch pad. Mission operations at Baikonur have responsibility for the first phase of the launch (I think through the operation of the third stage), at which point control passes to the NPO Energia mission control center in Kaliningrad (a Moscow suburb) through injection into geosynchronous orbit and separation.

NPO Energia and Krunichev have a large inventory of launch vehicles (about two-years worth at current launch rates) and stated that our launch dates would present no problem.

I asked for a technical representative for Hughes to deal with. They named Pavel Vorobiev, whom I met. His English is limited, so Hughes will want to insist that they provide a good English-speaking assistant for him. I will forward Vorobiev's name and phone numbers to Phil Rubin and Mike Houterman.

Both NPO Energia and the representative of the Prime Minister stated that they would deliver a contact for us in the Kazakh government to address the address any concerns we might have about their continued cooperation at Baikonur.

I emphasized that we would insist that Hughes be satisfied with the technology, operations, etc. in all respects and that we would want Hughes and NPO Energia to work together cooperatively to perform between them everything necessary to execute a successful launch. They were very supportive of this, noting

that in Russia, the satellite builder has the final say on all launch issues.

They understand the principle of the trade offset and the need for it to get approval from Clinton. They volunteered that they thought this might be on the order of 20% of the launch price, and I said that probably was in the ballpark (or soccer field). They also will take responsibility for interfacing with the Russian Ministry of Communications.

I emphasized to Semenov and the Prime Minister's representative that we would have to work together very effectively as a team if we are to get approval from the Clinton administration to proceed with these launches. They assured me that they understood and agreed to do so. They said they would see to it that the issue was raised by Yeltsin with Clinton at their summit on April 4. It appeared to me that NPO Energia has a lot of support from the government and that there is a close working relationship between them.

We agreed on the attached tentative schedule of action items that would be required to meet the June deadline. It is very important that we begin promptly to figure out what kind of specific offset proposal we want to make; that should include approximate services and prices.

PAS PROTON PROS (& Con)

*Draft*

PROS

- PAS saves money on the second and third launches--from \$40-80 million total, depending on how low a price the U.S. will consider "on par," the cost to PAS of a communications offset package to be included, and the effective cost, including financing, of PAS's Ariane alternative.
- PAS has the ability to schedule these launches whenever it desires, rather than be dependent on Ariane's timing.
- PAS gains access to the Russian <sup>+ CIS</sup> telecom market, because of the communications offset package that would be an integral part of the launch deal.
- PAS provides Clinton with tangible assistance he can offer Yeltsin, thus gaining the new Administration's knowledge and support of PAS.

CON

- It is not knowable, ~~now~~ <sup>can</sup> or until the launches occur, whether the political situation in Russia and Kazakhstan will remain stable enough that contracts ~~will~~ be honored. A lesser risk is whether changes in the political situation in the region could change any permission the U.S. government were to provide now.



Alma-Ata Journal

# Rushing to Kazakhstan, With a Gleam in the Eye

By STEVEN ERLANGER  
Special to The New York Times

ALMA-ATA, Kazakhstan — Like any potential gold mine, Kazakhstan has attracted its share of sophisticated homesteaders, trying to put down stakes for a potentially lavish future.

Frans A. Hoeymans arrived here two years ago, scouting around for A.T.&T.'s Network Systems International, which is based in the Netherlands. "No foreigner was here then, and nobody could help me, even to figure out the taxis," he said. "But I thought it could be a great business, and I convinced the company. The fun is to set it up from nothing."

Now he has a decent office and 12 technicians and is setting up a training institute. He has bought a Jeep to drive into the exquisite mountainous countryside and is building a house; his family arrives soon.

"I've lived all over," he said. "I knew the palm trees and the beautiful hotels. But we've made a lot of market surveys, and I'm convinced Kazakhstan is potentially one of the richest countries in the world."

A million square miles in size, stretching from China to the Caspian Sea, Kazakhstan has some of the largest unexplored oil, gas and mineral deposits on earth.

### Striking Gold Early

By getting here early, Mr. Hoeymans has struck early gold for A.T.&T., signing a 10-year, \$500 million contract last March to provide a new domestic and international telephone switching system for the richest 40 percent of the country. It includes both the capital, Alma-Ata, and the area by the Caspian Sea that will house the Chevron Corporation's 40-year, \$20 billion joint venture to exploit the huge Tengiz oilfield.

But he must persuade each of his nine regions to come up with the money for their share of the necessary equipment, so he travels a lot, meeting regional bosses.

Alcatel SEL, the former East German subsidiary of the French telephone company, has another 40 percent of the phone business, obtained with the help of a special German export subsidy for formerly East German companies.

Mr. Hoeymans is happy with the competition, but he is also looking ahead, to a future contract to install fiber-optic cables to hook Kazakhstan more securely into the international phone system. "If we get that contract, even sharing it with competitors, it could be hundreds of millions of dollars," he said.

His biggest concerns are political stability and his personal safety, as the crime rate grows along with inflation. One morning he woke at 2 to discover armed men around his building, and not for the first time, so he moved to another apartment. He



Otto Pohl for The New York Times

Customers crowding Shaggie's, a Korean fast food restaurant attached to the Hotel Kazakhstan in Alma-Ata. Foreigners are flocking to Kazakhstan to stake claims in a potential commercial bonanza.



The New York Times

Alma-Ata is the center of a "gold rush" in former Soviet areas.

has been mugged twice. But he shrugs off these small complications, as he does the other intricacies of doing business here.

Asked about bribes, for instance, he compared the situation with that in Indonesia. "As in Indonesia, everyone must be pleased," he said carefully. "But there's a system, and it's clear. Here they're just developing it, and

everyone needs money and wants it." Another Western businessman, who spoke on condition of anonymity, said the current joke asked the definition of a Kazakh joint venture. "You give me your watch," the joke runs, "and I'll tell you the time."

BASF, the huge German multinational with expertise in energy, chemicals, plastics, pharmaceuticals, herbicides and much else, has an office in the same building as A.T.&T. Its general director, Bernhard Buchwald, came here "with five suitcases, that's it," he said cheerfully.

He is looking for business, concentrating on agriculture, energy, pharmaceuticals and light industry, in that order. "It's enough for now," he said. "At least we've found the right people to talk to." With a paucity of hard currency until oil and gas revenues start flowing in, "unfortunately a lot of business happens through barter and joint ventures."

He has already signed two protocols for decent contracts and is working for good will, donating 1.5 tons of vitamins, cough syrup and other drugs to a children's charity headed by the wife of President Nursultan A. Nazarbayev.

"We have it harder than A.T.&T.," Mr. Buchwald said. "For us, tomorrow it could be 100 or zero."

Other foreigners here have smaller plans. Lee Kyong Jae is the president

of Grapro Koral International Company, which opened in July as a joint venture with the Kazakhstan Sewing Factory. He has invested about \$1 million in a retail store and attached sewing workshop, which employs 170 people making 150 garments a day, ranging from attractive parkas to stylish casual clothing. These are sold in a modern, Western-looking store.

He came here because "politically it's much more stable than Moscow" and the labor is cheaper than in Korea. He hopes to sell to the entire former Soviet Union while exporting half of his production to the European Community.

Another Korean joint venture is a fast-food restaurant called Shaggie's, attached to the Hotel Kazakhstan. Open for 18 months, it has average daily sales of 500,000 rubles a day (about \$900), including 1,500 burgers at 105 rubles (19 cents) each.

Its manager, Oksana Saricheva, is "almost 20," and studied in Korea for three months. "Since there is no other place like it in town, it's almost always packed," she said. "My parents feel sorry for me. I have to work so much."

Keeping up Korean standards is hard here, she said wistfully. "One day I want to open my own restaurant, where everything is always available."

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101

Phone: (703) 847-8787

Fax: (703) 847-8804

Clay T. Whitehead  
President

March 10, 1993

Mr. Michael Houterman  
Space & Communications Group  
Hughes Aircraft Company

*Draft*

Dear Mike:

I met February 26 - March 1 in Russia with NPO Energia. The number-two man from Krunichev Enterprise attended most of the meetings. I also met with a representative of the Prime Minister. My goal was to answer two sets of questions:

1. Is NPO Energia the right organization for us to deal with? Can we be assured that they have the support of the government and Krunichev? Can we be confident that they can deliver the launches on schedule?
2. Will NPO Energia and the Russian government work with us to secure approval from the U.S. government by Hughes' June deadline for committing to a change in launch vehicle?

In general, I was pleased with their attitude and their responses in both areas. NPO Energia clearly is a no-nonsense, tightly-run operation. The meetings were led on their side by Dr. Yuri Semenov, the head of NPO Energia, who I have met before. Based on these meetings, I believe the Proton launch option is worth exploring further.

Russia plans to create in the next month or so a new organization in the form of a "joint stock company" to coordinate their space operations; this company will be owned by NPO Energia, Krunichev, the Russian Space Agency, maybe the Russian military which runs the launch facilities at Baikonur and maybe the government of Kazakhstan. NPO Energia currently has and will continue to have in this new structure responsibility for carrying out all manned space missions and all geosynchronous launches. This was endorsed by the man from Krunichev and the representative from the Prime Minister.

NPO Energia builds the fourth stage of the Proton and performs payload integration. The satellite is integrated with the fourth stage at the NPO Energia facility at Baikonur (in Kazakhstan) in a horizontal position; then the fourth stage is mated with the lower stages (built by Krunichev) and moved to a vertical position at the launch pad. Mission operations at Baikonur have responsibility for the first phase of the launch (I

think through the operation of the third stage), at which point control passes to the NPO Energia mission control center in Kaliningrad (a Moscow suburb) through injection into geosynchronous orbit and separation.

NPO Energia and Krunichev have a large inventory of launch vehicles and stated that our launch dates would present no problem.

We reached an agreement to work together to study the possibility of PanAmSat using the Proton for launch of PAS-3 and PAS-4, including the granting of approval by the U.S. government. The existence and terms of this agreement are confidential, and it should not be mentioned without approval from PanAmSat.

I emphasized that we would insist that Hughes be satisfied with the technology, operations, etc. in all respects and that we would want Hughes and NPO Energia to work together cooperatively to perform between them everything necessary to execute a successful launch. They were very supportive of this, noting that in Russia, the satellite builder has the final say on all launch issues.

We agreed on a tentative schedule of action items that would be required to meet the June deadline for modifying the spacecraft for the Proton launch. The items affecting Hughes are as follows:

- Establish communications between Hughes and NPO Energia on technical issues by March 12.
- Hughes technical team makes first visit to NPO Energia in Kaliningrad and Baikonur no later than April 12.
- PanAmSat and Hughes get approval from the U.S. government to provide technical information on the satellites to NPO Energia by April 30.
- Hughes and NPO Energia have further meetings as required.

I asked for a technical representative for Hughes to deal with. They named Dr. Pavel Vorobiev (Vor-RAHB-iev), whom I met, but not for long enough to form any impressions. His English seems limited, so be sure you have a good translator when you meet; I hope you have your own.

Dr. Pavel M. Vorobiev  
Head of Division  
NPO Energia  
14170 Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA  
Phone: 011-7095-516-4326  
Fax: 011-7095-187-9877

I gave Dr. Vorobiev the attached two sheets of information on the satellites based on what Phil Rubin told me I could give them and asked him to send you whatever generic technical information he thought you would want. I gave him your name, but owe him your address and phone and fax numbers. If you want to nominate someone else, let me know, but my hunch is that you and he are at roughly equivalent organizational levels.

They have limited hard currency for travel expenses, but are embarrassed to admit it, so you probably will find it easier to meet with them in Russia than in El Segundo. The U.S. government also might be more comfortable with that in the short run.

I would be happy to go over this in more detail in person or on the phone.

Sincerely,

cc: Mr. Rene Anselmo  
Mr. Fred Landman  
Mr. Philip Rubin

## **SPACECRAFT CHARACTERISTICS**

---

- PAS-3 and PAS-4 are model HS-601 satellites manufactured by Hughes Aircraft Company.

- Spacecraft dimensions:

Stowed width: 2.8 x 3.4 meters

Stowed height: 3.6 meters

- Spacecraft mass:

Delivered to geosynchronous transfer orbit: 1,725 kg, or more

Delivered directly to geosynchronous orbit: 2,850 kg

- Desired orbit:

Direct injection into geosynchronous orbit.

Inclination: 0°

Spin of spacecraft around longitudinal axis:  $\geq 5$  rpm.

## **REQUIRED GROUND FACILITIES**

---

- The spacecraft integration facility at the launch site must be controlled as follows:
  - temperature: 20-25°C
  - relative humidity: <55%
  - cleanliness: Class 100,000
- All movements of the spacecraft must be in an environmentally-controlled enclosure, and conditioned air must be available to the spacecraft once it is encapsulated in the fairing.
- Cranes are required in the integration area with suitable lifting capacity and control for the spacecraft and support equipment.
- An RF link at C-band and Ku-band is required between the pad and the processing facility.
- Electrical power is required for ground support equipment at 60Hz, single phase, 115 VAC and 208 VAC, up to 100 amps.
- A separate hazardous material facility for propellant loading is required.

March 5, 1993

TO: Mr. Henry Goldberg  
Mr. Fred Landman  
Mr. Fred Whithead ✓  
Ms. Henry Wright

FROM: Mr. Jeffrey Maribe (JFM)

RE: Russia Results *Very good - done*

1) Here is the translated copy of the meeting minutes from the meeting on 2/24/93. The dates and estimates put together by my colleagues and I at the meeting of NPO Energia the day after Tom's visit.

2) I want to briefly summarize some of the observations from the meeting.

a) Fred told me in one of our phone conversations that he had contacted the Russians to pick an organization to integrate or necessary Russian participants in the program. It is clear they have done so with NPO Energia. We met with Mr. Alexander [illegible] yesterday, the Deputy General Director of the company. He answered Tom's questions several times by stating they are delighted to issue the order for the integration, both political and technical, of NPO Energia.

NPO Energia has their own site at Beznauk. It is a secure area.

It was quite impressive. [illegible]

reviewed our "letter of intent" and on behalf of the Prime Minister and the Russian government agreed that the strategy was sound and they would carry this to Yeltsin in time for the summit. Mr. Pvnuk is a friend of the hardliners and has served in a government capacity for some time.

d) I am comfortable that NPO Energia is not "hiding" or keeping PanAmSat to itself. This was my major worry and they responded with a good demonstration of their capability to bring together the necessary different organizations.

e) There was some cultural confusion--they cannot sign a sophisticated American document like the proposed MOU without reviewing it very carefully, and we don't have the time for that.

The simple Letter of Intent, or Protocol as they refer to the document, will allow Yuri Semenov to lobby the Russian government and of course it does not commit PanAmSat to a Proton launch.

- F. There is some concern among the Russians that PanAmSat's strategy is to produce a situation that causes the French to have to lower their price to PanAmSat. The Russians don't want to be used as pawns in a sophisticated game by PanAmSat. On the plus side, they are quite impressed by the trade offset opportunities. It is my suggestion that if PanAmSat does move forward with lobbying, you must keep NPO Energia informed, thus giving the confidence in the seriousness of your intentions. The Russians involved don't want to call in favors and political chits only to have PanAmSat not even try.

I think we got out of this meeting what we hoped for and now need to begin preparing the briefings to the U.S. government. Please note a small story on the front page of today's Wall St. Journal which states that "Clinton may signal a willingness to purchase Russian space technology" during his meeting with Yeltsin.



**Plan for the Cooperative Actions  
of NPO Energia and PanAmSat  
regarding the Satellite Launch Project Realization  
with the Use of the Proton Launch Vehicle**

As the result of the negotiations which took place at NPO Energia, Kaliningrad, Moscow Region on February 26 - March 1 the parties agreed on the following plan for their cooperative actions during the period ending June 1, 1993:

1.	Signing of the Letter of Intentions	March 1, 1993
2.	Appoint persons responsible for the project's technical realization from NPO Energia and Hughes Company, the satellites' builder	March
3.	PanAmSat sends NPO Energia information to brief the President of Russia for the April 4 presidential summit	through March 9
4.	NPO Energia organizes support for this project by means of conducting meetings in the Supreme Soviet, Russian Government, and Russian Ministry of Telecommunications	March 10 - April 4
5.	NPO Energia meets with and delivers the information to the President of Russia	through April 3
6.	NPO Energia gets the go-ahead from the President of Russia	through April 3
7.	PanAmSat meets representatives of Kazakhstan and the Russian Ministry of Telecommunications	TBA
8.	The presidential summit takes place	April 4, 1993
9.	PanAmSat gets permission from the US Department of State to bring the satellite into the territory of Russia and Kazakhstan and to exchange information	May 1
10.	Hughes specialists arrive to NPO Energia for a technical meeting	May 10
11.	NPO Energia and PanAmSat sign the Memorandum of Understanding	May 12
12.	The US Government approves the project	May 24
13.	Signing of the contract	May 28
14.	Final decision on the project	June 7

---

# FACSIMILE COVER SHEET

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: JEFF MANBER  
COMPANY: \_\_\_\_\_  
FAX #: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

FROM: TOM WHITEHEAD

Pages following this cover sheet: 7 pages.

COMMENTS:

THIS IS THE FINAL  
VERSION TO BE TRANSLATED  
AND FAXED TO JEFF  
IN MOSCOW.

**DISCUSSION OF POSSIBLE ARRANGEMENTS BETWEEN**

**NPO ENERGIA AND PANAMSAT**

**February 1993**

## KEY ELEMENTS OF ARRANGEMENTS BETWEEN NPO ENERGIA AND PANAMSAT

- PanAmSat wishes to reserve Proton launches for two HS-601 satellites being manufactured by Hughes Aircraft Company as follows:
  - PAS-3 to be launched in January or February, 1995.
  - PAS-4 to be launched in March or April, 1995.
- PanAmSat wishes to deal with NPO Energia to obtain these launches.
- PanAmSat wishes NPO Energia to work directly and cooperatively with Hughes to provide all hardware, software, facilities and services necessary for successful launches of the satellites.
- PanAmSat and NPO Energia must work cooperatively with one another and with their governments to obtain all necessary approvals for these launches by June, 1993, in order for Hughes to be able tailor the spacecraft for the Proton launch.
- The biggest obstacle to concluding an agreement between NPO Energia and PanAmSat is the granting of approvals by the U.S. government.

## **STRATEGY FOR OBTAINING APPROVALS FROM THE U.S. GOVERNMENT**

- **The Clinton Administration is not likely to approve Russian launches on a policy basis anytime soon. To gain the needed approvals, the following policy goals of the new Administration must be recognized:**
  - **Protect the U.S. launch vehicle industry.**
  - **Prevent the release of defense-sensitive technology.**
  - **Assure Russian compliance with the Missile Control Test Regime.**
  - **Promote economic growth and political stability in Russia and other CIS Republics.**
  - **Promote exports of U.S. technology goods and services.**
- **Arrangements between NPO Energia and PanAmSat should include the following elements:**
  - **Approval will be sought for a waiver of Administration policy to permit these two launches based on unique benefits of the broader arrangement.**
  - **NPO Energia and/or government agencies or companies in Russia, Kazakhstan and other Republics will purchase from PanAmSat and U.S. equipment manufacturers specified transponder capacity and telecom ground facilities. This will provide a bilateral trade arrangement, satisfying the Clinton goal of promoting high-tech exports, and the facilities will promote the desired economic development and political stability in the Republics.**
  - **PanAmSat will pay a fair market price for the Proton launches. It will sell the transponder capacity at favorable rates and will assist in obtaining the ground facilities at favorable prices. This will provide Russia and the Republics the hard currency to trade with the U.S.**
- **NPO Energia must assure that President Yeltsin promotes to President Clinton the urgency and the positive benefits of the arrangement for both the U.S. and the Republics.**

## **SUGGESTED TIMETABLE**

---

- **March, 1993**      **Signing of formal MOU between NPO Energia and PanAmSat**
- **April, 1993(?)**      **When President Yeltsin meets with President Clinton, he must make this arrangement a top priority based on the need for economic development and political stability in Russia and other CIS Republics and on trade benefits for both countries.**
- **April, 1993**      **Begin technical coordination between NPO Energia and Hughes Aircraft Company as soon as permitted by U.S. government.**
- **May, 1993**      **PanAmSat and U.S. manufacturers are brought together with organizations in Russia, Kazakhstan and other Republics to establish contractual agreements.**
- **June, 1993**      **Clinton gives approval and agreements are finalized.**

## SPACECRAFT CHARACTERISTICS

---

- PAS-3 and PAS-4 are model HS-601 satellites manufactured by Hughes Aircraft Company.

- Spacecraft dimensions:

Stowed width: 2.8 x 3.4 meters

Stowed height: 3.6 meters

- Spacecraft mass:

Delivered to geosynchronous transfer orbit: 1,725 kg, or more

Delivered directly to geosynchronous orbit: 2,850 kg

- Desired orbit:

Direct injection into geosynchronous orbit.

Inclination: 0°

Spin of spacecraft around longitudinal axis:  $\geq 5$  rpm.

## **REQUIRED GROUND FACILITIES**

---

- The spacecraft integration facility at the launch site must be controlled as follows:
  - temperature: 20-25°C
  - relative humidity: <55%
  - cleanliness: Class 100,000
- All movements of the spacecraft must be in an environmentally-controlled enclosure, and conditioned air must be available to the spacecraft once it is encapsulated in the fairing.
- Cranes are required in the integration area with suitable lifting capacity and control for the spacecraft and support equipment.
- An RF link at C-band and Ku-band is required between the pad and the processing facility.
- Electrical power is required for ground support equipment at 60Hz, single phase, 115 VAC and 208 VAC, up to 100 amps.
- A separate hazardous material facility for propellant loading is required.



## POSSIBLE TELECOM NETWORKS USING PAS-4

---

- **Telecommunications network:**
  - 440 two-way 9.6 kbs carriers using 27 MHz of C-band capacity on PAS-4.
    - Satellite to be located at 68° or 72° East Longitude covering Russia and other CIS Republics.
  - A master control and switching earth station with capacity for 80 two-way voice or data circuits.
  - 100 smaller earth stations with capacities of 8 - 24 two-way voice or data circuits.
- **Television broadcast facilities:**
  - Five 5 Mbps C-band digital television carriers using 27 MHz of C-band capacity on PAS-4.
  - A fully redundant two-way C-band earth station with capability for five digital television carriers.
  - Digital compression technology for five 5 Mbps television channels.
  - 100 receivers for reception of digital satellite television channels collocated with the above telecommunications earth stations.

---

## FACSIMILE COVER SHEET

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: JEFF MANBER  
COMPANY: \_\_\_\_\_  
FAX #: \_\_\_\_\_  
DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

FROM: TOM WHITEHEAD

Pages following this cover sheet: 4 pages.

COMMENTS:

THIS ALSO SHOULD BE  
TRANSLATED AND FAXED  
TO JEFF IN BOTH ENGLISH  
AND RUSSIAN.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is entered into this \_\_\_\_\_ day of February, 1993, by and between PanAmSat, L.P. ("PanAmSat"), a limited partnership organized under the laws of the State of Delaware, U.S.A., and NPO Energia, a \_\_\_\_\_ organized under the laws of \_\_\_\_\_. The parties agree as follows:

1. Scope of the Memorandum. This MOU reflects certain understandings between PanAmSat and NPO Energia concerning: (a) the provision by NPO Energia of launch services; and (b) the provision by PanAmSat of communications services, all as more fully set forth below.

2. Launch Services to be Provided by NPO Energia. PanAmSat has agreed to purchase three new HS-601 communications satellites that Hughes Aircraft Company ("Hughes") will construct. The second and third of these satellites (the "Satellites") are presently scheduled to be launched in the first and second quarters of 1995. PanAmSat has entered into a launch services agreement with Arianespace for the Satellites, subject to various conditions. In the event that the Satellites are not launched by Arianespace, then NPO Energia will make launch services (the "Launch Services") available to PanAmSat by which the Satellites could be launched using a Proton launch vehicle. The Launch Services would include acquiring the launch vehicle hardware; working with Hughes to integrate the Satellite payloads and the launch vehicles;

coordinating the launch and tracking facilities; and providing such other services as necessary to launch the Satellites into geosynchronous orbit. The price for the Launch Services shall be determined by the parties in the course of their further negotiations.

3. Communications Services to be Provided by PanAmSat. In the event that NPO Energia provides the Launch Services, then PanAmSat shall provide to NPO Energia or its designee, and NPO Energia or its designee shall acquire from PanAmSat, the communications services (the "Communications Services") that are described below. The parties acknowledge and agree that, subject to applicable law, the circuits provided in connection with the Communications Services may be interconnected with the public switched network, and further acknowledge that it is contemplated that these circuits will be used in whole or in part by the governments of territories that formerly were part of the USSR, including use of the circuits as part of the public telecommunications networks of such territories.

The Communications Services shall consist of voice, video and data satellite network services, and shall be provided for a term that is expected to be at least 10 years. The price for the Communications Services shall be commensurate with their nature and scope, and shall be determined by the parties in the course of their further negotiations.

4. Approvals. The parties acknowledge that NPO Energia's ability to provide, and PanAmSat's ability to use, the Launch Services are subject to certain governmental approvals and consents

(the "Approvals") that must be issued by the U.S. government and the governments of Russia and other territories that formerly were part of the USSR, and the parties agree to abide by the terms and conditions of such Approvals. The parties shall cooperate with one another in obtaining the Approvals, and NPO Energia also shall assist PanAmSat in obtaining such approvals as are necessary in order for PanAmSat to provide satellite telecommunications services within areas formerly part of the USSR and between such areas and other countries and territories.

5. Confidentiality. Neither PanAmSat nor NPO Energia shall disclose to any third party, without the written consent of the other party hereto: (a) the existence or terms and conditions of this MOU; or (b) any information that PanAmSat and NPO Energia provide to one another and that is identified, either orally or in writing, as proprietary.

6. Assignment. Neither PanAmSat nor NPO Energia shall assign or delegate this MOU to a third party without the consent in writing of the other party hereto, except that PanAmSat may assign or delegate this MOU to an entity that is controlled in common with PanAmSat.

7. Term. This MOU shall be effective upon execution, and if not terminated sooner shall terminate on December 31, 1993. Either party may terminate this MOU at any time by providing written notice to the other, and upon such termination neither party shall have any further obligation to the other.

8. Further Negotiations. PanAmSat and NPO Energia agree to negotiate in good faith concerning the terms and conditions that

will govern the provision by NPO Energia of the Launch Services and the provision by PanAmSat of the Communications Services. The understandings that are set forth in this MOU are contingent upon PanAmSat and NPO Energia entering into a mutually satisfactory definitive agreement concerning such terms and conditions.

9. Miscellaneous. This MOU constitutes the entire agreement of the parties with respect to the subject matter set forth herein. The official language of this MOU is English, and any dispute concerning the meaning of this MOU shall rely on the official English language version. This MOU shall not be deemed to prevent PanAmSat from negotiating with other launch vehicle service providers concerning launch services for one or more of the Satellites.

IN WITNESS WHEREOF, this Memorandum of Understanding has been executed by the parties on the date first above written.

PANAMSAT, L.P.

NPO ENERGIA

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101 Phone 703-847-8787 Fax 703-847-8804

### FACSIMILE MEMORANDUM

To: ✓ Mr. Reverage Anselmo

Fax: 011-331-4007-8040

From: Clay T. Whitehead

Date: February 22, 1993

Subject: Russia/Ukraine

*Tom*

Rene tells me you are meeting with officials from Ukraine and asked me to see if we could coordinate your meetings and my trip to Moscow.

I currently am planning to arrive Moscow Thursday, February 25 and to leave there on Tuesday, March 2. Let me know what you are up to and how we might coordinate either trips or ideas.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding, (MOU) entered into this \_\_\_\_\_ day of February, 1993, by and between PanAmSat, L.P. ("PanAmSat"), a limited partnership organized under the laws of the State of Delaware, U.S.A., and NPO Energia, a \_\_\_\_\_ organized under the laws of \_\_\_\_\_. The parties agree as follows:

1. Scope of the Memorandum. This MOU reflects certain understandings between PanAmSat and NPO Energia concerning: (a) the provision by NPO Energia of launch services; (b) the provision by PanAmSat of communications services, all as set forth below.

2. Launch Services to be Provided by NPO Energia. PanAmSat has agreed to purchase three new HS-601 communications satellites that Omega Aircraft Company ("Omega") will manufacture. Two of these satellites (HS-601-1 and HS-601-2) are scheduled to be launched by NPO Energia in 1993. PanAmSat has entered into a contract with Omega for the development of the satellites, and has entered into a contract with AriadSpace for the satellites' launch. It is understood that the satellites will not be launched by AriadSpace. NPO Energia will make launch services (the "Launch Services") available to PanAmSat by which the satellites will be launched using a Proton launch vehicle. The Launch Services will include acquiring the launch vehicle hardware, vehicle with attached to integrate the satellite payload and launch the vehicle.



coordinating the launch and tracking facilities; and providing such other services as necessary to launch the Satellites into geosynchronous orbit. The price for the Launch Services shall be determined by the parties in the course of their further negotiations.

3. Communications Services to be Provided by PanAmSat. In the event that NPO Energia provides the Launch Services, the PanAmSat shall provide to NPO Energia or its designee, and NPO Energia or its designee shall acquire from PanAmSat, the communications services (the "Communications Services") that are described below. The parties acknowledge and agree that, subject to applicable law, the circuits provided in connection with the Communications Services may be interconnected with the public switched network, and further acknowledge that it is contemplated that these circuits will be used in whole or in part by the governments of territories that formerly were part of the USSR, including use of the circuits as part of the public telecommunications networks of such territories.

The Communications Services shall consist of voice, video and data satellite network services, and shall be provided for a term that is expected to be at least 10 years. The price for the Communications Services shall be commensurate with their nature and scope, and shall be determined by the parties in the course of their further negotiations.

4. Approvals. The parties acknowledge that NPO Energia's ability to provide, and PanAmSat's ability to use, the Launch Services are subject to certain governmental approvals and consents

(the "Approvals") that must be issued by the U.S. government and the governments of Russia and other territories that formerly were part of the USSR, and the parties agree to abide by the terms and conditions of such Approvals. The parties shall cooperate with one another in obtaining the Approvals, and NPO Energia also shall assist PanAmSat in obtaining such approvals as are necessary in order for PanAmSat to provide satellite telecommunications services within areas formerly part of the USSR and between such areas and other countries and territories.

5. Confidentiality. Neither PanAmSat nor NPO Energia shall disclose to any third party, without the written consent of the other party hereto: (a) the existence or terms and conditions of this MOU; or (b) any information that PanAmSat and NPO Energia provide to one another and that is identified, either orally or in writing, as proprietary.

6. Assignment. Neither PanAmSat nor NPO Energia shall assign or delegate this MOU to a third party without the consent in writing of the other party hereto, except that PanAmSat may assign or delegate this MOU to an entity that is controlled in common with PanAmSat.

7. Term. This MOU shall be effective upon execution, and if not terminated sooner shall terminate on December 31, 1993. Either party may terminate this MOU at any time by providing written notice to the other, and upon such termination neither party shall have any further obligation to the other.

8. Further Negotiations. PanAmSat and NPO Energia agree to negotiate in good faith concerning the terms and conditions that

will govern the provision by NPO Energia of the Launch Services and the provision by PanAmSat of the Communications Services. The understandings that are set forth in this MOU are contingent upon PanAmSat and NPO Energia entering into a mutually satisfactory definitive agreement concerning such terms and conditions.

9. Miscellaneous. This MOU constitutes the entire agreement of the parties with respect to the subject matter set forth herein. The official language of this MOU is English, and any dispute concerning the meaning of this MOU shall rely on the official English language version. This MOU shall not be deemed to prevent PanAmSat from negotiating with other launch vehicle service providers concerning launch services for one or more of the Satellites.

IN WITNESS WHEREOF, this Memorandum of Understanding has been executed by the parties on the date first above written.

PANAMSAT, L.P.

NPO ENERGIA

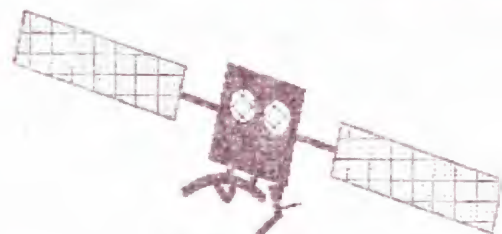
By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

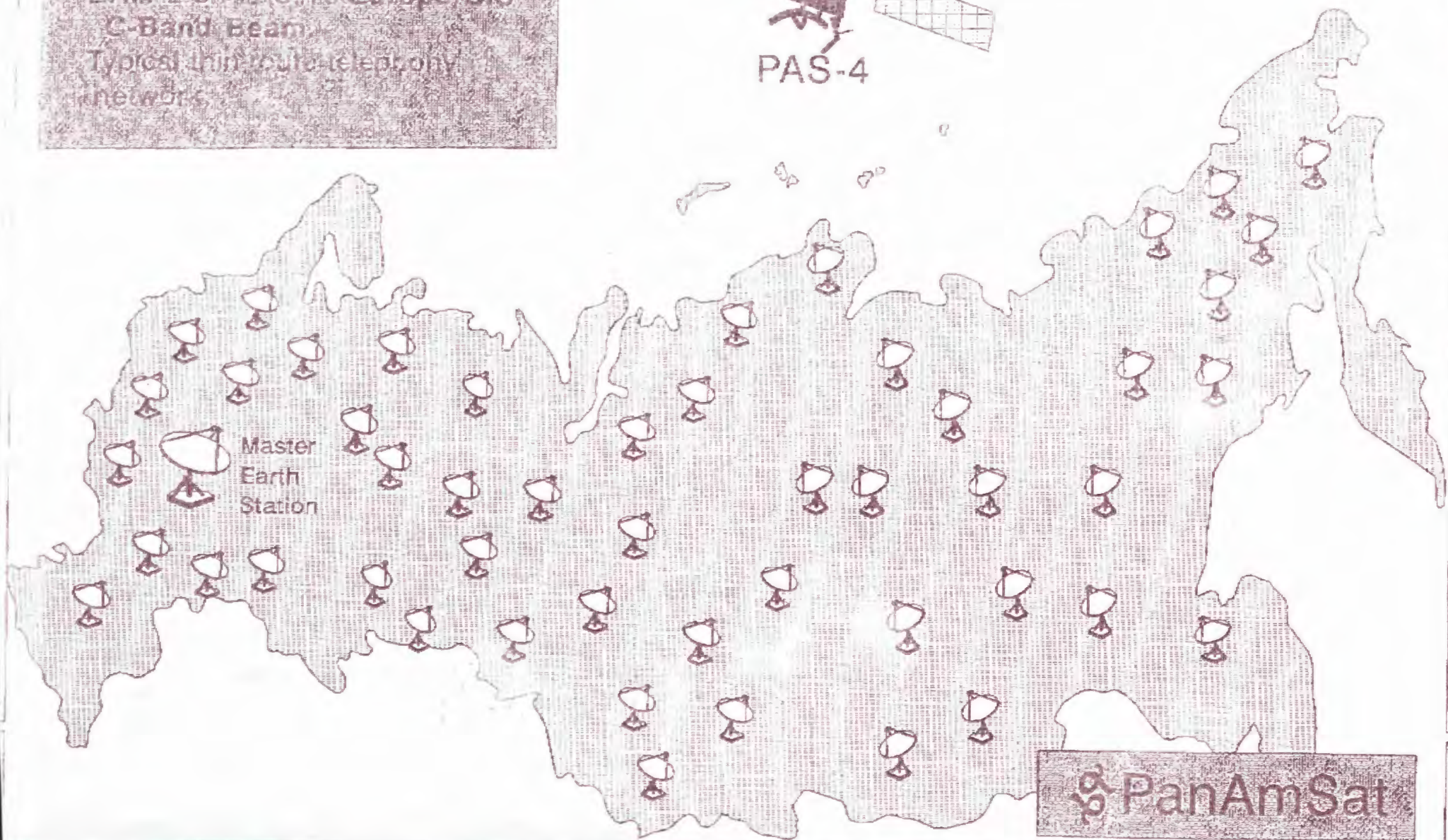
Title: \_\_\_\_\_

# TES Network via PAS-4



PAS-4

27MHz on PAS-4's Europe/CIS  
C-Band Beam  
Typical third party telephony  
networks



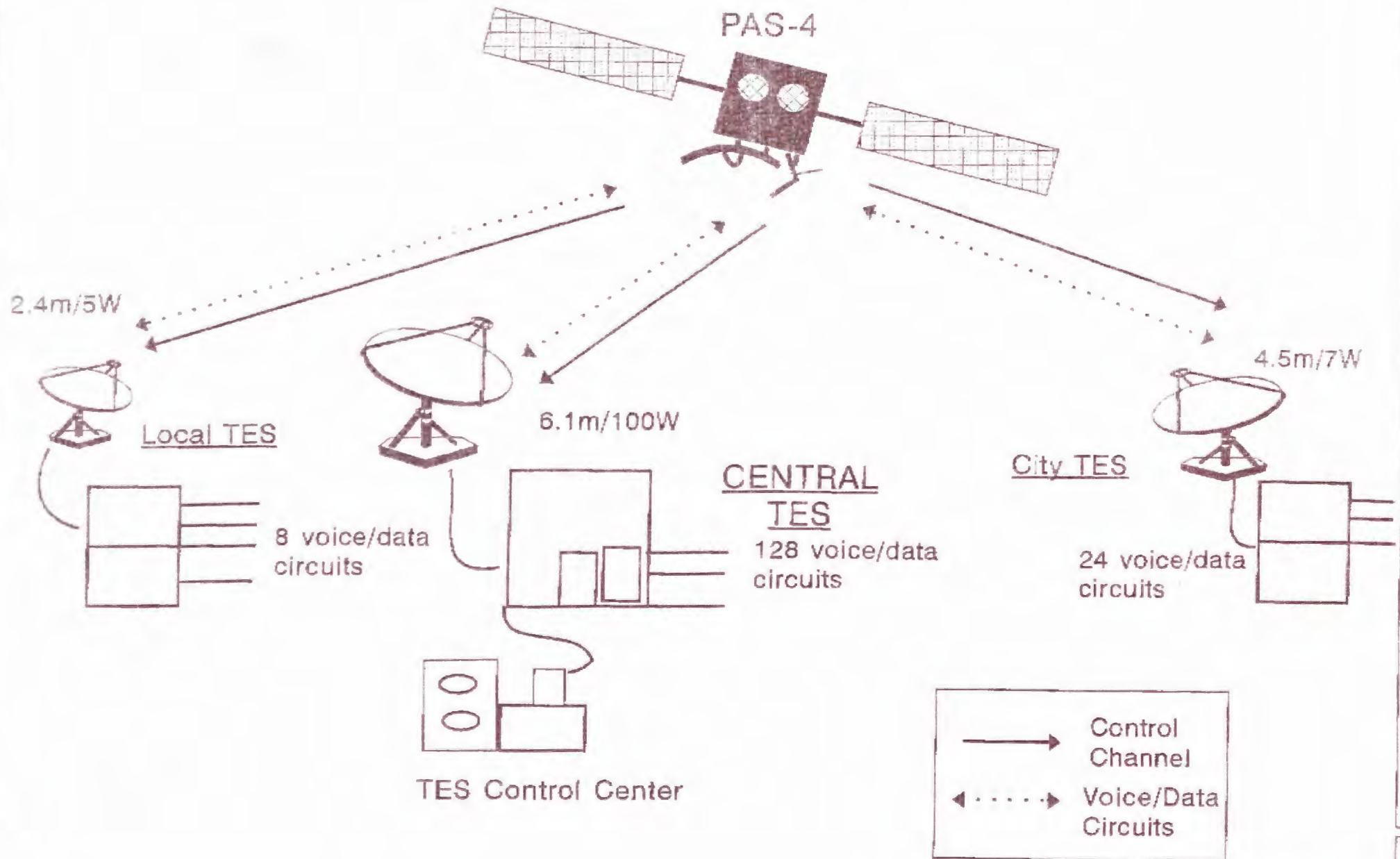
# PanAmSat

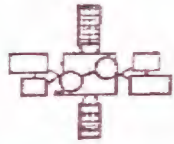
## TES Network: Technical Assumptions

---

- 27MHz on PAS-4's CIS/Europe C-Band Beam.
- Typical thin-route telephony network.
- Based on a Hughes TES DAMA telephone network. Full mesh network.
- Up to 100 local TES units.
- Antenna and HPA's sized to support 8 to 24 voice/data circuits.
- Voice channels use 9.6kbps voice compression.
- Medium traffic load; peak 440 simultaneous voice/data connections.

# TES Network via PAS-4

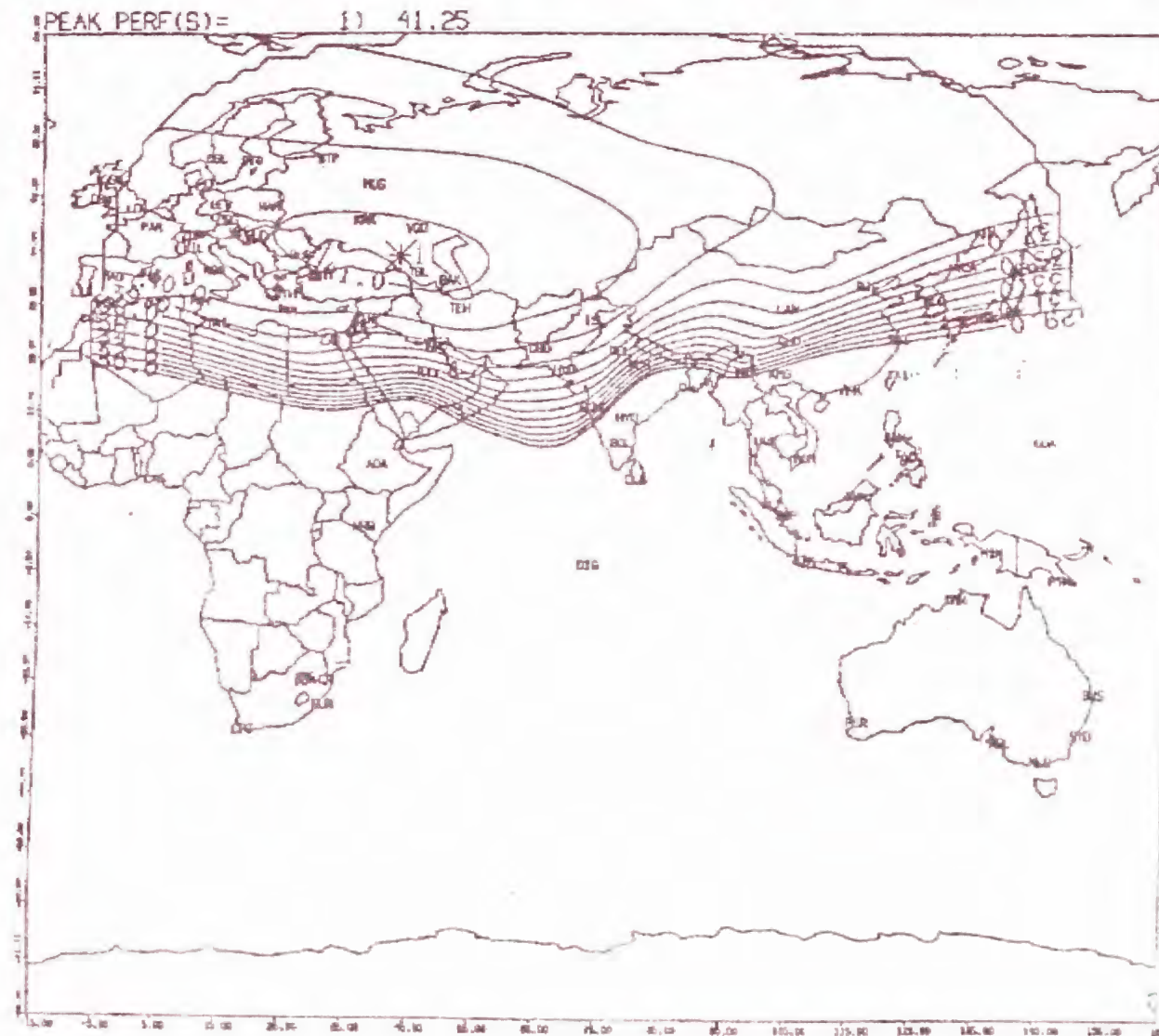




# PANAMSAT GLOBAL SATELLITE SYSTEM



## EUROPE/CIS C-BAND DOWNLINK BEAM



# PanAmSat

## TES Network

### Budgetary Equipment Costs

---

<u>Item:</u>	<u>Cost (\$US)</u>
Local TES configured with a 2.4m/5W Outdoor Unit and 8 voice/data channel cards (90 stations)	\$567,000
City TES configured with a 4.5m/7W outdoor unit and 24 voice/data channel cards (10 stations)	\$2,540,000
Moscow E/S configured with 6.1m/100W Outdoor Unit fully redundant	\$325,000
Moscow TES Indoor Equipment including 128 voice/data channel cards	\$870,000
RF equipment required to integrate the TES Indoor to Outdoor equipment	\$65,000
TES Control Center and Signalling Software at Moscow E/S	<u>\$219,000</u>
Total:	<u>\$4,586,000</u>



MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is entered into this \_\_\_\_\_ day of February, 1993, by and between PanAmSat, L.P. ("PanAmSat"), a limited partnership organized under the laws of the State of Delaware, U.S.A., and NPO Energia, a \_\_\_\_\_ organized under the laws of \_\_\_\_\_. The parties agree as follows:

1. Scope of the Memorandum. This MOU reflects certain understandings between PanAmSat and NPO Energia concerning:

(a) the provision by NPO Energia of launch services; and (b) the provision by PanAmSat of data and video network services, all as more fully set forth below.

2. Launch Services to be Provided by NPO Energia. PanAmSat has agreed to purchase three new HS-601 communications satellites that Hughes Aircraft Company ("Hughes") will construct. The second and third of these satellites (the "Satellites") are presently scheduled to be launched in the first and second quarters of 1995. PanAmSat has entered into a launch services agreement with Arianespace for the Satellites, subject to various conditions. In the event that the Satellites are not launched by Arianespace, then NPO Energia will make launch services (the "Launch Services") available to PanAmSat by which the Satellites could be launched using a Proton launch vehicle. The Launch Services would include acquiring the launch vehicle hardware; working with Hughes to integrate the Satellite payloads and the launch vehicles;

coordinating the launch and tracking facilities; and providing such other services as necessary to launch the Satellites into geosynchronous orbit. The price for the Launch Services is set forth in Exhibit A hereto.

3. Data and Video Network Services to be Provided by PanAmSat. In the event that NPO Energia provides the Launch Services, then PanAmSat shall provide to NPO Energia or its designee, and NPO Energia or its designee shall acquire from PanAmSat, the communications services (the "Communications Services") that are described below. The parties acknowledge and agree that, subject to applicable law, the circuits provided in connection with the Communications Services may be interconnected with the public switched network, and further acknowledge that it is contemplated that these circuits will be used in whole or in part by the governments of territories that formerly were part of the USSR, including use of the circuits as part of the public telecommunications networks of such territories.

The Communications Services shall be as follows: (a) data network services consisting of 500 9.6 kbps C-band channels on one of the Satellites, a hub earth station facility in Moscow, 100 remote earth stations, and associated facilities and services; and (b) video network services consisting of five C-band digital video channels on one of the Satellites, an earth station to be located in Moscow, digital video equipment, and associated facilities and services, all as more fully set forth in Exhibit B hereto. The term during which the Communications Services is to be provided is

ten years, and the price for the Communications Services is as set forth in Exhibit B.

4. Approvals. The parties acknowledge that NPO Energia's ability to provide, and PanAMSat's ability to use, the Launch Services are subject to certain governmental approvals and consents (the "Approvals") that must be issued by the U.S. government and the governments of Russia and other territories that formerly were part of the USSR, and the parties agree to abide by the terms and conditions of such Approvals. The parties shall cooperate with one another in obtaining the Approvals, and NPO Energia also shall assist PanAMSat in obtaining such approvals as are necessary in order for PanAMSat to provide satellite telecommunications services within areas formerly part of the USSR and between such areas and other countries and territories.

5. Confidentiality. Neither PanAMSat nor NPO Energia shall disclose to any third party, without the written consent of the other party hereto: (a) the existence or terms and conditions of this MOU; or (b) any information that PanAMSat and NPO Energia provide to one another and that is identified, either orally or in writing, as proprietary.

6. Assignment. Neither PanAMSat nor NPO Energia shall assign or delegate this MOU to a third party without the consent in writing of the other party hereto, except that PanAMSat may assign or delegate this MOU to an entity that is controlled in common with PanAMSat.

7. Term. This MOU shall be effective upon execution, and if not terminated sooner shall terminate once both of the Satellites

have been launched. PanAmSat may terminate this MOU at any time by providing written notice to NPO Energia, and upon such termination neither party shall have any further obligation to the other.

8. Further Negotiations. PanAmSat and NPO Energia agree to negotiate in good faith concerning the terms and conditions that will govern the provision by NPO Energia of the Launch Services and the provision by PanAmSat of the Communications Services. The understandings that are set forth in this MOU are contingent upon PanAmSat and NPO Energia entering into a mutually satisfactory definitive agreement concerning such terms and conditions.

9. Miscellaneous. This MOU constitutes the entire agreement of the parties with respect to the subject matter set forth herein. The official language of this MOU is English, and any dispute concerning the meaning of this MOU shall rely on the official English language version. This MOU shall not be deemed to prevent PanAmSat from negotiating with other launch vehicle service providers concerning launch services for one or more of the Satellites.

IN WITNESS WHEREOF, this Memorandum of Understanding has been executed by the parties on the date first above written.

PANAMSAT, L.P.

NPO ENERGIA

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_



Clay T. Whitehead  
Vice Chairman

1320 Old Chain Bridge Road  
McLean, Virginia 22101  
Phone: 703-847-8787  
Fax: 703-847-8804

February 2, 1993

VIA FAX 011-7-095-142-5900

Mr. Anatoli Kiselev  
Director  
Khrunichev Enterprise  
Novozavodskaja str., 18  
Moscow, 121309  
REPUBLIC OF RUSSIA



Dear Mr. Kiselev:

You may recall that we met when your and Mr. Fred Landman signed an MOU regarding a Proton launch for PanAmSat some time ago. As you know, PanAmSat is now negotiating a different arrangement to obtain Proton launch services through NPO Energia.

I will be visiting NPO Energia from February 26 through March 1, and would be pleased to meet with you or other persons from Khrunichev during that time if your schedule permits. I have asked NPO Energia to coordinate our schedules in hopes that we will be able to renew our acquaintance.

Sincerely,

PanAmSat, L.P. (LIMITED PARTNERSHIP)  
PanAmSat, Inc. (GENERAL PARTNER)

ONE PICKWICK PLAZA • GREENWICH, CONNECTICUT 06830 • USA • TELEPHONE 1/203/622/6664 • FAX 1/203/622/9163



FACSIMILE MESSAGE SHEET  
 NOS. OF PAGES INCLUDING COVER SHEET  
 FACSIMILE NUMBER: 203/641-1111  
 IF TRANSMISSION IS INCOMPLETE, PLEASE

TO: Tom Whitehead  
 FROM: Cynthia Dickins  
 CC: Fred Landman  
 DATE: February 17, 1993

SUBJECT: Royal's TCS Network Program

Attached are 'presentation' schedules summarizing the Royal's TCS Network Program. Obviously missing is a schedule with terms and conditions for a potential agreement. FYI, as shown in the 'Pre-launch Presentation of Tradeponder Program' (file # 10/1/92), p. 6, for a 10-year lease is approximately \$10 million.

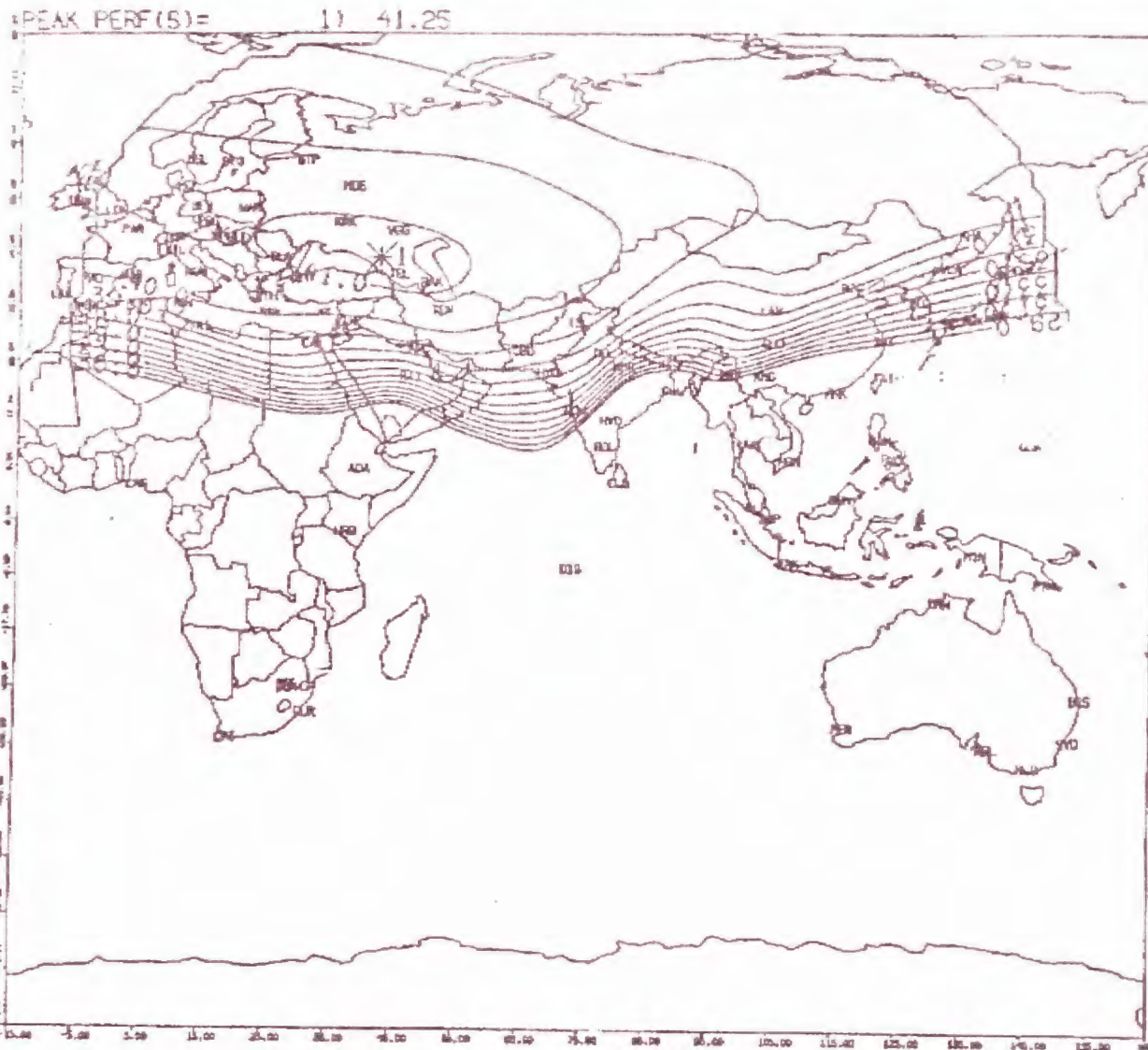
Your input with respect to the terms and conditions for such a program will be appreciated. It will send you by mail hardcopies of the attached, as well as well as any edits/additions you may wish to make these materials relevant to you.



# PANAMSAT GLOBAL SATELLITE SYSTEM



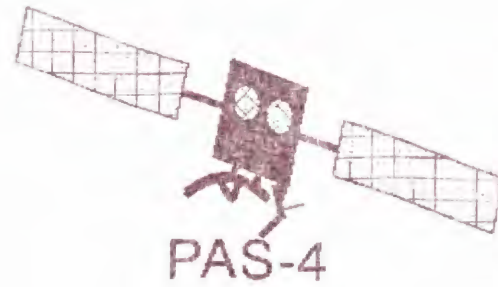
## EUROPE/CIS C-BAND DOWNLINK BEAM



# Russia's TES Network via PAS-4

27MHz on PAS-4's Europe/CIS  
C-Band Beam.

- Typical thru route telephony network.
- Master Control earth station in Moscow.



 PanAmSat



1406097:# 4/ 7

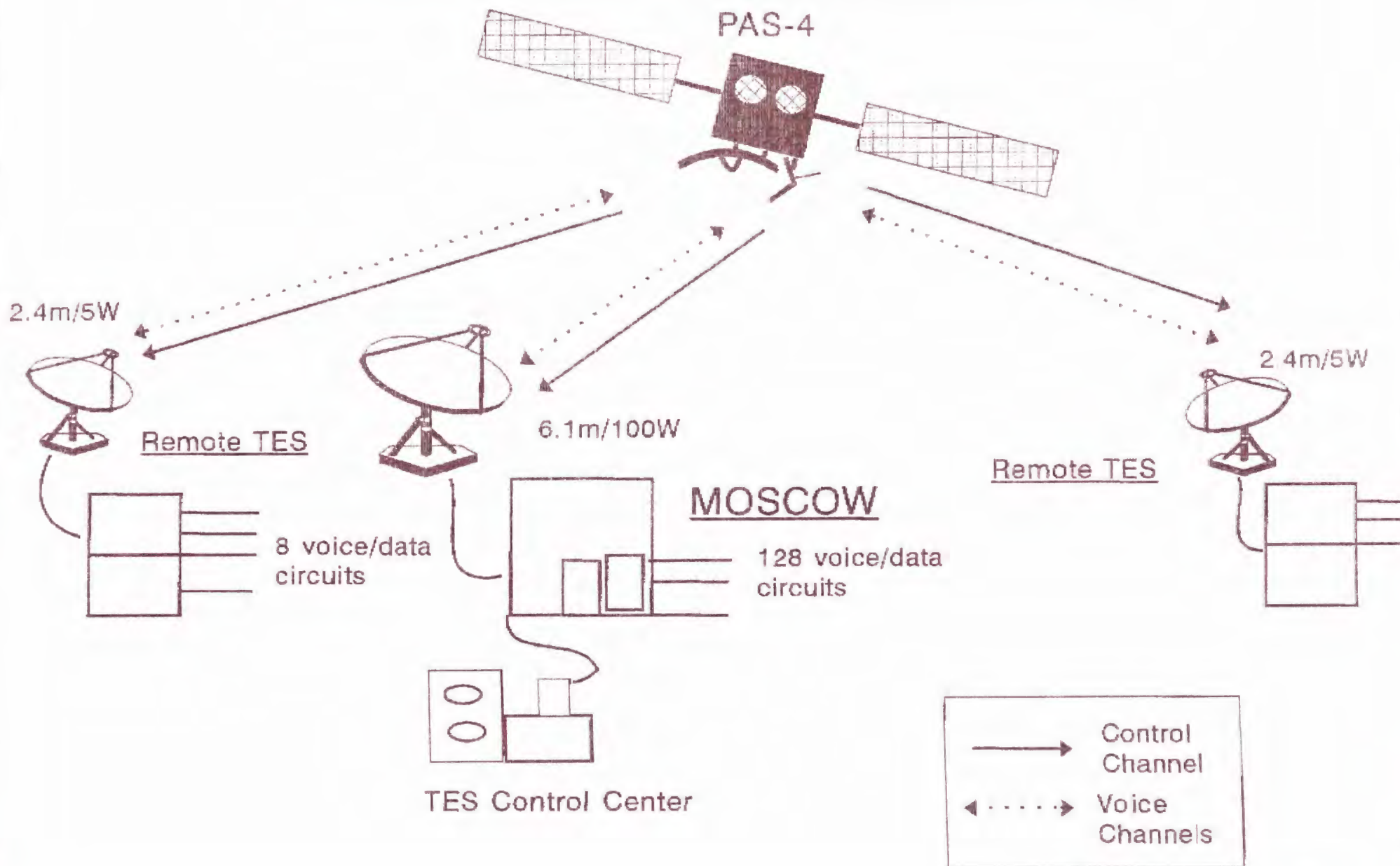
# PanAmSat

## Russia's TES Network: Technical Assumptions

---

- 27MHz on PAS-4's CIS/Europe C-Band Beam.
- Typical thin-route telephony network.
- Based on a Hughes TES DAMA telephone network. Full mesh network.
- Master Control Earth Station in Moscow.
- 100 remote TES units.
- Antenna and HPA's sized to support 8 channels of voice/data.
- Voice channels use 9.6kbps voice compression.
- Medium traffic load; peak 440 simultaneous voice/data connections.
- 25% of traffic bound for Moscow.

# Russia's TES Network via PAS-4



1408097: # 6/ 7  
PanAmSat  
2-17-98 7:37PM  
SENT BY: PanAmSat

# PanAmSat

## Russia's TES Network

### Budgetary Equipment Costs

---

<u>Item:</u>	<u>Cost (\$US)</u>
Remote TES configured with a 2.4m/5W Outdoor Unit and 8 voice/data channel cards	\$63,000
Moscow E/S configured with 6.1m/100W Outdoor Unit fully redundant	\$325,000
Moscow TES Indoor Equipment including 128 voice/data channel cards	\$870,000
RF equipment required to integrate the TES Indoor to Outdoor equipment	\$65,000
TES Control Center and Signalling Software at Moscow E/S	<u>\$219,000</u>
Total:	<u>\$1,542,000</u>

1408097:# 7/7

PanAmSat

2-17-93 : 7:37PM :

SENT BY: PanAmSat

Prelaunch Present Value of Transponder Prices

Monthly Payment Analysis

bandwidth	monthly price	Discount Rate	MHz	----- Ten Year Present Value -----			----- Fifteen Year Present Value -----		
				PV 1993	PV 1994	PV 1995	PV 1993	PV 1994	PV 1995
Ku band									
54	\$312,500	6.0%	54	\$25,051,579	\$26,554,674	\$28,147,954	\$32,958,658 ✓	\$34,936,178	\$37,032,348
27	187,500		27	15,030,947	15,932,804	16,888,772	19,775,195	20,961,707	22,219,409
		7.0%	54	23,508,154	25,153,725	26,914,486	30,367,269	32,492,978	34,767,487
			27	14,104,892	15,092,235	16,148,691	18,220,362	19,495,787	20,860,492
		8.0%	54	22,082,230	23,848,808	25,756,713	28,035,138	30,277,949	32,700,185
			27	13,249,338	14,309,285	15,454,028	16,821,083	18,166,769	19,620,111
C band									
54	\$270,834	6.0%	54	21,711,422	23,014,107	24,394,954	28,564,241 ✓	30,278,095	32,094,781
27	162,500		27	13,026,821	13,808,430	14,636,936	17,138,502	18,166,812	19,256,821
		7.0%	54	20,373,784	21,799,949	23,325,945	26,318,365	28,160,650	30,131,896
			27	12,224,240	13,079,937	13,995,533	15,790,980	16,896,349	18,079,093
		8.0%	54	19,137,980	20,669,018	22,322,539	24,297,179	26,240,954	28,340,230
			27	11,482,759	12,401,380	13,393,491	14,578,272	15,744,534	17,004,096

Assumes: 1/1/95 launch, twelve monthly payments per year made at end of month.

*cc: Fred*

**SEMTEK  
INTERNATIONAL**

Phone - 508-287-0103  
Fax - 508-371-2717

**MEMORANDUM**

To: ALPHA LYRACOM  
Attention: Mr. Jack Albert, Vice President  
From: Mr. Pierre J. Quintana  
Date: February 12, 1993

Dear Jack,

During my recent trip to Russia, Energia indicated their keen interest in competing with U.S. and other foreign makers in the satellite business. We just received from them characteristics of satellites with three variances. The parameters follow.

The Russians are convinced that they could give a good product at prices considerably lower than their western counterparts. Variant 1, for example, will be competitively priced since the spacecraft includes parts available off the shelf which were earmarked for military application.

Energia is prepared to modify those parameters whenever possible to meet a client's requirements.

I will call you sometime next week to discuss further. The Director General of Energia is planning a trip to the U.S. to visit with potential clients. It would be most useful if we could have some feedback from you before his visit.

Regards,

Pierre



Post-It™ brand fax transmittal memo 7671 # of pages 3

To <u>TOM</u>	From <u>FAL</u>
Co.	Co.
Dept	Phone #
Fax #	Fax #

**ISRO - MARATHON ASSOCIATES**

**TYPE (B) SATELLITES (PAGE 1)**

Parameters	Variant 1		Variant 2		Variant 3	
	K <sub>U</sub> Band	C Band	K <sub>U</sub> Band	C Band	K <sub>U</sub> Band	C Band
<b>1. Technical Information</b> 1.1. Satellite Bus Design 1.2. Spacecraft Mass at GEO 1.3. Operating Design Life	Conversion 2,500 5 years		SP-2500 2,500 10 years		SP-3200 2 x 1,200 kg (two satellites in one slot) 10 years	
<b>2. Payload Characteristics</b> 2.1. Transponders 2.2. Cross-Stepping Capability 2.3. Transponder Output Power 2.4. Redundancy 2.5. Beams (Width of Beams) 2.8. EIRP <sub>min</sub>	6x16 MHz - 32 W 3 2 Receive-Transmit (2.5°x2.5°) 47 dBW	6x16 MHz - 15 W 3 2 Receive-Transmit (2.5°x2.5°) 43 dBW	25x4 MHz + 20 W 3 8 Receive-Transmit (2°x2°) 47 dBW	16x4 MHz + 10 W 2 4 Receive-Transmit (5.5°x5.5°) 40 dBW	10x4 MHz - 20 W 2 8 Receive-Transmit (2°x2°) 47 dBW	16x4 MHz - 10 W 2 4 Receive-Transmit (5.5°x5.5°) 40 dBW

FEB 16 '93 10:51 FROM ALPHE SACON  
 RCV BY#PanAmSat  
 2-12-88 4:30PM  
 2037619895-  
 TO WHITEHEAD  
 PanAmSat # 3

**ENERGIA - MANAGEMENT ASSOCIATION**

**TYPE (B) SATELLITES (PAGE 2)**

Parameters	Variant 1	Variant 2	Variant 3
3. Station Keeping Stabilization East West North-South	3 axis on station $\pm 0.1^\circ$ $\pm 0.1^\circ$	3 axis on station $\pm 0.1^\circ$ $\pm 0.1^\circ$	3 axis on station $\pm 0.1^\circ$ $\pm 0.1^\circ$
4. Launch Vehicle Type	Proton 4 stage LV	Proton 4 stage LV	Proton 4 stage LV (two satellites by one launch)
5. Delivery Date Satellite PS2 Satellite PS3 Satellite PS4	March, 1995 July, 1995 November, 1995	November, 1996 April, 1997 October, 1997	June, 1996 (1st pair) December, 1996 (2nd pair) May, 1997 (3d pair)

\*\* TOTAL PAGE, 067 \*4

February 16, 1993

To: Mr. Tom Whitehead

From: Mr. Jeffrey Manber 

Re: Moscow

- 1) Because of my damn speech on Tuesday, I will be taking Aeroflot and will arrive in Moscow about 10:00 Weds morning. That means I should be downtown by noon.
- 2) Do you want me to arrange for a friend to meet you on Tuesday and drive you to the hotel?
- 3) Do you need someone for Weds?
- 4) Are you planning to go to Krunichev?  
--Do you want me to go?
- 5) Do we have the trade offset position yet?  
--we need to go with some basis for a MOU
- 6) I will send an E-mail to NPO suggesting two meetings, one on Thursday and one on Friday.
- 7) Can you get general information on the satellites and on the company for us to bring?
- 8) I spoke to NPO Energia yesterday. They have discussed PanAmSat with Krunichev so I believe that NPO Energia is not acting alone and it is not a questions of NPOE vs. someone else.





Clay T. Whitehead  
Vice Chairman

1320 Old Chain Bridge Road  
McLean, Virginia 22101  
Phone: 703-847-8787  
Fax: 703-847-8804

February 2, 1993

VIA FAX 011-7095-274-0025

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

I am sorry to have had to cancel our trip to visit you and your colleagues at NPO Energia. Unfortunately, some of our key people were travelling, and we simply were unable to prepare the materials we needed to bring in order to make the meeting productive.

We are now working on this and will advise you as soon as we are in a position to accept your kind invitation to visit.

Please be assured that we remain most interested in working with you to develop the possibility of using a Proton launch.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Whitehead", written over a light blue rectangular background.

PanAmSat, L.P. (LIMITED PARTNERSHIP)  
PanAmSat, Inc. (GENERAL PARTNER)

ONE PICKWICK PLAZA • GREENWICH, CONNECTICUT 06830 • USA • TELEPHONE 1/203/622/6664 • FAX 1/203/622/9163

## POLITICS &amp; POLICY

# Clinton Faces Big Obstacles to Putting Together An Activist Policy Toward Ex-Soviet Republics

By CARLA ANNE ROBBINS

Staff Reporter of THE WALL STREET JOURNAL  
WASHINGTON—Even before their first summit meeting, Russian President Boris Yeltsin has reason to feel good about President Clinton. It was candidate Clinton who maneuvered President Bush into promising a \$24 billion Western bailout for Russia.

But now President Clinton must decide how much support he's willing to ante up.

Aides say the new president understands the urgency and complexity of Russia's problems. But like President Bush, Mr. Clinton may soon find that budget constraints, domestic politics and the sheer size of the task will severely limit his ability to help. "There is an enthusiasm to do the right thing but not much room to maneuver," says Stephen Sestanovich of the Center for Strategic and International Studies, a Washington think tank.

Mr. Clinton took his first step toward a new Russia policy when he named Time magazine columnist Strobe Talbott, his roommate when he was a Rhodes Scholar, as ambassador-at-large in charge of policy toward Russia and all the former Soviet republics. That title may sound like the diplomatic equivalent of a special commission, but it could turn out to be a very powerful post.

One memo currently circulating in the State Department suggests that Mr. Talbott may be given final say on most of the Defense Department's and the Treasury's dealings with Russia as well. "We're not talking about Guatemala," says Ambassador Richard Armitage, the current director of humanitarian assistance programs to the former Soviet states. "We need a single authoritative figure for this mammoth task."

## Bureaucratic Battle Is Possible

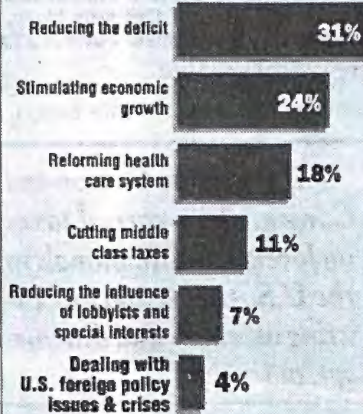
If Mr. Talbott and his boss, Secretary of State Warren Christopher, decide to press for those extraordinary powers, they undoubtedly will face a nasty interagency fight. While officials at other agencies are reluctant to publicly criticize the plan, they say it could spark a battle between Mr. Christopher and Treasury Secretary Lloyd Bentsen.

And even with expanded powers, Mr. Talbott's options will be severely limited. During the primary campaign Mr. Clinton argued that "no national security issue is more urgent" than preserving Russia's fledgling democracy. Nine months later, foreign policy, and especially foreign aid, is as unpopular as ever with both the public and the Congress. A recent Wall Street Journal/NBC poll places foreign issues and crises at the very bottom of the public's priorities, and deficit reduction at the very top.

Freshman Rep. Peter Blute (R., Mass.) says increased aid to Russia, or anywhere else, will be a tough sell in his district. "We need assistance in Worcester and Fall River as much as they need it in Minsk and Kiev." Rep. Peter Visclosky (D., Ind.) agrees. "My constituents believe charity

## High Crisis, Low Priority

Which one of these goals should be the top priority for the federal government?



THE WALL STREET JOURNAL/NBC NEWS POLL

Russians \$24 billion." In fact, the U.S. portion of the package promised by Mr. Bush was never meant to be more than \$4.5 billion, and nearly half of that has yet to be disbursed.

Indeed, the new administration's first task will be to figure out what's already been done to help Russia, and what's working. That won't be as easy as it sounds. Russia's ambassador in Washington, Vladimir Lukin, has said flatly that his country "didn't receive anything." The Treasury, meanwhile, estimates that some \$16 billion was disbursed to Russia last year, about \$2.5 billion from the U.S.

Who's right? The truth is somewhere in the middle. Because of Russia's failure to reach agreement with the International Monetary Fund on an economic reform program, a \$6 billion currency stabilization fund and \$3 billion in direct multilateral assistance have been withheld.

Russia has gotten an estimated \$12 billion in aid from individual countries, including about \$2 billion from the U.S. There are several reasons why such a large sum has received such little notice. Russia's problems are so enormous that the amount is a comparative drop in the bucket. And most of the aid is "tied aid," where the donor gets to choose what is sent, such as grain credits from the U.S. and East German factory parts from Germany. That help "may have staved off total economic collapse," says an economist with the IMF. But unlike a dam or a road, "no one knows where it's coming from."

The U.S. may be getting its biggest political bang for the buck from Mr. Armitage's small humanitarian and technical assistance program that spent some \$200 million in all the former republics last year. In addition to distributing emergency grants of medicine and food, the program has begun dozens of grass-roots

International Federation of Pharmaceutical Manufacturers conducted production audits in 10 Russian factories.

## Tough Sell

For now, Clinton aides say they aren't ruling anything out as they begin their policy review. Harvard economist and Yeltsin adviser Jeffrey Sachs has suggested several high-cost, high-payback programs including a multibillion-dollar Western-funded "social safety net." But such big-ticket multilateral programs will be as tough to sell in European capitals as they are in Washington.

If Russia can't meet strict IMF targets for inflation and deficit reduction, which is a good bet, President Clinton may have to decide whether to discreetly pressure the IMF to lower its targets to get that money flowing.

In coming weeks the administration will continue to press for a generous rescheduling of Russia's official debt, a free ride that has gotten very little exposure. Russia's new prime minister, Viktor Chernomyrdin, yesterday told international political and business leaders that the West should come up with a plan soon to restructure Russia's foreign debt in an effort to stave off hyperinflation.

Secretary of State Christopher is expected to meet Russian Foreign Minister Andrei Kozyrev during his first overseas trip, probably in mid-February. As for a Clinton-Yeltsin summit, no one is saying when. President Yeltsin is pressing hard for an early meeting, and President Clinton would like to comply. But the new U.S. president may have to hold off for a while as he struggles to solve his own problems at home.

# Despite U.S., Yeltsin Backs Rocket Deal With India

By SANJOY HAZARIKA  
Special to The New York Times

NEW DELHI, Jan. 29 — President Boris N. Yeltsin of Russia declared today that despite opposition from the United States, Moscow remained committed to the supply of powerful rocket engines for India's space program.

"We do not plan to backtrack," Mr. Yeltsin said at a news conference here, adding that he would discuss the issue with President Clinton. Mr. Yeltsin said he hoped that the United States would respond with "common sense, sensibility" to the announcement.

The Russian leader, on his first visit to India, which was a close friend and strong supporter of the Soviet Union, also spoke of what he called Moscow's new "purposeful Eastern policy."

Mr. Yeltsin said he was "moving away from a pro-Western emphasis" and described his country as a "Euro-Asian power" with economic and cultural interests in this continent.

## U.S. Banned Such Sales

His strong support for India on the rocket deal signaled his opposition to the United States on the issue. The engines are powered by supercold liquids known as cryogenic fuels, which are difficult to master, rather than less efficient room-temperature ones.

Last year Washington ordered a two-year ban on the sale of sensitive space technology to Glavkosmos, the Russian Space Agency, and the Indian Space Research Organization, the Indian space agency, because of the contract. It was the first such action against either country.

[In Washington, a State Department official said the sanctions on the companies involved in both countries would remain unless the deal was canceled. The official added that what Mr. Yeltsin said on his visit to India was neither new nor unexpected.]

The United States said last year that a \$250 million agreement signed in 1990 with Glavkosmos, then a Soviet space agency, violated the 1987 Missile Technology Control Regime.

The Missile Control Regime has been approved by the United States and other Western nations but without the sanction of international law that seeks to bar the proliferation of medium- and long-range missile technology capable of delivering nuclear warheads.

Both Russia and India say that the cryogenic rocket technology transfer is aimed at developing giant rockets to place satellites into space and that the project is for peaceful purposes. But American officials say the technology could help India, which has an extensive medium-range missile program, develop long-range weapons.

## Trying to Ease Differences

During his two-day visit, Mr. Yeltsin signed a series of agreements with Indian leaders that sought to end differences on economic and military cooperation. A central issue over the last



Agence France-Presse

President Boris N. Yeltsin of Russia said yesterday that he remained committed to supplying India with rocket engines for its space program. He bid farewell to Prime Minister P. V. Narashima Rao in New Delhi.

years has been the size of India's debt to Russia, which had been in dispute because of the rapidly falling value of the ruble.

Under the terms of the new settlement, India's debt has fallen from about \$11 billion to about \$8 billion, Shiv Mukherjee, an Indian spokesman, said.

As part of the economic package, India and Russia scrapped a 15-year agreement that permitted trading in rupees and rubles. Instead, they will now conduct trade in hard currency.

The rupee-ruble arrangement had developed as an integral part of Indian-Soviet relations and helped India, as a specially favored trading partner, pay for MIG fighter jets and other Soviet military equipment with its own currency, saving tens of billions of dollars in foreign exchange at the time. Moscow has been the largest sellers of arms to India.

India and Russia have agreed to increase military cooperation and develop joint military production projects. The supplies of spare parts and equipment, which had slowed in the last years, are to be hastened under this accord.

Mr. Yeltsin said the two sides were also negotiating the purchase of advanced jet trainer fighters for the Indian Air Force. India is seeking about 40

of the jets, and their estimated cost is \$1 billion, or roughly one-seventh of the annual military budget. The British Prime Minister, John Major, who was in India recently, discussed British offers to sell Hawk trainer aircraft to India with officials here.

## Won't 'Play India Card'

In his wide-ranging remarks, Mr. Yeltsin also redefined relations with India, saying Moscow would no longer "play the India card" against China and the United States.

"The earlier relationship with India was seen in Moscow as a counterweight to the United States and China, that cannot be concealed," he said. He said the two nations renewed a Friendship Treaty on Thursday after dropping a vital security clause that said either side would come to the assistance of the other in the case of an armed conflict.

Mr. Yeltsin said the security clause was no longer relevant because Russia was interested only in a direct relationship with India and not with aligning with it to oppose a third country.

But Indian leaders were buoyed by Mr. Yeltsin's unequivocal support for New Delhi's position on Kashmir. The state of Jammu and Kashmir has been divided by wars between India and

Pakistan, and both nations assert sovereignty over the area.

"The truth is on the side of India on this question," he said, adding that Russia supported this country's territorial integrity and unity.

## Defying Rebel Death Threats, Peruvians Turn Out to Vote

LIMA, Peru, Jan. 29 (AP) — Defying death threats from guerrillas, thousands of Peruvians voted today in municipal elections across the country.

People lined up by the hundreds to vote in the Villa El Salvador shantytown on Lima's outskirts, where Shining Path rebels killed a candidate for mayor and his wife on Thursday.

Thousands of voters had to walk to polling stations in the capital because a rebel-called strike kept most buses off the streets. Shortly before the polls opened at 8 A.M., rebels dynamited two buses on major avenues and killed one of the drivers. The Shining Path has sought to sabotage elections since it took up arms in 1980 in a bid to impose a Maoist peasant-worker state.



January 26, 1993

Mr. Yuri P. Semenov  
General Designer and General Director  
NPO Energia  
Kaliningrad, Moscow

Dear Mr. Semenov:

We accept your invitation to meet with you and your staff on February 5th and 6th. As we discussed in Houston, we would hope to have an opportunity to meet with those officials from NPO Energia and other organizations that would be involved in the arranging of the launch of the PanAmSat satellites. This might include those from Krunichev and as well as representatives from other Russian government organizations as appropriate.

I am not prepared for any technical discussions on integration of the satellite with the Proton rocket. Rather, these meetings should be a continuation of our strategy discussions as we seek to develop the best method for achieving the goal of a Proton launch for PanAmSat. Thus, we look to you to decide whether one of the officials present should be from the Republic of Kazakhstan.

We would like to establish as a goal of these meetings a MOU that would serve as the basis of the mutual cooperation between our two organizations.

I am currently preparing a detailed agenda of issues that should be discussed and will have this forwarded to you as quickly as possible.

I look forward to meeting with you once again.

Sincerely,

A handwritten signature in black ink, appearing to read "Clay T. Whitehead", written over a large, stylized scribble.

Clay T. Whitehead

1320 Old Chain Bridge Road, McLean, VA 22101  
Phone 703/847-8787 FAX 703/847-8804

PanAmSat, L.P. (LIMITED PARTNERSHIP)  
PanAmSat, Inc. (GENERAL PARTNER)

ONE PICKWICK PLAZA • GREENWICH, CONNECTICUT 06830 • USA • TELEPHONE 1/203/622/6664 • FAX 1/203/622/9163

To: Mr. Tom Whitehead  
Clay Whitehead and Associates

From: Mr. Jeffrey Manber

Re: Draft of letter to NPO Energia

*Lisa  
type on the  
stationery  
PAS*

Dr. Yuri P. Semenov  
General Designer and General Director  
NPO Energia  
Kaliningrad, Moscow

Dear Dr. Semenov:

We accept your invitation to meet with you and your staff on February 5th and 6th. As we discussed in Houston, we would hope to have an opportunity to meet with those officials from NPO Energia and other organizations that would be involved in the arranging of the launch of the PanAmSat satellites. This might include those from Krunichev and as well as representatives from other Russian government organizations as appropriate.

I am not prepared for any technical discussions on integration of the satellite with the Proton rocket. Rather, these meetings should be a continuation of our strategy discussions as we seek to develop the best method for achieving the goal of a Proton launch for PanAm Sat. Thus, we look to you to decide whether one of the officials present should be from the Republic of Kazakhstan.

We would like to establish as a ~~mutual~~ goal of these meetings a MOU that would serve as the basis of the mutual cooperation between our two organizations.

I am currently preparing a detailed agenda of issues that should be discussed and will have this forwarded to you as quickly as possible.

I look forward to meeting with you once again.

Sincerely,

*Clay T*  
Tom Whitehead

*Tom, it is my recommendation that the other subjects you wish to raise with him be saved for a separate letter much closer to the date. I will make sure his staff knows of your other topics but it would muddy the waters to raise them in this letter.*

To: Tom

From: Jeffrey 

Re: Agenda

Just a reminder for you: we need some sort of trade offset deal. We need some sort of trade offset deal.

I am having your letter translated, and I hope we can get it done today.

And I do hope you make the decisions that we would be making in the next time. It really is difficult to get these guys together. In a sense, we had the first Yeltsin-Clinton meeting, and let the country know that we were on Clinton agenda. And frankly, there is a lot of work to do. It's a good thing to do, but, vs., say, Lockheed, which has some very good technology.

Sincerely,



Jeffrey Marber

To: Mr. Tom Whitehead  
Clay Whitehead and Associates

From: Mr. Jeffrey Manber 

Re: Draft of letter to NPO Energia

Dr. Yuri P. Semenov  
General Designer and General Director  
NPO Energia  
Kaliningrad, Moscow

Dear Dr. Semenov:

We accept your invitation to meet with you and your staff on February 5th and 6th. As we discussed in Houston, we would hope to have an opportunity to meet with those officials from NPO Energia and other organizations that would be involved in the arranging of the launch of the PanAmSat satellites. This might include those from Krunichev and as well as representatives from other Russian government organizations as appropriate.

I am not prepared for any technical discussions on integration of the satellite with the Proton rocket. Rather, these meetings should be a continuation of our strategy discussions as we seek to develop the best method for achieving the goal of a Proton launch for PanAm Sat. Thus, we look to you to decide whether one of the officials present should be from the Republic of Kazakhstan.

We would like to establish as a ~~mutual~~ goal of these meetings a MOU that would serve as the basis of the mutual cooperation between our two organizations.

I am currently preparing a detailed agenda of issues that should be discussed and will have this forwarded to you as quickly as possible.

I look forward to meeting with you once again.

Sincerely,

Tom Whitehead

*Tom, it is my recommendation that the other subjects you wish to raise with him be saved for a separate letter much closer to the date. I will make sure his staff knows of your other topics but it would muddy the waters to raise them in this letter.*

**Proposed Talking Points  
for Meeting  
with NPO Energiya's Dr. Yuri P. Semenov**

- 0 We are here to discuss with you the purchase of Proton launches for our two geostationary satellites. We are of course aware of the political hurdles involved on our side, but believe we can overcome these hurdles
  
- 0 Let me take a moment and tell you about our company.
  - Brief history. Important points:
    - a) satellite in orbit launched on Ariane
    - b) you are commercial; you are not U.S. government you are not NASA
    - c) brief overview of the downlinks that you have and your role in the sat comm business
    - d) some comments on Rene and his vision of knocking down the existing anti-business structure of Intelsat
  
- 0 Future plans. Describe briefly the three satellites, current plans for launches and state whether you have government approval for these satellites to be launched into orbit
  - explain briefly which orbit they will fly into
  
- 0 We wish to launch on the Proton
  - We met with KB Salyut
  - Given the resistance in the United States to launches on Proton and to KB Salyut, because of it's role in the India deal, we are seeking a strong partner in Russia.
  
- 0 This partner should be capable of instructing and working with all facets of the Proton launch, from NPO Krunichev to the launch at Balknour.
  - The partner should be respected by both the U.S. government and the Russian government.
  - We would expect our partner to lobby for us before Yeltsin and his people, while we lobby before Clinton and his people.
  - We may also want to, for political reasons, to offer reduced satellite services to the Republic of Kzakhstan. We would then to also lobby the U.S. government that



this launch would be a good thing for them. We would want a Russian partner who can work comfortably with us during negotiations with the government of Kazakhstan.

- 0 Our goal is to assure that the Clinton people hear soon that the Russian government wants a U.S. company to launch commercially on Proton, and they are in agreement that our satellite should be the first commercial satellite launched on Proton for a U.S. company.
- 0 We believe you and NPO Energia should be our Russian partner.
- 0 If our project is of interest to you and you would like to be our Russian prime contractor on this effort, then we would like to work with your staff to write an MOU during the next two weeks. We would then like to visit with you in Kaliningrad in January and sign this MOU.

At that point, once the Clinton people are in power, we will begin negotiations with them to get an easing of the current restrictions.

We will only start our U.S. lobbying when we are comfortable we have a good Russian partner.

- 0 We have overcome political hurdles before and we believe we can again.
- 0 I welcome hearing from you on the issues I have raised here today.

#### Additional Notes:

- anything technical you can state that we will take that up with his staff
- his immediate staff has been briefed by me on this issue, but they may not be present in the room with us;
- we need to find a place to meet, perhaps we can reserve a room at a hotel or a local sailing club in Clear Lake
- if the meeting goes ahead, I might go down the night before to brief Dr. Semenov on the company and the background of our strategy.

---Jeffrey Manber

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101 Phone 703-847-8787 Fax 703-847-8804

### FACSIMILE MEMORANDUM

To: ✓ Mr. Philip Rubin  
Fax: 1-202-296-9383  
From: Clay T. Whitehead  
Date: January 15, 1993  
Subject: Info for Russian launch

As we discussed, I would like to have the following information for my trip to Russia February 1:

1. Basic information on the PAS-2,3,4 satellites that would be helpful to NPO Energia and legal for us to give. It would seem we could give mass and envelope plus any public information HAC has on the 601 series.
2. Some categories of telecommunications services we could offer Russia, Kazakhstan and other CIS republics as part of an offset program. It would be useful to include some ideas about how our services would interconnect with and/or supplement existing networks.

- URGENT -



ENERGIA USA

To: Lisa  
Clay Whitehead Associates  
Fx: 847-8804

Fr: Christopher J. Faranetta  
Vice President of Sales

cf

Date: February 24, 1993

Re: PanAmSat MOU Status

Lisa,

Please re-send the last page of the PanAmSat NPO Energia MOU to fax 478-7281. The third page of your fax covered the top portion of the 4th page.

Please contact me at 478-7277 if you have any questions.

LAW OFFICES  
GOLDBERG, GODLES, WIENER & WRIGHT  
1229 NINETEENTH STREET, N.W.  
WASHINGTON, D.C. 20036

HENRY GOLDBERG  
JOSEPH A. GODLES  
JONATHAN L. WIENER  
BENNIETTA WRIGHT  
THOMAS G. GHERARDI, P.C.  
COUNSEL

(202) 429-4900  
TELECOPIER  
(202) 429-4900

TELECOPIER TRANSMISSION

TO: Messrs. Handman, Whitehead & Kantor  
FROM: Henry Goldberg  
DATE: 1-13-93

TELECOPIER NO.: \_\_\_\_\_

NO. OF PAGES (INCLUDING COVER SHEET): 4

IF TRANSMISSION IS INCOMPLETE, PLEASE CALL (202) 429-4900.

NOTES AND COMMENTS:

LAW OFFICES  
**GOLDBERG, GODLES, WIENER & WRIGHT**  
1229 NINETEENTH STREET, N.W.  
WASHINGTON, D.C. 20036

HENRY GOLDBERG  
JOSEPH A. GODLES  
JONATHAN WIENER  
HENRIETTA WRIGHT

(202) 429-4900  
TELECOPIER:  
(202) 429-4912

THOMAS G. GHERARDI, P.C.  
COUNSEL

MEMORANDUM

TO: Fred LANDMAN, Tom WHITEHEAD, Jeff MANBER  
FROM: HENNY WRIGHT  
RE: Russian Launches  
DATE: January 13, 1993

I have spoken with Peter Allgeier (USTR), among others, and met today with Randy Bears, the deputy assistant secretary of State for Politico-Military Affairs (who oversees the Office of Munitions Controls, the office that issues satellite export licenses). Here is what I have learned about the Lockheed deal, and what it suggests for PAS 's getting permission to launch in Russia.

As you have read, the Lockheed approval from State was for Lockheed's commercial arrangement with Krunichev, rather than for the export of either tech data or satellite hardware. Since such approval is not required from the U.S. government, this was really in the nature of an advisory opinion on the whole project. Although it indicates that the State Department is prepared to look favorably on Russian launches of U.S. satellites, the final export licenses needed for any such launch will not be given until three further conditions have been met:

° Technical Safeguards: There must be assurances of adequate safeguards and an approved plan for the transfer of technical data, and any discussion of technical data must be attended by a U.S. Government official, whose per diem the company will have to pay. (This apparently was the requirement imposed on GE for the Inmarsat launch.) The State Department is in the process now of trying to establish adequate technology control agreements with both the Russian Government and the Kazakh Government for the Inmarsat launch. Although those agreements would be specific to the Inmarsat launch only, they will, obviously, form the model for Lockheed's and other future launches. However, the State Department lawyer negotiating these agreements, Susan

Page, who was in attendance today, said that although the Russian officials agreed to look at a draft agreement that she took to them last month, there has been no progress with the Kazahks. Once she got to Moscow, the Kazahk officials canceled plans for her to come see them, saying that they were not ready to review such an agreement and didn't know when they would be. In other words, on the safeguards issue alone there is already an indefinite delay. (The State Department officials also noted that they do not have any information regarding the legal relationship between Russia and Kazahkstan, and do not know whether these countries have reached any agreement regarding the long-term use of the Kazahkstan launch facility by the Russians.)

° Fair Pricing Agreement: An agreement, such as the bilateral launch agreement that we discussed at USTR, must be in place before any future launches will be approved. (The Inmarsat price has been approved.) The State Department has rationalized tying the export licenses to a pricing provision by citing a general presidential foreign/space policy decision that apparently Bush made within the past several years stating or implying that no foreign launches should be approved at prices under market. The interagency delegation had what Allgeier described as a productive meeting in mid December in Russia, although it was jointly agreed that the next meeting would have to be after the Clinton Administration took over. So the Russians are tentatively planning to come here in February. The Russians apparently have backed off on their desire to make these bilateral negotiations multilateral instead, by including the French, and seem willing to do whatever will permit them to start selling launches the quickest. Allgeier is optimistic about having this agreement in place by the end of 1993. As we know, it is on this point that the domestic launch industry will fight.

° Missile Technology Control Regime: Adherence to the MTCR will be an ongoing requirement of any U.S. launches in Russia, and any violations by any of the Russian entities involved could result in the revocation of a license and, more likely, the refusal to issue any further licenses. The State Department inquiry into whether Krunichev/KB Salyut should be sanctioned for its involvement last summer in the missile sale to India is still ongoing. (If the decision is to be no sanctions, it could be announced as early as a week from now; if there are to be sanctions, that will require further deliberation.) So, even though GE was given a tech data export license for Inmarsat, there is a possibility that no further license, i.e., an export license for the satellite itself, may be issued. What the U.S. Government is trying to do here is give the Russian entities an incentive not to violate the regime. Apparently, an application to do business with a "non-tainted" entity such as NPO Energia would not necessarily be looked upon any more favorably by the State Department (although perhaps so by the Congress) — but the risk of sanctions arising from non-adherence to the MTCR would be less.

As you can see, there has been a change in policy since last spring when we were told that a license for technical data could not be issued because the

policy prohibiting Russian launches was still in place. At this point, a tech data license could be issued with the actual policy decision coming later at the time the satellite itself was to be exported. The good news is that an affirmative decision has been made that launches will be permitted once the three criteria have been met. The bad news is that the ultimate decision will be much later down the road on any given project, and is subject to cancellation at any point.

These policies will remain in effect until such point as anyone in the Clinton Administration changes them. The State Department has had no indication that anyone on the transition team has considered this issue at all. Randy Bears will stay in his position most likely for another six months.

Unless the Clinton Administration changes policies, the State Department will continue to have the lead role in the approval process. While Bears agreed that concerns being voiced by other Administration agencies are another factor for State to consider in making a licensing decision, he made clear that State has the sole authority to issue the necessary licenses and that any decision by State to issue a license can be overruled only by the President.

We were told that whenever we had a deal to discuss, we should submit a proposal and a request for an advisory opinion.

January 4, 1993

To: ~~Mr. Fred Landman~~  
Mr. Tom Whitehead

From: Mr. Jeffrey Manber *(M)*

Re: Proton Launch

- 1) Three articles in this morning's Space News.
- 2) It is clear that the interests of Lockheed are to advance the Motorola project. I agree it is a good idea to talk with Lockheed and other companies as they sign marketing agreements with the Russians. However, I am also concerned that PanAMSat will become part of the incredible politics of the Motorola project. There is value in being lean and able to adjust quickly, as we have in the past. And, indeed, the Motorola project has many political enemies and if it served their interests, the company would not hesitate to throw PanAMSat out to save the project.
- 3) I also believe that the Lockheed deal will not advance at this time within the U.S. government. If we had gone ahead with NPO Energia, the plan was to introduce our objectives on a higher level and via more than one Republic. The Lockheed deal is old-fashioned thinking. It may work, but I think the NPO Energia is far more clever and in touch with the political realities of getting things done.
- 4) With the Lockheed agreement you also open yourself to the whole missile question that we hoped to avoid using a known and respected firm like NPO Energia.
- 5) We know the deal with Lockheed is not an exclusive. We have provided you with a fax from the Russians which state this. Mr. Semenov outlined two paths for PanAMSat when we met in Houston, one IF the joint stock company moved forward, and one if it didn't. Also, please be aware that two joint-stock companies are being formed, one with Motorola and one that Mr. Semenov discussed with us in Houston.

This tells me the Russians are keeping their options open, and that they are receptive to U.S. customers from outside the Lockheed arrangement.

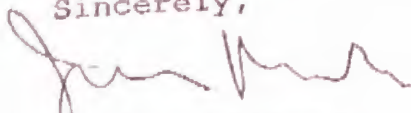


Indeed, the Russians are aware that Lockheed is new to the launch business, new to the Russian business and I've seen first-hand how hesitate the company is to upset their major customer, the federal government.

I will of course let you know of any response from NPO Energia. It is very possible they may appreciate having a U.S. effort lead by a Lockheed...

Let me know if there is anything further I can do to assist you in this effort.

Sincerely,



Jeffrey Manber

703 478 7291 Jan 04, 93 10:37 P.07

TEL No.

Space Via USH

1

# SPACE NEWS

VOL.4 NO.1 JANUARY 4-10, 1993 \$2.00

## Proton Partnership Sparks Political Furor

By ANDREW LAWLER  
Space News Staff Writer

WASHINGTON — The U.S. State Department has taken new steps to allow the quick entry of Russia into the commercial launch market, despite opposition from numerous other federal agencies. Those agencies reacted

last week by mounting a full-blown battle against the State Department.

The struggle threatens to undo

**See related story, page 20**

the ambitious plans by a new joint U.S.-Russian company to

sell Proton rockets to commercial customers, according to administration documents and sources.

The State Department gave Lockheed Corp. of Calabasas, Calif., the green light December 23 to begin working on the joint venture with Krunichev Enterprise of Moscow, which builds

the Proton launcher. Senior officials in the White House and the Defense, Commerce and Transportation departments strongly oppose the move and are trying to reverse the decision, the officials said last week.

Lockheed and State Department officials argue that the new

venture will give the United States more control over Russian use of its formidable rocket technology, and provide a more viable competitor to the European Ariane rocket than U.S. built vehicles.

Opponents, however, said they

*See BATTLE, Page 20*

## Soldiers, Media Rely On Inmarsat in Somalia

By VINCENT KIERNAN

such as the United States. Usage is billed by



# Agencies Fume as State Department OKs Proton Deal

**BATTLE, From Page 1**

are worried the decision could undermine the ailing U.S. launch industry, send the wrong signal to Russia about U.S. concerns regarding missile technology proliferation, and complicate talks between the two countries on Russian entrance into the launch marketplace.

In a December 21 meeting of representatives from the State Department, other agencies and the White House National Space Council and National Security Council, several officials vehemently opposed granting the Lockheed request. Nevertheless, two days later Frank Wisner, State Department undersecretary for international security affairs, approved the Lockheed request to work with Krunichev.

The State Department technically had the authority to approve the Lockheed request to work with Krunichev without consulting other agencies, but the decision has enormous implications on U.S. policy toward Russia and the commercial launch sector, administration officials said. Any export of a U.S.-built satellite to Russia or Kazakhstan requires a license from the U.S. government on a case-by-case basis.

form other agencies further angered officials who heard about the decision from reporters or news stories. "This is a rogue State Department operation," fumed one angry administration official.

"Everybody now is mobilizing" said another.

Wisner was in Geneva last week, and declined to discuss the decision. "He said he does not have time to get into this issue," said State Department spokeswoman Fran Hess.

Another letter from Rothkopf and one from senior defense officials protesting the decision were sent to Wisner and Secretary of State Lawrence Eagleburger last week, administration officials said. A meeting of senior administration officials to debate the matter could take place this week.

While Transportation and Commerce department officials primarily are concerned with the damage Proton sales will do to the U.S. commercial launch industry, officials in the White House and at the Defense Department also are worried that the State decision hurts U.S. attempts to maintain a hard-line stance on Russian rocket technology sales to developing countries.

as a bargaining chip.

Yuri Koptev, Russian Space Agency chief, told the U.S. negotiating team during a December 16 meeting in Moscow that if Russia is not allowed to enter the commercial launch market, it would sell its rocket technology to countries like Iraq, according to several U.S. sources familiar with the discussions.

The U.S. sources disagreed on whether Koptev's comment was a clear threat or what one official called "a slip into Soviet-style bluster." Koptev could not be reached for comment.

The talks aim at stipulating conditions for Russian access to the commercial launch market, but those conditions have not yet been spelled out.

Administration officials, who declined to be identified, accuse the State Department of pushing through the Lockheed request to discourage Russian rocket sales to countries like Iraq. "It is basically a bribe," said one official. "Then they will use the Lockheed deal to justify a waiver by the president" exempting Krunichev from sanctions before the Bush administration leaves power January 20. The new Clinton administration, however, could reverse a waiver.

A State Department official denied that the move was effectively a bribe. The official said a determination on Krunichev's role in the India rocket sale could be made at the same time that a waiver is signed by the president.

U.S. and Russian delegations will meet in the middle of January to discuss missile technology control issues such as the India rocket sale.

No date has been set for further talks between the two countries on Russia's role in the commercial launch market.

"The immediate problem is that [granting the Lockheed request] takes away a big chunk of U.S. negotiators' leverage in making that trade agreement," one administration official familiar with the talks said.

Said another: "This undermines the U.S. position by giving the store away. I don't know how we can be taken seriously now."

↓  
STORY CONTINUED ON NEXT PAGE  
↓

TEL No. 703 478 7281 Jan 04 93 10:37 P.04

Arthur Rothkopf, deputy transportation secretary, complained in a December 28 letter to Wisner that "these matters are apparently being decided on a case-by-case basis without the benefit of any long-term perspective or assessment of impact on the full range of U.S. national interests." He suggested no decision be made on the Lockheed request until a full interagency group is convened to debate the matter more fully. Unbeknownst to Rothkopf, Wisner already had made the decision five days before.

White House, Commerce and Defense officials also were caught off guard.

State's apparent failure to in-

The U.S. government is examining whether Krunichev played a role in a rocket engine sale to India, which provoked the United States to slap sanctions on some Russian and Indian organizations in May. "No such determination has been made," one State Department official said. If Krunichev is implicated in the sale, however, the U.S. president could sign a waiver exempting the Moscow company from sanctions if it is in the U.S. national interest.

According to U.S. sources involved in recent launch trade talks, Russian officials have used the threat of missile proliferation

SPACE NEWS JAN, 4-10 1993

## Motorola Plans To Buy Three Proton Rockets

Motorola Satellite Communications, Chandler, Ariz., plans to use three Russian Proton rockets to put 21 of its Iridium satellites into orbit, according to U.S. and Russian government officials.

Russian Prime Minister Viktor Chernomyrdin has given permission for Khrunichev Enterprise of Moscow — which builds the Proton — to sign a contract with Motorola for three launches, according to U.S. government officials and Russian news reports.

A joint company set up by Lockheed Corp. of Calabasas, Calif. — which is the prime contractor for the Iridium satellites — and Khrunichev could reap the business. Motorola is the chief architect of the 66-satellite Iridium system that is to provide worldwide mobile telephone service.

# Lockheed, Krunichev Forge Team

By ANDREW LAWLER  
Space News Staff Writer

WASHINGTON — After months of secret negotiations, Lockheed Corp. and Krunichev Enterprise announced a partnership December 28 that could combine large and reliable Russian rockets with U.S. business acumen to compete with U.S., European and Chinese commercial launch companies.

Under the agreement, Lockheed will pump about \$5 million in the next few years into the enormous Krunichev plant in Moscow that produces the Proton launcher, according to sources familiar with the deal. A new joint stock company, owned equally by both organizations, will hold exclusive marketing rights to the Proton, with the exception of Russian government launches.

The first commercial Proton launches could take place within one to two years, said Mel Brashears, vice president and general manager of Lockheed's space

systems division. "We are clearly targeting the Ariane family."

Arianespace of Evry, France, builds the Ariane rocket series and controls more than two-thirds of the commercial launch market.

The emergence of the Lockheed and Krunichev relationship and the State Department's approval of technical discussions between the two organizations "is a bit of a shocker," said Douglas Heydon, who heads Arianespace Inc. of Washington. "This could be an immense threat, much more so than the Chinese."

The new company would offer "one-stop shopping" for satellite integration, launch service and insurance, according to Brashears. Under U.S. law, however, any U.S.-built satellite still would require an export license from the U.S. government before it could be shipped to the current Proton launch site in Kazakhstan.

Brashears downplayed the effect that Proton sales could have

on U.S. launchers such as the Titan and Atlas, since U.S. launchers have the sole rights to launch U.S. government satellites. "We're not targeting U.S. government launches," he added, "although as time goes on, some civil satellite [launches] may be a possibility."

The massive Proton can place 44,000 pounds into low Earth orbit, while the Titan 4 built by Martin Marietta, Bethesda, Md., can place about 40,000 pounds into the same orbit.

Baikonur in Kazakhstan is the Proton launch site, and an agreement among Russian, Kazakh and Krunichev officials ensures Proton launches can continue from that center despite the breakup of the Soviet Union, Brashears said. Plesetsk, a Russian launch site 465 miles north of Moscow, could become a second launch site for the Proton, he added. A third site, in an unidentified location, also is being discussed, other industry sources said.

TEL No. 703 478 7251 Jan 04 93 10:59 PM



VIA FACSIMILE: 011 7 095 142 5900

December 29, 1992

Mr. Anatoli Kiselev  
Khrunichev Enterprises  
18, Novozavodskaja str., 18  
Moscow, 121309, USSR

Dear Mr. Kiselev:

Congratulations!

I read in todays WALL STREET JOURNAL about your recent arrangements with Lockheed for the marketing of the Proton launch capability. As I indicated earlier, we continue to have an interest in investigating the possible utilization of the Proton rocket to launch one or more of our next generation of satellites.

Please advise me who I should contact at Lockheed to discuss Proton launch possibilities. The best for the New Year.

Sincerely,

A handwritten signature in dark ink, appearing to read "Frederick A. Landman". The signature is fluid and stylized, with a large loop at the end.

Frederick A. Landman  
President

FAL:mf

cc: Mr. A. Lebedev  
Khrunichev Enterprises

Congress didn't clarify rationale for antitrafficking provisions, FCC said. Rulemaking proposed that local govts. would have primary responsibility for policing rule, although FCC would be able to issue waivers. Commission did ask how to define "transfer of ownership" and what types of transactions would be covered by rules. On cross-ownership rules, FCC concluded that its existing ban on cable/wireless cross-ownership meets congressional mandate and proposed to extend same rule to cable/SMATV cross-ownership.

### Threat to Arianespace

#### LOCKHEED SIGNS DEAL WITH RUSSIAN FIRM TO MARKET PROTON LAUNCHER

Is move likely to shake up already highly competitive satellite launch market, Lockheed has teamed up with Russia's Khrunichev Enterprises to market Russian-built Proton rocket for commercial satellite launches. Space industry analysts said signing of deal not only could enable new venture -- called Lockheed-Khrunichev International (LKI) -- to achieve lock on international launch market with bargain-basement pricing, but also could signal that Lockheed is making foray into commercial satellite business. (Lockheed's primary business to date has been in military and scientific satellites -- especially for U.S. Air Force and CIA).

Under terms of deal, which Lockheed said received "initial authorization" from U.S. State Dept., Khrunichev and Lockheed Commercial Space Co. -- new subsidiary of Lockheed Missiles & Space -- LKI "will serve as entity for worldwide sale of Proton launch vehicles and future derivatives." Also easing way for linkup was recent permission granted by Viktor Chernomyrdin, Russia's new prime minister, that allowed Lockheed and Motorola to sign commercial contracts with Khrunichev (CD Dec 21 p5). Following that approval, Lockheed spokesman told us, State Dept. granted similar permission Dec. 23. Company said it will "explore the potential for new products and services," but Lockheed spokesman told us that such improvements are likely to be only upgrades and modifications of original Proton launch vehicle.

But that, in itself, is formidable threat to western space launch industry. Even Charles Bigot, CEO of world launch leader Arianespace of France, has acknowledged that "the Russians are the masters" of satellite launches, at least in terms of reliability. Russia launches about 100 rockets per year (and boasts total has reached 2,000 to date), compared with about 12 each for Arianespace and for 3 major U.S. launch companies. Primary strength of kerosene-fueled Proton rocket is its simplicity. It was described by one space launch analyst as little more than "a big can of kerosene." Since breakup of Soviet Union, Russia has been starved for hard currency and is saddled with glut of Proton launchers for which there's little military use in post-Cold War world. Russian sources have told us that more than 40 Proton launchers have been stockpiled.

Khrunichev is long-time player in Russian aerospace industry, and was prime contributor to development of Proton launcher. Lockheed, meanwhile, has expressed desire recently to convert its satellite-making capability to commercial use. Marriage of 2 companies could result in satellite launch packages that could significantly underprice competitors. Lockheed's move follows recent acquisition by rocket manufacturer Martin-Marietta of GE Aerospace -- including its satellite-making wing, GE Astro-Space -- move that was viewed by some analysts as another attempt at vertical integration of satellite services, making launch-satellite-insurance deals possible (CD Nov 24 p1). That merger -- MM paid \$3.05 billion -- created world's largest aerospace concern; MM's sales last year were \$6.1 billion and GE Aerospace's \$5.3 billion.

Financial terms of Lockheed-Khrunichev deal weren't disclosed. But it's believed to be part of plan by Lockheed's Space Systems Div. to double its revenues to \$5 billion over next 8 years by entering commercial satellite market. Space Systems Div. earned \$360 million -- 2/3 of Lockheed's operating profits -- last year. Lockheed Chmn. Daniel Tellup said relationship "will promote applications of the Proton and its derivatives in the worldwide commercial launch market."

Russian launch vehicle has several "derivatives." Motorola is negotiating with Khrunichev to launch 3 of at least 12 rockets former will require to fly its proposed Iridium global cellular system based on constellation of 66 low-Earth-orbit (LEO) satellites. Iridium -- which is vying for FCC licensing with 4 other similar competing systems -- would provide "ubiquitous" phone capability via lightweight handsets, company has said. Transaction, for which Russia's Chernomyrdin also gave approval, is separate from Lockheed deal, although coincidentally Lockheed has contracted to build Iridium's satellites.

Russian launcher poses perhaps biggest threat to France's Arianespace, world's leader with 60% of market. Lockheed has said it would price its Proton launch services "slightly below" Arianespace's average of \$70 million; U.S. launch providers usually charge \$80-\$120 million. In terms of throw weight, Proton launcher is unchallenged



leader in field. Its capabilities -- 4-stage rocket can launch satellites as heavy 4,400 lb. -- far outstrip General Dynamics' Atlas series, McDonnell Douglas' Delta series and Martin Marietta's Titan series, as well as Arianespace's Ariane 4.

Proton also is thought to be formidable competitor to Ariane 5, next-generation launcher designed to carry world's heaviest satellites, scheduled for launch in late 1995. "The current configuration of the Proton is quite comparable to Ariane 5," said Peter Nesgos, space analyst and partner in Haight, Gardner, Poor & Havens law and consulting firm, N.Y. "Khrunichev without question has the technical wherewithall to be able to design and operate launch vehicles that are comparable to any of the western launch providers. Russian launch services will be looked upon very carefully by U.S. and European launch companies. The biggest issue will be whether they are a fair competitor." Intelsat and Inmarsat already have made tentative decisions to launch at least one satellite aboard Proton, for which State Dept. has granted approval.

### 'Outperforms Anything'

#### BELLCORE EXPERIMENTAL BATTERY TRIPLES CAPACITY OF RECHARGEABLES

Bellcore researchers said they have discovered economical way to make rechargeable batteries that can "outperform anything available in research laboratories or your corner store." Battery, blend of lithium-based oxide and carbon commonly known as lithium-ion (Li-ion), can be recharged more than 2,000 times, researchers said. Li-ion batteries have long been sought as technology to pump up rechargeable battery life, but their cost to manufacture has been prohibitive -- typically twice as much as common nickel-cadmium rechargeables.

Local telephone companies use rechargeable batteries to provide continuous backup power to electronic components in central office switches and at remote locations. Telcos' need for reliable rechargeable batteries will only increase in future as fiber becomes increasingly more popular, Bellcore said. And although traditional lead-acid batteries provide sufficient backup power at central office sites, they are too unwieldy for remote locations. Local exchange carriers first thought rechargeable nickel-cadmium cells could fill gap, but they have been so thoroughly documented as being environmentally hazardous that many states are passing laws to prohibit their sale.

Lithium-based technology for rechargeable batteries has carried stigma of being environmental hazard owing to use of pure lithium metal, said Bellcore researchers Jean-Marie Tarascon and Dominique Guymard, who co-developed AA-size prototype Li-ion battery. However, researchers said Li-ion batteries eliminate that problem by "replacing highly reactive lithium metal with safer lithium compounds and graphite."

Tarascon said battery manufacturers have "not been addressing the growing need of phone companies for stable, high-temperature batteries." New Li-ion battery is "most promising, high-energy density, safe alternative to lead-acid batteries to date, ensuring the performance and robustness of our owners' networks," he said. Bellcore's Li-ion battery can be recharged more than 2,000 times, researchers said, far more than current industry standards of 200 recharges for nickel-cadmium batteries.

*Communications Daily* takes New Year's Day holiday Fri. Next issue will appear Mon., Jan. 4.

#### COMMUNICATIONS PERSONALS

WTVH Syracuse Gen. Sales Mgr. **Edward Bradley** promoted to vp-gen. mgr., succeeding **Cathy Creany**, now at WFAA-TV Dallas... Changes at Saban Domestic Distribution: Consultant **Mark Lieber** appointed vp-west coast sales; **Peter Schmid**, ex-Goodman Entertainment, named vp-east coast sales; **Nan Halperin**, vp-ancillary sales, also assigned responsibility for syndication sales... **Robert Weinstein**, KTVN Reno gen. sales mgr., appointed to same position at WOOD-TV Grand Rapids... **Martin Machowski**, ex-consultant to NAB and former legislative dir. for Rep. Boucher (D-Va.), joins Washington-based public affairs consultancy Issue Dynamics as senior consultant... Promoted to vps at ESPN: **Randy Brown**, Central Div., new post; **Sue Delia**, Eastern Div.; **Steve Raymond**, Western Div., new post... **Jonathan Levy**, senior economist, FCC Office of Plans & Policy, awarded Fulbright Scholarship to study "Australian-American Trade in Audiovisual Products" at U. of Technology, Sydney, Australia, June-Aug., 1993.



ALPHA LYRACOM  
SPACE COMMUNICATIONS

Clay T. Whitehead  
Vice Chairman

1320 Old Chain Bridge Road  
McLean, Virginia 22101  
Phone: (703) 847-8787  
Fax: (703) 847-8804

December 23, 1992

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

As we have discussed, PanAmSat is a major provider of international communications satellite services to Europe and North and South America. As part of our expansion to a global system, PanAmSat has signed a contract with Hughes Aircraft Company to purchase three new HS-601 communications satellites. While we have a contract with Arianespace for the launch of these new satellites, we would like to explore the alternative of a Russian launch for one or two of the satellites, currently planned for the first and second quarters of 1995.

In order to resolve the technical, financial and political issues necessary for us to use a Proton launch, PanAmSat would like to work with a single Russian organization that can undertake the complete responsibility for combining all the hardware, facilities and services necessary to carry out the launch, including working with PanAmSat to secure all necessary governmental approvals in a timely way. We would like to work with NPO Energia on a strategy and terms and conditions that would enable PanAmSat to contract for NPO Energia to provide launches for one or two of our new satellites.

NPO Energia is known to be the major provider of launch services in Russia. We understand that NPO Energia has the capability to acquire the launch vehicle hardware, work with Hughes to integrate the satellite payload and the launch vehicle, coordinate the launch and tracking facilities and assure such other services as are necessary to carry out the launches of the satellites into geosynchronous orbit.

We also understand that NPO Energia has good working relations with all other Russian organizations involved in space activities and with the governments of Russia, Kazakhstan, Ukraine and other republics of the Commonwealth of Independent States that would be involved in the launches. NPO Energia also is known by and has had successful relations with the U.S.

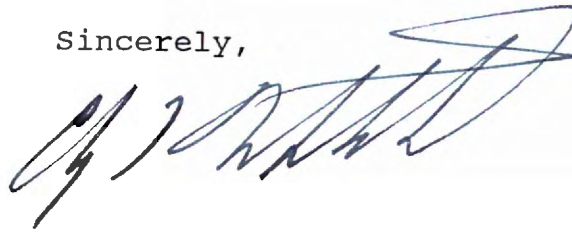
*This was faxed to Jeff. He will call to tell us if we need to send the original.*

government. We believe these relationships will be helpful in working with PanAmSat to obtain all necessary authorizations from the U.S., Russian and other governments.

If you agree, I propose that PanAmSat and NPO Energia begin initial discussions on the technical, financial and political issues concerning the launch of one or two PanAmSat satellites by NPO Energia. To facilitate such discussions, I propose that PanAmSat and NPO Energia each appoint one person as the coordinator of all key issues, and that we plan to meet in Kaliningrad in the latter part of January. The fact of these discussions should be kept confidential except for such organizations in Russia and other CIS Republics that you would need to work with.

I look forward to hearing from you as soon as possible.

Sincerely,

A handwritten signature in blue ink, appearing to be "C. J. ...", written over a faint horizontal line.

10

DRAFT - 12/23/92

MEMORANDUM OF UNDERSTANDING  
BETWEEN PANAMSAT, L.P. AND NPO ENERGIA

This Memorandum of Understanding (the "Understanding") is made this \_\_\_\_\_ day of \_\_\_\_\_, 199\_, by and between PanAmSat, L.P., a Delaware limited partnership ("PanAmSat") and NPO Energia, a \_\_\_\_\_ ("NPO Energia").

Whereas, PanAmSat is a major U.S. provider of satellite communication services:

Whereas, PanAmSat is seeking to launch three additional Hughes communication satellites into geostationary orbit;

Whereas, PanAmSat may be interested in exploring alternatives to its contracted launcher for one or two of these additional launches;

Whereas, PanAmSat has determined that the Proton launch vehicle is a viable candidate as an alternative launcher of these satellites, provided that all necessary U.S. and other governmental authorizations can be obtained;

Whereas, PanAmSat is seeking a single Russian organization as its partner in all aspects of a Proton launch, from technical issues to political issues;

Whereas, NPO Energia is a major provider of Russian space services;

Whereas, NPO Energia is involved in all facets of the manufacture, assembly and launch of the Proton vehicle;

Whereas, NPO Energia has good working relations with all other Russian space organizations and with the governments of different Republics;

Whereas, NPO Energia is known by, and has had successful relations with the United States government;

Whereas, PanAmSat hopes to explore the possibility of using NPO Energia as the sole organization from the former Soviet Union to represent PanAmSat in any launch of its satellites on a Proton vehicle.

Now, therefore, in consideration of the premises, representations, and covenants stated in this document, the parties agree that:

1. PanAmSat and NPO Energia will begin discussions as soon as is mutually convenient on technical, financial and political issues concerning the use of the Proton vehicle.

-2-

2. At the earliest date each organization will appoint one person as the key coordinator of all issues.

3. The next meeting for technical, financial and political issues will take place at NPO Energia's office in Kalingrad.

4. Each party shall bear its own costs in implementing this Understanding and neither party shall have any liability or obligation to the other to proceed beyond the preliminary discussions called for above, unless a formal written representation agreement is signed by authorized representatives of each party; and then only to the extent expressly stated in such a representation agreement. In no event shall either party be liable to the other for incidental or consequential damages, lost profits or business opportunities, whether foreseeable or not.

5. This Understanding may be terminated by either party, with or without cause and without obligation, on notice to the other party given at any time.

6. PanAmSat and Energia will maintain the confidentiality of this Understanding, and will not disclose any portion, or the existence, of this Understanding except on a need to know and confidential basis to the extent necessary to implement this agreement, or as may be required by law or contract disclosure requirements to which it may be subject. Each party may condition its disclosure of any information to the other under this Understanding on the other party's execution of a proprietary data agreement and compliance with all applicable legal restrictions with respect to such information.

7. NPO Energia agrees that under no circumstances will it make any payments or provide any benefits, or promise to make any payments or provide any benefits, to anyone in exchange for political favors, undue influence or assistance in performing its obligations under this Understanding.

8. It is agreed that all communications under this Understanding shall be in the English language.

Both sides look forward to a productive working relationship.

Signed:

PanAmSat, L.P.

NPO Energia

By: \_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Address:

Address:

One Pickwick Plaza  
Greenwich, Connecticut 06830

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: (203) 622-6664

Telephone: \_\_\_\_\_

Fax: (203) 622-9163

Fax: \_\_\_\_\_

4/12/93

TO: Tom Whitehead

FR: FAL

FYI

**«ENERGIA — MARAPHON»  
ASSOCIATION**

**Sergey P. TSYBIN**  
General Executive Director

Moscow,  
Russia

Tel.: (095) 492-51-25  
(095) 494-00-67  
Telex: 411952 MCC SU  
Fax: 492-83-61  
274-00-25



**INSTITUTE OF SPACE DEVICE  
ENGINEERING**

**YEVGENY N. GALIN**  
Division Head

53, Aviamotornaya st.,  
Moscow, 111024. RUSSIA

Phone: 273-47-19  
Fax: 273-19-37  
Telex: 412176 INTEC

**DR. EDWARD K. SHAPIRO**  
PRESIDENT and CEO

**SEMTEK INTERNATIONAL INCORPORATED**  
78 Border Road  
Concord, MA 01742  
USA

OFFICE 508 287-0103      FAX 617 861-1071



To: Mr. Tom Whitensad

From: Mr. Jeffrey Manber *JM*

Re: NPO Energia

Here is a quick background on NPO Energia. I have attached a copy of Henry's addendum. Her is send it to Janet.

Please send to Fred if you think that is appropriate.

I will be in touch with Mr. Legostay tonight and tomorrow regarding an appointment. It is most difficult with Semirion because of the 12 hour time zone difference between Houston and Moscow and the time difference.

I have reviewed the NPO Energia background in their 2005 system. I will be in touch with you and discuss ways we may move forward on bringing in more customers to this program.

## **Background: NPO Energia**

### **Brief Background**

NPO Energia is the Russian organization devoted to manned space and all related programs.

The "NPO" stands for "design bureau. The "Energia" is from the Latin for energy.

The once-secret organization was formed at the dawn of the space age. Under the guidance of the legendary Russian space designer S.P. Korolev, this organization developed and launched the Sputnik satellite in 1957.

Much later, it was NPO Energia which developed a manned space program second to none. Accomplishments include the first man in space, the first spacewalk, the first docking in space and still later, the development, construction and operation of the world's first (and today only) manned space station known as the MIR ( peace).

Other NPO Energia programs include the Buran space shuttle and the Energia launch vehicle. Other hardware programs include the Progress launch vehicle, and the Soyuz capsule (the subject of NASA's interest). It also produces the 4th stage of the Proton rocket, several sounding rockets and huge communication satellites for a program recently re-named "Globis."

NPO Energia also operates the spaceport of Baikonur now located in the Republic of Kazakstan.

It has thirty-thousand workers mostly located in Kaliningrad, a suburb forty-five minutes north of Moscow. (There are, however, no cul-de-sac's).

The General Director of the organization is Dr. Yuri P. Semenov

The first deputy General Director is Professor Victor Legostaev.

During the Nixon-Brezhnev era of detente, it was the NPO Energia organization which lead the then-Soviet Union in the docking in space between the Apollo astronauts and Soyuz cosmonauts. The working relationship with NASA thus dates back more than seventeen years. This summer NASA entered into a three year \$10 million contract with NPO Energia to study use of the Soyuz for Space Station Freedom.

### **Political Considerations**

NPO Energia has several political advantages over just about any other Russian organization:

--NASA recently signed a historic agreement with NPO Energia to explore use of the Soyuz capsule as part of Space Station Freedom. The contract represents the first time the U.S. space agency has contracted with a Russian space organization.

In this contract NPO Energia is considered a "quasi-commercial" organization.

This is quite important, it is not a government organization. Indeed, 40% of Energia's revenue's now come from commercial programs.

--Two major U.S. corporations have signed contracts with NPO Energia: Lockheed and Rockwell.

--The Europeans have contracted for over \$75 million worth of space services this year alone to NPO Energia. This includes flights to the MIR space station as well as advanced design and planning for future programs.

--The State Department has good relations with NPO Energia, as does the White House and Congress. Dr. Semenov testified before the Senate in February of this year.

The organization has obeyed all international regulations and has turned down opportunities for business in third-world countries.

Further, it has a recent history of working with American organizations. In 1989 NPO Energia lead a consortium of then-Soviet organizations in coordinating the first U.S. research project aboard the space station *MIR*. Funded by U.S. Payload Systems, Inc., the December 1989 launch to the *MIR* began sixty days of research to grow pharmaceutical crystals in space. This project, now flown twice, has a Commerce Department Export License, with DoD approval. NPO Energia has obeyed all facets of the export license.

In late-1991 the Coca-Cola company flew a specially designed soda can to the *MIR* for testing by cosmonauts. Don't laugh, I think this required an export license as

well, and I would guess NPO Energia obeyed whatever silly regulations this required

#### Russian Political Considerations

Dr. Yuri Semenov has the capability of meeting with Yeltsin.

He is admired in Russia because of his agreements with NASA

He is a hard-liner and thus has broad support from the old guard and from the  
new

Semenov is on good relations with the other Republic leaders as well

---Jeffrey Manber

## Clay Whitehead Associates

1320 Old Chain Bridge Road, McLean, Virginia 22101 Phone 703-847-8787 Fax 703-847-8804

### FACSIMILE MEMORANDUM

To: ✓ Mr. Jeffery Manber

Fax: 1-703-478-7281

From: Clay T. Whitehead 

Date: October 23, 1992

Subject: Russian strategy

The goal is not just to obtain another contract with KB Salyut nor is it just to get a contract that is of political importance to Russia and the other Republics. The goal is to get two satellites launched reliably at a reasonable price. The other is a means to the end.

Tom -

FYI attached.

Your thoughts?

D

D - Vladivostok Dreamin'  
Tom



---

Center for Strategic & International Studies  
1800 K Street, NW, Suite 400/Washington, DC 20006  
Telephone (202) 887-0200

---

# THE MARATHON INTER-DEPARTMENTAL ASSOCIATION

## The Russian Federation

The MARATHON association was created in 1990 to provide telephone and facsimile communications, data transmissions, telex and electronic mail services through a mobile satellite communications network. The MARATHON system can provide such services even in remote regions where other communication networks (cable, relay, tropospheric) are either absent or not sufficiently developed to cover demand.

The decision to create the MARATHON satellite communications network was taken in 1988 by the USSR Ministry of the Communication Industry, the General Machine-Building Ministry, the Communications Ministry, the Civil Aviation Ministry, the Railway Ministry, the Geology Ministry and the Presidium of the Academy of Sciences of the USSR. On the 14th of February 1992, the Council of the Communications Ministry of Russia confirmed the leading role assigned to the MARATHON system in the Russian Federation program for the development of satellite communications and broadcasting systems.

Implementation of the MARATHON satellite communications network began with the formation in 1990 of the MARATHON association comprised of the leading scientific and manufacturing organizations - the Applied Mechanics SMA in Krasnoyarsk, the Science-Research Institute for Space Instruments, the ASTRA SMA, and MORSVYAZSPUTNIK of Moscow.

The Applied Mechanics SMA in Krasnoyarsk is the leading designer and manufacturer of communication satellites and other hardware used on geostationary orbits (RADUGA, EKLAN, GORIZONT, etc.) and on high elliptical orbits (MOLNIYA-1, MOLNIYA-3, etc.).

The Science-Research Institute for Space Instruments in Moscow is the key developer of ground and on board flight control systems for communication satellites and on board retransmission systems.

The ASTRA SMA in Moscow is the leading developer of coast segments of the INMARSAT system (the International Satellite Communication Center - ISCC-1 in Odessa), and the ISCC-2 in Nakhodka) as well as subscriber stations of the A/INMARSAT standard (SS



ICEBERG) and of the C/INMARSAT standard (SS ZVEZDA).

The MORSVYAZSPUTNIK enterprise in Moscow is the chief coordinator of marine satellite communications through the INMARSAT system, the VOLNA and VOLNA-M systems as well as radiolocation services for ships at sea and search and rescue services provided by the KOSPAS-SARSAT network.

These four organizations are the founding members of the MARATHON association. The MARATHON network is the first and sole mobile satellite communication system in the Commonwealth of Independent States, which meets the standards of INMARSAT.

The MARATHON mobile satellite network will have a space segment of 3 ARKOS satellites on geostationary orbits and 4 MAYAK satellites on high-elliptical orbits, flight control centers, and ground segments, including both stationary and mobile terminals. The satellites on high-elliptical orbits make it possible to provide communication services above 70 degrees north latitude as well as one-step transmissions between the eastern and western hemispheres. Small, highly reliable and simply to operate subscriber terminals, with telecommunications and data transmission capabilities, may be located on mobile sea, river, rail, auto or airborne facilities, in remote areas, in various configurations. They can be readily delivered for emergency communication during natural disasters and serve as links with ground communication networks.

The MARATHON network can also serve as the basis for special use sub-systems and provide a link between computer networks used in business and banking or networks used for environmental monitoring.

The design for the ground and orbital elements of the MARATHON network has been developed and approved and manufacturing agreements have been concluded. Production of the equipment began on the 30th of March 1990. The launch of the first ARKOS satellite will take place in September 1994. Operational testing of the central coordinating station as well as three sub-stations and 3-4 thousand user terminals will commence at the same time.

The first launch of the MAYAK satellite is planned for the fall of 1995. The MARATHON system will be fully deployed by 1997.

Dear Sirs,

I have the honor to present for Your consideration the MARATHON project, which has the goal of creating a global satellite communication system with mobile users and remote areas. The project is being implemented in Russia by the leading in national space technology and satellite communications state enterprises which have established for this purpose the MARATHON inter-departmental association. Since 1990 the Association has been engaged in practical activities aimed at design, development and production of new generation satellites, network control center, regional earth stations, coordinating stations and user mobile terminals, utilizing the know-how of over 17 thousand qualified specialists as well as high scientific, technical and manufacturing potential of its founders released due to military conversion.

I would like to note that the MARATHON mobile satcom system will be a commercial network, linked with both domestic and international PSTNs, and its development has been financed up till now by a commercial bank. Recently the Council of Founders of the MARATHON Association started to work on the question of establishing on the basis of the Association an international joint-stock company.

I am also proud to announce that the MARATHON project has been highly appreciated by the Government of Russia and is included into the State Program of development of satellite communications and broadcasting systems as one of its principle components. We have signed as well an official agreement on cooperation with the Telecommunications Ministry of Russia.

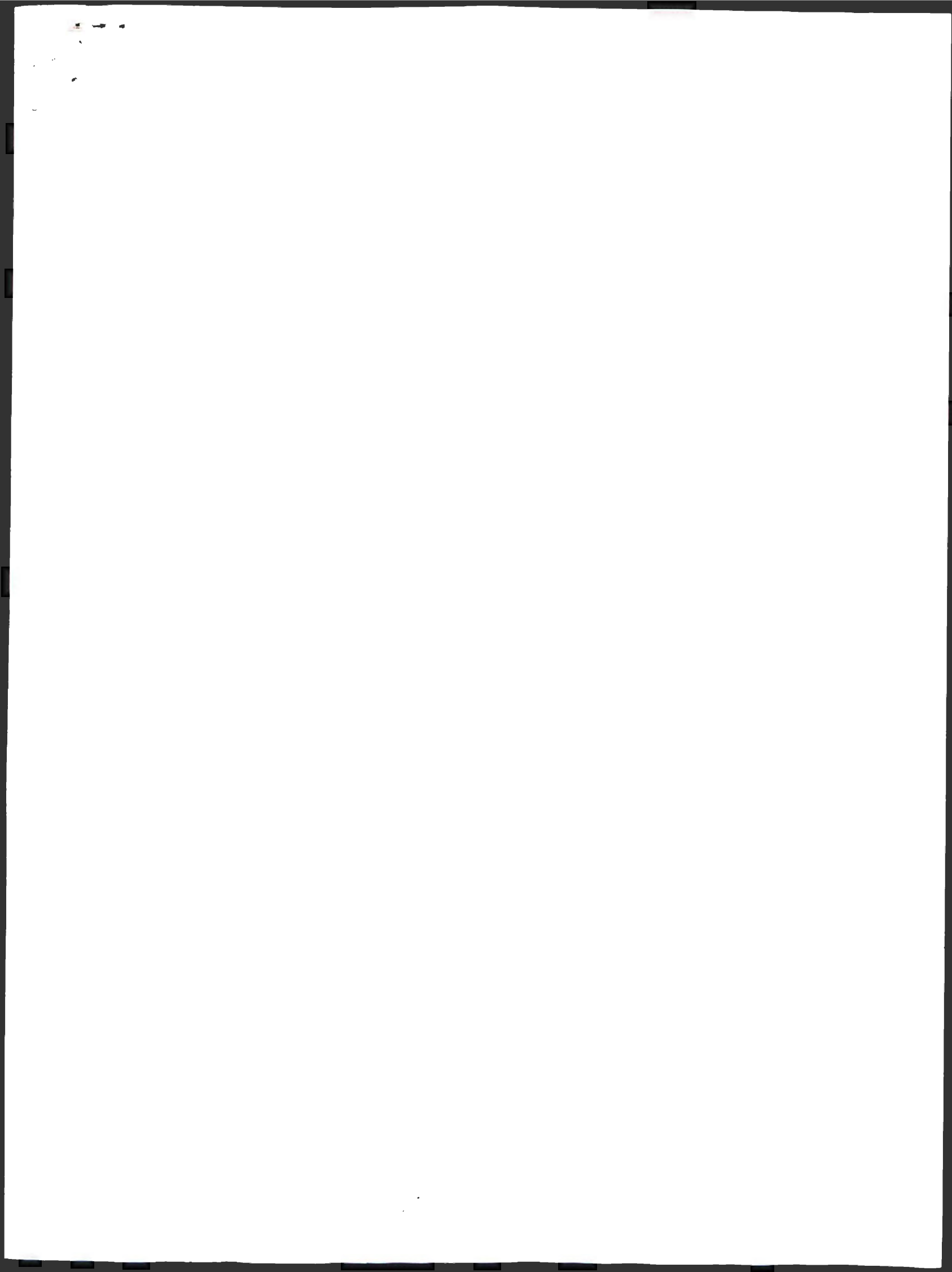
Strongly believing that the establishment of the MARATHON mobile satcom network will not only promote the development of national economy but also contribute to the expansion of mutually advantageous businesslike international cooperation I sincerely hope to welcome You as potential partners in its implementation.

With best regards,

Vladimir B. TAMARKIN  
Director General

MARATHON

ASSOCIATION OF SATELLITE COMMUNICATIONS  
109028 Moscow USSR, Bol. Vuzovskiy per., 2. Tel. 926-24-891



November 2, 1992

To: Tom Whitehead  
Clay Whitehead Assoc

From Jeffrey Manber (JM)

Re: Russian Launch Situation

**By Fax**

Introduction

On Saturday I met with Dr. Victor Legostaev, the Director of NPO Energia to discuss a possible role for NPO Energia in the Russian launch situation from the Russian side.

After providing him with a full overview of the company, the current objectives for the full satellite system and domestic political considerations, Dr. Legostaev agreed to arrange for a meeting between PanAmSat and Dr. Yuri Semenov, the General Director of NPO Energia.

On a more general level, he agreed that it would be appropriate and worthwhile for NPO Energia to coordinate the proposed PanAmSat contract with the Yeltsin government, with Koptiev as the main contact agency, with M.F. Saryal as

chief manufacturer of the Proton rocket and with the President of Kazakhstan, from which the spaceport of Baikonur is located.

### Organizational Background

NPO Energia is one of the world's oldest and largest space organizations. It was this organization that launched Sputnik and was responsible for the flight of Yuri Gagarin. Today, NPO Energia is directly responsible for the MIR space station, the Buran space shuttle, the Energia heavy lift launch vehicle, the Progress launch vehicle, and the Soyuz capsule. It also manufactures the third stage of the Proton rocket and several sounding rockets.

NPO Energia also operates the spaceport of Baikonur now located in the Republic of Kazakhstan. Dr. Semenov and the President of this Republic are good friends.

NPO Energia has several political advantages over just about any other Russian organization:

--NASA recently signed a historic agreement with NPO Energia to explore use of the Soyuz capsule as part of Space Station Freedom. The contract, worth \$10 million over three years, represents the first time the U.S. space agency has contracted with a Russian space organization.

--Two major U.S. corporations have signed contracts with NPO Energia: Lockheed and Rockwell.

--The Europeans have contracted for over \$75 million worth of space services this year alone to NPO Energia.

--The State Department has good relations with NPO Energia, as does the White House and Congress. Dr. Semenov testified before the Senate in February of this year. NASA recognizes NPO Energia as a "commercial" organization, rather than one that is purely government.

--Dr. Yuri Semenov is considered a "captain of industry" in Russia. Frankly,

he is an ally of those more conservative than Yeltsin. has survived and grown more powerful in recent months and has more clout than Russian Space Agency officials.

--As is clear from the above overview, NPO Energia has ongoing commercial relations with every facet of concern to PanAmSat, from design and manufacture of the Proton right through to the launch.

### Other Political Considerations

In a phone conversation on Friday with Mr. Musgrave at the National Space Council, he stated that K.B. Salyut is one of three Russian space organizations being considered to be punished with a trade ban by the U.S. government.

The State Department estimates that it will reach a decision in two months, but the very process has already weakened the plant. The U.S. government, through the National Space Council, has informed Mr. Koptjev of the Russian Space Agency of the status of K.B. Salyut and the State Department does not view commercial programs that involve K.B. Salyut in a positive light, and neither do many in Congress to say the least.

### Suggested Strategy

Given the political flaws of K.B. Salyut and given the political and organizational strengths of NPO Energia, it is the suggestion here that we use NPO Energia as an ally for us, both in Russia and in the States.

--We meet with Dr. Semenov and his people and allow him to involve the appropriate Russian officials from K.B. Salyut and the Russian government.

--We suggest to NPO Energia and possible partners that the assistance could offer to the other Republics, especially that of the Republic of Kazakhstan where the launch facilities are located. A positive involvement of Kazakhstan would be a further weapon for us here in America.

A commercial contract with NPO Energia might also blunt State Department

opposition to a Proton launch that / evaluate / possibly to A. Taylor

Also Steve

--Tom or Fred write a letter to Dr. Seibart suggesting some dates for a meeting

cc: Henry Goldfarb

---

---

## FACSIMILE COVER SHEET

---

---

CLAY WHITEHEAD ASSOCIATES  
1320 OLD CHAIN BRIDGE ROAD  
McLEAN, VIRGINIA 22101  
FAX: (703) 847-8804  
VOICE: (703) 847-8787

TO: ✓ Rene Anselmo  
COMPANY: PanAmSat  
FAX #: 1-203-622-9163  
DATE: November 8, 1992 TIME: 5:19 pm  
  
FROM: Clay T. Whitehead

Pages following this cover sheet: 2 pages.

**COMMENTS:**

Here is the letter that went to Russia initiating launch discussions.





ALPHA LYRACOM  
SPACE COMMUNICATIONS

Clay T. Whitehead  
Vice Chairman

1320 Old Chain Bridge Road  
McLean, Virginia 22101  
Phone: (703) 847-8787  
Fax: (703) 847-8804

November 5, 1992

VIA FAX 011-73-95-274-0025

Dr. Yuri P. Semenov  
General Director and General Designer  
NPO Energia  
Kaliningrad, Moscow area  
REPUBLIC OF RUSSIA

Dear Dr. Semenov:

We are a U.S. company that owns and operates the world's first private international communications satellite system. Our first satellite, serving Europe and North and South America, was built by G.E. Astro and launched on an Ariane rocket in 1988.

Hughes Aircraft Company is now building three new HS-601 satellites for us, to be launched in 1994 and 1995. This system of four satellites will enable us to provide basic and advanced communications services to the entire world.

We have explored the use of the Proton launch vehicle and last year reached a technical agreement with KB Salyut. That agreement expired, and we entered into an agreement with Ariane. However, we now intend to use Ariane only for the launch of the first new satellite, and would like to use the Proton for the last two launches, in late 1994 and early 1995.

However, we need more than an agreement with the rocket manufacturer. We want a strong and knowledgeable partner in Russia to work with us to overcome the technical and political challenges of achieving timely and successful launches of our satellites.

We would like to contract with our Russian partner and pay them directly to provide the entire range of equipment and services necessary for the launches. This would include procurement of hardware from KB Salyut and others and all arrangements at Baikonur. Our Russian partner also would need to work closely with us to assure that we receive all necessary approvals from the U.S. and Russian governments in a timely way.

Mr. Jeffrey Manber has recommended your organization as a strong partner to work with us from initial planning through completion of the launches. If it is agreeable to you, I propose that we meet in the near future to discuss an agreement between our organizations. I also propose that we send you a draft of an agreement prior to my arrival so that we can make substantial progress during my visit.

I look forward to your reply.

Sincerely,

A handwritten signature in black ink, appearing to read "C. P. White". The signature is written in a cursive style with a large, sweeping flourish at the end.

АЛЬФА ЛИРАКОМ  
СПЕЙС КОММЬЮНИКЕЙШНЗ

Клэй Т. Уайтхед  
Вице-Председатель

1320 Олд Чейн Бридж Роуд  
МакЛин, Вирджиния 22101  
Телефон: (703) 847-8787  
Факс: (703) 847-8804

5 ноября 1992 г.

Д-ру Юрию П. Семёнову  
Генеральному Директору и Генеральному Конструктору  
НПО Энергия  
Калининград, Московская Область  
Российская Федерация

Дорогой Д-р Семёнов:

Мы являемся Американской компанией, которая владеет первой в мире частной международной системой спутниковой связи и эксплуатирует её. Наш первый спутник, обслуживающий Европу и Северную и Южную Америку, был построен компанией Джи.И. Астро и запущен с помощью ракеты Ариан в 1988 г.

В настоящее время компания Хьюз Эйркрафт строит для нас три новых спутника ЭйчЭс-601, которые должны быть запущены в 1994 и 1995 гг. Эта система из четырёх спутников позволит нам предоставлять основные и специальные услуги в области связи всему миру.

Мы рассмотрели использование ракеты-носителя Протон, и в прошлом году заключили техническое соглашение с КБ Салют. Срок этого соглашения истёк, и мы заключили соглашение с Арианом. Однако, в настоящее время мы намерены использовать Ариан только для запуска первого нового спутника и хотели бы использовать Протон для последних двух запусков в конце 1994 и начале 1995 гг.

Однако, нам нужно нечто большее, чем соглашение с производителем ракет. Мы хотели бы иметь солидного и хорошо осведомлённого партнёра в России, который работал бы с нами над решением технических и политических задач для обеспечения своевременного и успешного запуска наших спутников.

Мы хотели бы заключить контракт с нашим Российским партнёром и платить ему непосредственно за поставку всего диапазона оборудования и услуг, необходимых для запусков. В него входит приобретение аппаратуры у КБ Салют и других организаций, а также все операции на Байконуре. Наш Российский партнёр также должен

будет работать в тесном контакте с нами, чтобы обеспечить нам своевременное получение всех необходимых разрешений от правительств США и России.

М-р Джеффри Мэнбер рекомендовал нам Вашу организацию в качестве солидного партнёра для работы с нами, начиная с первоначального этапа планирования до осуществления запусков. Если Вы согласны, я хотел бы предложить встретиться в ближайшее время, чтобы обсудить соглашение между нашими организациями. Я также хочу предложить, чтобы до моего приезда мы прислали Вам проект соглашения, что позволило бы нам существенно продвинуться вперёд во время моего визита.

Жду Вашего ответа.

Искренне Ваш,

Клэй Т. Уайтхед

LAW OFFICES  
**GOLDBERG & SPECTOR**  
1229 NINETEENTH STREET, N.W.  
WASHINGTON, D.C. 20036

HENRY GOLDBERG  
PHILLIP L. SPECTOR  
JEFFREY H. OLSON  
JOSEPH A. GODLES  
JONATHAN L. WIENER  
HENRIETTA WRIGHT  
THOMAS G. GHERARDI, P.C.  
COUNSEL

(202) 429-4900  
TELECOPIER:  
(202) 429-4912  
TELEX:  
892320

MEMORANDUM  
VIA TELECOPIER

TO: Fred Landman  
FROM: Henny Wright  
RE: Soviet Launch  
DATE: September 5, 1991

You asked for a quick evaluation of recent reports in Satellite Week and the Financial Times that seem to indicate a new liberalization in U.S. policy concerning the export of communications satellites for launch in the Soviet Union. There are two different regulatory schemes involved, that of Commerce and of State. Although Commerce has just published liberalized export regulations as required by this year's agreement among the COCOM countries, as far as U.S. policy is concerned, the State Department restriction still holds. The State Department, meanwhile, is undertaking a review of its Soviet launch policy, but there is nothing definite yet to report.

I spoke with several people in the Bureau of Politico-Military Affairs at State, in particular at the Center for Defense Trade Policy, about current U.S. law that prohibits shipments of U.S. Munitions List (USML) items, including satellites, to the Soviet Union. I was told that Gorbachev himself had asked the U.S. Government to revise its policy. The U.S. government acknowledges that space services and products are among the few assets the Soviet Union has to offer, and that allowing U.S. business to purchase them (and, in this case, export the satellite in order to purchase a launch) is one of the few ways to aid the Soviet economy short of appropriating funds.

Although a review is underway, and the threshold for denying use of Soviet launchers has gone up, some issues have not "gone away," and thus the outcome is very much up in the air. Other agencies besides State will be involved, such as DoD and ACDA (Arms Control and Disarmament Agency). The assumption is that if

-2-

the answer is to be yes, it will need to be relatively quick (within two months) to send the proper signal.

One State Department official told me that he sees the Soviet launch capability as complementary, not comparable, to that of the U.S. or France, because the Soviet expertise is at the upper end of rocket and payload size.

As to the Commerce Department, it issued revised export controls for all commodities on August 29, 1991. Because satellites are not specified as a "controlled item," they could be shipped under a general license, "G-DEST," absent the State Department restriction. The other COCOM countries wanted standardized export regulations for "dual use" items, i.e., items used commercially as well as militarily, hence the Commerce revision. But in the United States, dual use items are currently controlled by State. Although the dual use policy is also under review, it now looks as if communications satellites will remain under State Department control. That is why the Commerce Department liberalization is not in itself meaningful for purposes of Soviet launch availability.

# Science Times

TUESDAY, SEPTEMBER 3, 1991

The New York Times

C1

## New Toy Emerges as Superconductor



### Buckyballs' Latest Trick

Carbon atoms can form geodesic dome-like molecules known as fullerenes or buckyballs. When crystallized along with metal atoms, the buckyballs have been found in some cases to form out-of-the-ordinary superconductors. The buckyballs occupy fixed sites in the lattice. Molecular ball are free to spin.

Source: Laboratory for Research in the Structure of Matter, University of Pennsylvania.

The New York Times. Illustration by Jane Aronson.

## Almost Broke, Soviet Union's Space Efforts Go on Sale

As orbiting astronauts promote Coca-Cola, even their spacecraft goes on the block.

By WILLIAM J. BROAD

**S**OVJET space officials, fleeing from their country's turmoil and expecting more, have said the White House that the cash-hungry civilian space program may collapse unless it makes large sales to the West.

Almost everything, the officials said, is on the table even the space station Mir, now circling 240 miles above the earth. Last week two Soviet astronauts aboard the space station helped to make money for the ailing program by sipping Coca-Cola in an experiment for the company.

The anxiety of Soviet space officials has been aggravated by the economy's growing ills and the sudden prominence of President Boris Yeltsin of the Russian federated republic, who has said it is wrong to spend vast sums on space exploration when Soviet living conditions are so poor.

While Soviet officials have tried in the past to market some space goods and services to the West, the new offer is different in that it has no apparent restrictions.

"They haven't ruled out anything," said an American space expert, who spoke on the condition of anonymity. "What they said was, 'You make a proposal, we'll consider any proposal you might have.'"

The United States Government has a history of ignoring Soviet sales offers, with minor exceptions. It prefers instead to spend its space dollars at home.

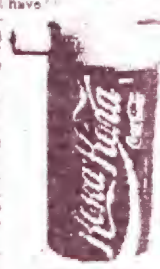
But with pressures mounting to help the faltering Soviet economy, Western experts said the chances of a successful sale had grown. Some analysts have argued that the best way to help the Soviet Union is to buy its goods. By its accounts, those of the space program are among the few that are competitive.

The Soviet space enterprise is the world's largest and most active, forged in the cauldron of the cold war. For decades its successes dazzled the world. During the 1980s the Soviet Union fired 100 or so large rockets every year to launch satellites and planetary probes and to ferry people back and forth from the world's only space station.

Until recently, the workings of the space program were shrouded in secrecy, while Soviet astronauts were venerated and hailed as socialist heroes. But reform is set in motion by the Soviet President, Mikhail S. Gorbachev, have changed all that. The program has come under public scrutiny for the first time and has been forced to become more self-reliant. Starting around 1987, it had to market a diverse line of goods and services. But the effort largely failed, mainly because of the West's response. The United States, in particular, banned the launching of most American payloads atop Russian rockets, ostensibly for reasons of national security.

In Moscow, meanwhile, parliamentarians and liberals attacked the space program as wasteful and irrelevant. Its budget was reportedly cut 20 percent in the last two years. Planned launchings of the Soviet space shuttle and the world's largest rocket, known as Energia, have been repeatedly delayed and may be canceled outright. Over all, the pace of Soviet space launchings has dropped to 50 or 60 a year.

Continued on Page C6



The Coca-Cola Company. The cola of choice aboard the Mir.

## Count in Jerusalem Beset by Dispute Over Archeology

Israeli leaders say Temple Mount is a holy site. Many archeologists are concerned.

prophets, and many of the other, but they question whether any significant traces of the First Temple remain.



166

HP DEALER IN CONNECTICUT!!

Center • Huge Inventory • Leasing • Immediate Delivery



Hewlett-Packard DeskJet 500 Printer

- 300 dpi output
- Simultaneous 100 cps
- Wide variety of high-quality print
- 3-year warranty
- Quiet, desktop operation

In Stock



Hewlett-Packard LaserJet III Printer

- Highest print quality
- More fonts and variable typefaces
- LaserJet compatibility
- PostScript-compatible software

In Stock



\$1795



Rated Highest in PC Satisfaction The Hewlett-Packard Vectra QS/16

- 16 MHz 386SX local processor
- 2 Mbytes of RAM
- 40 Mbytes internal hard disk
- VGA card (800 x 600)
- VGA color monitor (15" dot pitch)

In Stock

The Hewlett-Packard LaserJet IIIIP Printer

- Prints fonts, graphics and complex documents faster than other laser printers in its class
- Prints almost any type to type to thousands of pages
- PostScript options for PCL or Metafont

In Stock

Hewlett-Packard LaserJet III Printer

- Fast 17 ppm printing
- Wide range of paper-handling options
- Two 500-sheet paper trays
- Up to 50,000 pages
- RE and Macintosh software
- Variable font quality

In Stock

Metro Business Systems, Inc. 695 Hope Street, Riverside 10, Stamford, CT 06907 (203) 967-3435 Fax: (203) 967-2591

OPEN Mon thru Fri 9 to 6

FAST COMPUTERS TAKE & SPREADSHEET SOFTWARE WITH ANY COMPUTER PURCHASE

**LEADING EDGE** D2 42MB PACKAGE HEADLINE IBM PC CPU 10MB DISK DRIVE 11.5MB 1.44 MB floppy drive 1MB RAM & VGA CARD 1600X1200 DISPLAY 1000X750 DISPLAY WITH ATX HARD DRIVE & MONITOR \$595. WITH 20MB HARD DRIVE & COLOR VGA MONITOR \$795.

**LEADING EDGE** D35X42MB COLOR VGA PACKAGE 10.5MB IBM 386SX CPU 10MB HARD DISK DRIVE 11.5MB 1.44 MB floppy drive 1MB RAM & VGA CARD 1600X1200 DISPLAY 1000X750 DISPLAY WITH ATX HARD DRIVE & MONITOR \$1045. 20MB PACKAGE WITH LEADING EDGE D3 15X10 1600X1200 DISPLAY \$1245. ADD \$120 FOR COLOR VGA MONITOR.

**EPSON PRINTERS** EPSON D310 \$149 EPSON LQ 810 \$235 EPSON LQ 1170 \$329

**Panasonic PRINTERS** \$160-\$170 \$158 \$165 \$175 \$185 \$195 \$205 \$215

**HEWLETT PACKARD PRINTERS** DESKJET 500 \$445 LASERJET IIP \$795 LASERJET IIP \$905 LASERJET III \$1105

**TOSHIBA** T1200X NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY \$1445. WITH 20MB HARD DRIVE \$1695.

**TOSHIBA** T2000X NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY \$2295. WITH 20MB HARD DRIVE \$2695. WITH 40MB HARD DRIVE \$2995.

**TELEM INSTRUMENTS** THE 3000 NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY WITH 20MB HARD DRIVE \$2245. WITH 40MB HARD DRIVE \$2695. WITH 80MB HARD DRIVE \$2945.

**AST PREMIUM EXECUTIVE** NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY WITH 20MB HARD DRIVE \$2085. WITH 40MB HARD DRIVE \$2385. WITH 80MB HARD DRIVE \$2795.

**NEC ULTRALITE 286V** NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY WITH 20MB HARD DRIVE \$1145.

**EVEREST** TEMPO LA 486SX NOTEBOOK LAPTOP 1.8MB RAM PROCEOR 1.44MB floppy drive 1600X1200 DISPLAY WITH 20MB HARD DRIVE \$2085. WITH 40MB HARD DRIVE \$2385. WITH 80MB HARD DRIVE \$2795.

BACK IN TOWN! For Immediate Delivery

MICRO EXCHANGE Back to School Specials!!! Ask About FREE PRODIGY Trial Membership!

**New and Used September Laptop Special** Brand New HYUNDAI'S 40MB HD • 286/10MHz 18 Month Warranty \$1295.00 includes DOS Computer Exchange International, Inc. 7 West 42nd St, Suite 1300 New York, NY 10018 212 640-6464 800 722 1817

**NACOMEX USA Used Computer Marketplace** Buy sell and price equipment Call 1-800-NACOMEX (1-800-622-5530) NATIONAL COMPUTER EXCHANGE

**ACE SPECIAL** 386-25 40 MB HD \$1499 • 14 Monitor VGA • Pkggy 1.44 11.2 • 40 MB HARD DISK • CDROM • 101 Keys • 1 MB Memory 386-33 40 MB HD \$1599 516-565-3065 \*EXPORT

**MONITOR REPAIR DEPOT NYC/N. JERSEY** • FREE Loaner • FREE Pick Up & Delivery • Factory Trained Tech • Flat Cost (all work included but tax) • Fast Turn around ALL TECHNICS PRODUCT INC. 114 Gates Rd. #22 Tel: 901-448-2255 (ext 21) Larchmont, N.Y. 10503 Fax: 901-448-2444

**Weather Watch 1-900-85-4CAST The New York Times** 75¢ per minute. Touch-tone telephones only.

Soviet Union Offers Space Effort for Sale

Now things have apparently not a new low.

The Soviets have periodically approached the White House about the sale of space assets in the last year and a half, knowledgeable experts say. But until the current upheaval those offers have largely increased in scope and intensity.

"They're putting a lot more on the table," said one expert, adding that the offer was accompanied by a note of panic. "What we're being told is that unless there is a hard currency infusion the space program may sink into the abyss. It's not just the manned space program. It's more serious than that."

**No Response to Offer** White House officials are reported to be unsure of how much credence to give the new offer, given the swift pace of political change in the Soviet Union and a sense of impending change so far they have not responded. Any decision to buy a piece of the Soviet space program would require high-level Federal approval and would be done only after careful study.

In Moscow, an attempt to contact the Soviet space agency Glavkosmos for details about the new proposal was unsuccessful.

Private experts in the United States said the offer was surprising but not inconsistent with the current political turmoil in the Soviet Union.

"Nothing sounds far fetched from Moscow these days," said James E. Oberger, a Houston-based expert on the Soviet space program who is the author of "Red Star in Orbit."

Even before the new sales offer, the 100-foot-long Mir station, the centerpiece of the Soviet program for the manned exploration of space, had become one of the main successes in the campaign for foreign sale.

Last week after months of preparation, two Soviet astronauts embarked on the first mission of an expedition for the Coca-Cola Company, generating dollars for the Atlanta firm and cash for the space program.

An apparently unassured gas-liquid separation in space as the astronauts drank the carbonated beverage.

"The liquid goes very smoothly," Anatoly Artyevsky, the flight commander, said after sipping from a pressurized "kissel" (a thick, sweetened beverage) was untroubled even though his stomach had changed after three months in space.

"We want more sales," he told ground controllers, "during the whole flight."

Coca-Cola was quick to publicize the feat but would not reveal how much it had paid the Soviets. The company was not permitted to run commercials about the experiment, but the event did generate some publicity in the Soviet Union.

Coca-Cola has sold its product in the Soviet Union since 1989 and wants to outdo its rival, PepsiCo, which before 1965 had an exclusive license on Soviet cola sales and now dominates the market.

In addition to sales experiments, the orbiting space station has taken aboard a Japanese journalist for \$12 million as well as a private British astronaut. It is now scheduled to carry American, German and French customers for fees ranging from \$17 million to \$15 million, Mr. Oberger said.

To compensate for increased commercial traffic and to cut costs, Soviet crews aboard Mir are to be rotated less frequently, making their stays in space longer and more strenuous.

**Selling a Space Station** And now, with the new sales offer, it is conceivable that the space station could pass into private hands.

Alexander M. Dukh, president of the Space Commerce Corporation, a Houston-based concern that markets Soviet space goods and services, said Mir might cost a Western buyer \$200 million to \$700 million. He noted that NASA's planned station, which is expected to cost \$30 billion.

But Mr. Dukh said he doubted that Mr. Yel'tsin would authorize the sale of the Soviet space program. "It offers a way to make hard currency. I suspect it will be supported," he said.

A Launching Is Postponed

**C**ASTE CANAVERAL Fla. Sept. 2 (AP) — The launching of an Atlas rocket carrying the Star Wars experiment was postponed early today for a second time because of a technical problem, Air Force officials said.

The launching, set for 5:30 A.M., was put off when the rocket's third-stage unit malfunctioned, said Capt. Ken Warren of the Air Force. The unit monitors the rocket's performance during flight.

Technicians from the Lockheed Martin Corp., which made the rocket, planned to remove the unit and try to repair it in time for a launching on Tuesday, Captain Warren said.

The rocket's scheduled launching on Aug. 21 was called off because a nearly identical rocket had to be discarded three days earlier when it veered off course. That problem was traced to a computer programmer's error.

The Atlas rocket is to carry secret experiments for the Pentagon's organization overseeing the Strategic Defense Initiative, commonly known as Star Wars. Organization officials have declined to discuss the experiments, but civilian space analysts said they believed infrared sensors on the ground and on aircraft were to track the rocket to test the sensors' ability to distinguish between enemy missiles and harmless decoys.

The 27-foot, single-stage Atlas is supposed to reach an altitude of about 300 miles before plunging into the Atlantic after a nine-minute, white-flight.

The Pentagon paid Orbital Sciences \$10 million for the two launchings.





cc: HG

9/9

FH

Manber 9/10

anselmo 9/10



ALPHA LYRACOM  
SPACE COMMUNICATIONS

Clay T. Whitehead  
Vice Chairman

1320 Old Chain Bridge Road  
McLean, Virginia 22101  
Phone: (703) 847-8787  
Fax: (703) 847-8804

VIA FAX 011-7-95-142-5900

September 6, 1991

Mr. Anatoli Kiselev  
Director  
Khrunichev Enterprise  
Novozavodskaja str., 18  
Moscow, 121309  
USSR

Dear Mr. Kiselev:

You may recall that Dr. Graham Allison of Harvard University arranged for us to meet in February in Washington to discuss the prospects for your selling Soviet launches commercially.

My view at that time was that you have an outstanding product, but that the U.S. government policy on the use of Soviet launchers was a major barrier that would take some time to overcome. Much has happened since February!

I now am informed that President Gorbachev has asked President Bush to review that policy and that it is in fact being examined seriously with an open mind in view of the recent changes in your country.

Alpha LyraCom recently announced an agreement with Hughes Aircraft Company to build three new satellites to expand its international telecommunications coverage worldwide for launch in 1994. All three satellites will be HS-601 models in the 3000 kg class. We have been considering both Ariane and Long March as launch options, and would like to consider using Soviet launches for these three new satellites. If we could reach agreement in a timely way on economic and technical matters, it would give the U.S. government a specific case to decide and Alpha LyraCom could be helpful in seeking favorable ruling from the U.S.

I would appreciate it if you could advise me on how we can best begin such discussions soon and with whom. For Alpha LyraCom, I would nominate Mr. Fred Landman who is President of the company, and Mr. Philip Rubin who is our chief technical adviser. I look forward to this opportunity to work together.

Sincerely,

cc: RA, FL  
HG  
F. Rubin  
J. Manber

VIA FAX 011-7-95-142-5900

September 6, 1991

Mr. Anatoli Kiselev  
Director  
Khrunichev Enterprise  
Novozavodskaja str., 18  
Moscow, 121309  
USSR

Dear Mr. Kiselev:

You may recall that Dr. Graham Allison of Harvard University arranged for us to meet in February in Washington to discuss the prospects for your selling Soviet launches commercially.

My view at that time was that you have an outstanding product, but that the U.S. government policy on the use of Soviet launchers was a major barrier that would take some time to overcome. Much has happened since February!

I now am informed that President Gorbachev has asked President Bush to review that policy and that it is in fact being examined seriously with an open mind in view of the recent changes in your country.

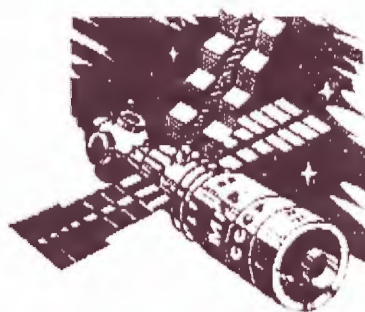
Alpha Lyracom recently announced an agreement with Hughes Aircraft Company to build three new satellites to expand its international telecommunications coverage worldwide for launch in 1994. All three satellites will be HS-601 models in the 3000 kg class. We have been considering both Ariane and Long March as launch options, and would like to consider using Soviet launches for these three new satellites. If we could reach agreement in a timely way on economic and technical matters, it would give the U.S. government a specific case to decide and Alpha Lyracom could be helpful in seeking favorable ruling from the U.S.

I would appreciate it if you could advise me on how we can best begin such discussions soon and with whom. For Alpha Lyracom, I would nominate Mr. Fred Landman who is President of the company, and Mr. Philip Rubin who is our chief technical adviser. I look forward to this opportunity to work together.

Sincerely,

Машиностроительный завод  
им. М. В. ХРУНИЧЕВА  
СССР, 121309, Москва,  
Ул. Новозаводская, 18

Телефон: 145-80-36  
Телефакс: (095) 142-59-00



KHRUNICHEV ENTERPRISE  
Aerospace, Engineering, Special Equipment  
18, Novozavodskaja str.  
Moscow 121309, USSR

Telephone: 145-80-36  
Telex: (095) 142-59-00

FAX (703) 847-8804

ref. 125/143

Mr. Fred Landman  
President,  
Mr. Philip Rubin  
Chief Technical Adviser,  
ALPHA LYRACOM  
1320 Old Chain Bridge Road  
McLean, Virginia 22101

September 12, 1991

Dear Sirs:

As you know, our firm is the producer of the "PROTON" rocket.

As reported Mr. Whitehead, you consider that it's expediency to study a possibility of launching by Soviet rocket the satellites made by your firm.

On instruction from Mr. Kiselev General Director, I'll be engaged in this one project.

Please, transmit by FAX the main parameters of orbit and characteristics of satellites, which you plan to launch.

Please, inform us, what the information on "PROTON" rocket you need in a first time.

If you find time, I would be pleasure to invite you or your personal to visit our firm. If yes, please, advise us on the most convenient date and duration of your probable stay in Moscow.

Please, fax (095) 142-59-00 all your messages.

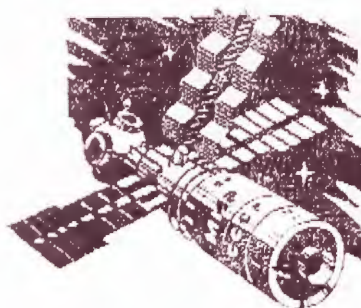
Sincerely yours,

A. LEBEDEV

Attention! Repeat for control.

Handing report of 12 September 1991, computer haven't acknowledge a letter.

Машиностроительный завод  
им. М. В. ХРУНИЧЕВА  
С.С.Р. 121309, Москва,  
ул. Новоизводская, 18  
Телефон: 145-80-36  
Телефакс: (095) 142-59-00



KHRUNICHEV ENTERPRISE  
Aerospace, Engineering, Special Equipment  
18, Novozavodskaja str.,  
Moscow 121309, USSR

Telephone: 145 80 36  
Tel fax: (095) 142-59-00

FAX (703) 847-8804

ref. 125/142

Mr. Clay I. Whitehead  
Vice Chairman  
ALPHA LYRACOM  
1320 Old Chain Brige Road  
McLean, Virginia 22101

September 11, 1991

Dear Mr. Whitehead:

I would like to express my gratitude for your interest and high assessment of the "PROTON" rocket.

We are ready to start talks immediately and I hope we would manage to agree upon all technical and financial matters.

From the KHRUNICHEV ENTERPRISE's side , I instruct Mr. Alexander LLEBEDEV , Head Foreign Economic Relations Division , to handle this project.

Technical supervision over the project will be exercised by Mr. Dmitry POLUKHIN , Genral Designer , "SOLUT" Design Bureau

If you find time , I would be pleasure to invite you to visit our firm. If yes , please , advise us on the most convinient date and duration of your probabale stay in Moscow.

Please , fax all your mesages.

Sincerely yours,

A. KISELEV

cc: FL  
HG  
J. Manber



UNITED STATES ARMY

OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C.

*[Handwritten signature]*



## KHRUNICHEV ENTERPRISE

Aerospace, Engineering, Special Equipment

---

*ANATOLI KISELEV*

**Director**

USSR, 121309, Moscow,  
Novozavodskaja str., 18

Telephone: 145-80-36

Telefax: (095) 142-59-00

*Dr. Vladimir O. Pechatnov*

*First Secretary*

*Soviet Embassy*

*1125 16th Street, N. W.*

*Washington, D. C. 20036*

*Office: (202) 628-7551*

*(202) 234-8304*

*Representing the Institute of  
U.S. and Canadian Studies of the  
Academy of Sciences of the U.S.S.R.*



**PROF. ANDREI A. KOKOSHIN**

VICE CHAIRMAN OF THE COMMITTEE  
OF SOVIET SCIENTISTS  
DEPUTY DIRECTOR, INSTITUTE OF USA  
AND CANADA

121814, Moscow  
Khlebny per., 2/3  
USSR

Ph.: 291-90-71  
FAX: 7 095 2001 207

**КОКОШИН**

**Андрей Афанасьевич**

член-корреспондент АН СССР

Зам. председателя

Комитета Советских Ученых

Зам. директора

Института США и Канады АН СССР

121814, Москва  
Хлебный пер., 2/3

Тел.: 291-90-71

Факс: 7 095 2001 207

Tom Whitehead

Maria

ACADEMICIAN

Prof. Yuri V. GULYAEV

Peopl's Deputy of the USSR  
Chairman of Subcommittee  
on Communication and Informatics  
of the Soviet of the Union Commission  
of the Supreme Soviet of the USSR

18 Marx Avenue  
Moscow 103907  
USSR

Tel. 203-49-93  
203-14-33



Dr. Boris I. Chirkov

International Organization of Space Communications  
INTERSPUTNIK  
Director General

011 (7095)

2 Smolensky, 1/4  
Moscow USSR, 121099

Telephone: 244 03 33  
Telex: 411288 DISK SU  
Fax: 253 99 06