The Failure of the 1993 Gore-Chernomyrdin Agreement: Cultural and Business Differences in U.S.-Russian Cooperation in Space

Abstract: The Clinton administration implemented an agreement in 1993 for the United States and Russia to cooperate in building the International Space Station. However, this agreement did not include the standard practices involved with Russian commercial contracts. Cultural differences between the two countries' space administrations, along with political pressures within both countries' governments, created great conflict. With most of the phases of the 1993 agreement now complete, most goals of the 1993 agreement were not achieved. This paper discusses the background, implementation, and results of the 1993 Gore-Chernomyrdin agreement.

During the Cold War, the United States and Soviet Union constantly engaged in a battle to demonstrate their superior technical prowess to the world. The space programs of each country were used as a high profile standard of such prowess. The Soviet Union demonstrated their superiority by a series of "firsts:" placing the first artificial satellite in orbit, the first human into space, the first woman into space, the first space station, etc. Their propaganda platform was supported by their innovation and "can-do" approach to space accomplishments.

The United States, on the other hand, found itself constantly being upstaged by their communist rivals in this area, and it served as a blow to their international status as a technology leader. Following the launch of Soviet Yuri Gagarin as the first man into space, President Kennedy wrote to Vice-President Johnson in 1961, "Do we have a chance in beating the Soviets?…Is there any other space program which promises dramatic results which we could win?"[1] Upon being informed that the U.S. could possibly reach the moon before the Soviets, the Kennedy administration immediately

[1] President Kennedy's Memorandum of April 20, 1961 to Vice-President Lyndon B. Johnson. John Fitzgerald Kennedy Library, http://www.jfklibrary.org/lbj_space_memo.html.

mobilized the nation to realize that goal. The United States may have missed prior opportunities to have been first in space, but they were the first on the moon.

As was to be expected, each nation claimed that their respective accomplishments were greater. The U.S. promoted their Apollo program moon landings as the greatest achievement of all human undertakings, and the Soviet Union dismissed the Apollo program as a stunt that was beneath the Soviet's standards.[2]

After the "space race" of the 1960s, there were initial attempts for the two world powers to cooperate in the space arena. The Apollo-Soyuz Test Project (ASTP) in 1975 was a symbolic but substantial first step towards such cooperative efforts. However, a few years later, the Soviet Union invaded Afghanistan, and diplomatic relations between the two countries suffered. Any cooperative efforts were effectively terminated.

The two countries continued their mutual programs, with varying degrees of success. The Soviet Union focused on long-term occupation in space stations, while the United States worked towards developing a reusable ship (considered to be the first step in building an American space station).

President Ronald Reagan's administration was acutely sensitive of the challenges posed by the Soviet Union, and the Soviet Union's success with its space stations was one element of these challenges. President Reagan wanted a space station for the U.S., and announced in 1984 that the United States was going to launch its own "Space Station Freedom" by 1992.

However, cost estimates on the station kept rising—as high as $30 billion—and NASA continued to move the project start date farther and farther ahead into the future. Space Station Freedom was viewed by many as a NASA boondoggle that

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[2] Ironically, the Soviet Union was secretly in fierce competition with the U.S. to reach the moon. Their denial of this lunar program continued until after the glasnost "thaw" which allowed information to be released more freely.

typified the worst elements of the current NASA organization – a swollen, overly-managed sloth populated by complacent administrators and engineers that was increasingly unable to create viable space products within a reasonable budget. Shortly after the new Clinton administration came into power in January 1993, NASA administrator Dan Goldin was informed that the agency would have its 1994 budget reduced by 20 percent. By 1993, NASA had spent $11 billion on the Space Station Freedom project *design* alone. Newly-elected President Clinton directed NASA to re-engineer a cheaper and more efficient version of the space station. He also set a spending cap of $17.4 billion for the project.

James Oberg, an expert on Soviet/Russian space history, describes the evolution of the new cooperative effort as follows:

> In the early days of the Clinton administration, with political support for the troubled Freedom project plummeting, NASA faced devastating budget cuts. The Russians' space program, too, was facing bankruptcy; and their plans for a Mir-2 space station were also threatened. In March of 1993, Russian space officials proposed a solution to this common crisis: merging their Mir-2 program with the Freedom, which they claimed could save billions of dollars for both nations. Lame-duck NASA Administrator Dan Goldin, reportedly fearing replacement at any moment by some "Friend of Bill," responded with enthusiasm. Over the next two weeks, on Goldin's initiative, officials at NASA, the White House, State, Defense, and Commerce developed a plan for the U.S. to invite Russia into the space station redesign effort, even though it had been Russia's idea. Tony Lake, the president's national security adviser, endorsed this suggestion on April 1, 1993, and that same day officials presented it to the president and vice president, who were about to meet Boris Yeltsin for the first time. Three days later, at the Vancouver Summit, Clinton and Yeltsin agreed to the proposal, and officials in both countries were told to "make it happen."3

The idea of forming a cooperative effort to build a space station seemed to be the answer to NASA's problems. First, and most importantly, the large body of Russian experience pertaining to long-term space station occupation could be used by NASA, rather than the agency's having to redo such experiments and spending billions in the process. Secondly, the Russians would shoulder part of the cost of space station assembly, thus reducing the total NASA outlay for costs. Thirdly, the existing Russian

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[3] James Oberg. "NASA's Russian Payload." The *American Spectator* August 1998. Available at http://www.spectator.org/archives/98-08_oberg.html

space infrastructure (especially its large fleet of launch vehicles) could be used for building and assembling the new station, so that NASA didn't need to spend precious budget dollars to duplicate Russian facilities. An additional consideration was the attitude that the pursuit of an international, cooperative effort would lead to a maturation of spaceflight as a science, and would aid in the future evolution of that pursuit.

The Soviet Union was officially dissolved by President Boris Yeltsin in 1991. During its transition to a free-market economy and democratic reforms, the U.S. intelligence community was concerned with the threat that former Soviet Union (FSU) defense companies, no longer employed to build missiles and other defense technology, would begin to offer goods and services to other nations, especially the "rogue" nations which the U.S. considered a threat.

One solution was formulated to engage these companies in cooperative space ventures in which the U.S. would purchase goods and services from the Russia. This would engage their aerospace and defense industries in non-military capacities, while allowing an injection of hard currency into the FSU economy to foster economic and political stability. This plan to prevent a "brain drain" of Russian scientists to other companies was also seen as a substantial contribution towards non-proliferation of nuclear weapons.

In September 1993, U.S. Vice President Al Gore and Russian Prime Minister Viktor Chernomyrdin formally agreed that their nations would work cooperatively in space, and that the U.S. government anticipated that the Russians would join in the international consortium to build a new International Space Station.[4] In this agreement, an initial letter contract was signed to begin implementation of a $400 million commitment to Russia, including it in the space station project, and allowing

[4] United States Office of Technology Assessment. *U.S.-Russian Cooperation in Space*. Washington: GPO, 1985, pp. 48-49.

Russians access to the commercial space-launch market, in exchange for Russia's agreement to terminate its transfer of cryogenic-rocket-engine technology to India.[5] The agreement was formalized in December of that year.

Phase I of the cooperative venture included U.S. astronauts to train in Russia and stay aboard the Russian space Station Mir, beginning with NASA astronaut Dr. Norman Thagard in 1995. These "guest visits" were purchased from the Russian Space Agency (RSA) for an aggregate total of $400 million.

A 1995 report by the U.S. Office of Technology Assessment (OTA), *U.S-Rusia Cooperation in Space*, stated that in addition to technological advantages,

...just as important to the United States are the foreign policy gains from this and other human spaceflight projects, such as the Shuttle-Mir dockings, U.S. officials expect cooperative activities to help promote economic and political stability in Russia…[NASA's] purchases should help preserve employment for Russian engineers and technicians in at least some of Russia's major space-industrial centers, thereby inhibiting proliferation through "brain drain" and helping to sustain Russian adherence to the Missile Technology Control Regime. Moreover, NASA's purchases improve the chances that Russia will be able to meet its obligations to the space station projects, thereby enhancing prospects for success.[6]

At the inception of this agreement, there were already concerns raised by many about the difficulties the two cultures would face in actually implementing this cooperative plan. Even at the first stages of discussion, skepticism existed about a cooperative effort between the Russian and American space programs. These doubts were based not only in suspicions long rooted in the Cold War era, but also on notions

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[5] Ibid, p. 55

[6] Ibid, "Executive Summary" p. 2.

that the Russians would be unable to interact in a free market economy and would prove to be unreliable partners.

A international survey conducted in April 1996 amongst space professionals and journalists found that most respondents felt the U.S. didn't need Russia's participation to achieve its space goals. The major concern among respondents was that "Russian industry faces severe challenges that might prevent them from finishing projects as they planned."[7] A common sentiment was that after 70 years of enforced socialism, the FSU lacked the institutional awareness that would allow them to conduct realistic commercial contracts; i.e., *that we simply could not conduct real business with them.* Interestingly enough, respondents had no opinion about the political stability of either Russia or the United States as it related to the integrity of the International Space Station Program. Rather, the concerns were oriented towards the Russians' lack of experience in capitalism.[8]

In the 1995 OTA report's executive summary, suggestions for precautions from recommendations by participants in other cooperative ventures are listed, including:

> Maximize open and frank communication. To avoid as many technical and managerial surprises as possible, seek (and be willing to allow) a high degree of communication and interpenetration between the U.S. and Russian programs.

This optimistic suggestion has a distinctly western flavor, and was probably difficult to implement. The Soviet Union had an institutionalized flow of information that was extremely compartmentalized. Additionally, the Russians viewed NASA as being immature, and that they were present in Moscow to learn from the Russian space agency. This positioning as a "guest" on space station Mir did not allow for any

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[7] *U.S.-Russian Cooperation in Space: A Risk Assessment*. Unpublished survey by Susan Hubacek (Kaltenbach), April 1996.

[8] Ibid.

information exchanges. NASA staff in Moscow seldom learned the technical details of Mir or the astronaut's missions.

Russians and Americans have very different ideas about administrations and the flow of information. Many Russian institutions h*ave* a practice of obscuring embarrassing facts. The attitude is: "Why tell you about our mistakes? We will take care of them. They're none of your business." America, on the other hand, has a practice of closely examining mistakes. It is part of American culture that "the public has a right to know," even if this principle doesn't always work out in practice.

Russian mission control deputy flight control chief at Korolyov Viktor Blagov recalls that

> Very often we had to calm the Americans down. From the very beginning, [NASA administrator] Culbertson's reaction was very sharp, very worried. But then he saw our reaction was calm, and he trusts us – at least he says he does. He believes our actions are sometimes 'aggressive.' That's the word he uses. In Russian we translate that as 'hasty.' That was the meaning I took. He always tried to figure out how justified our actions were. You see, the Americans look at every problem from a philosophical viewpoint. First they start thinking about how to examine the problem. Then they research the problem, to find out how they want to look at t. Only then do they take action. We start in the middle of this process. We tackle big issues first. Only after that do we look at the philosophical questions, [such as] 'How did this go wrong?' [9]

One prime example of these differences was demonstrated during astronaut Jerry Linenger's stay on space station Mir. On February 23, 1997, an emergency occurred on Mir which would prove to be a significant turning point in the way this cooperative venture was administered. A near-fatal fire occurred while six cosmonauts were aboard the station, and the subsequent havoc during recovery attempts provided a dramatic demonstration of the Russian's attitudes toward spacecraft and crew safety.

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9 Brian Burrough. Dragonfly: NASA and the crisis aboard the MIR (sic). New York, NY: HarperCollins Publishers, Inc., 1998, p 440.

A fire broke out during a routine maintenance operation. The entire space station crew needed to don air masks to receive oxygen and prevent the inhalation of smoke. A fire in a microgravity environment is very different from a conventional fire; the smoke dissipates homogeneously inside the craft's volume, rather than pluming upward. Additionally, conventional methods for putting out a fire are not applicable to the space station's enclosed environment. Any substances used to extinguish the fire are constantly recirculated through the station until air filters are finally able to scrub out the last remaining traces of the retardant. On Mir, two fire extinguishers had somehow stayed bolted to the station's walls, and couldn't be used during the crisis. Three extinguishers from other areas of the station were used and finally extinguished the blaze.

When the space station next passed within range of ground control communications, the crew commander explained their situation, and ground control approved of their actions. They were then asked to wait for further instructions in the next communications window four hours hence. The situation was controlled, and the smoke was "scrubbed" out of the Mir atmosphere by air filters within a few days' time. Importantly, NASA's Moscow representatives were not informed of this serious event until they reported for work the next morning. Over 12 hours had elapsed since the potentially fatal fire had occurred, and yet none of the Russians had contacted NASA administrators. This was a reflection of the Russian's inability to acknowledge problems or errors to outsiders. Evidently, they considered NASA's Moscow administrators to be "outsiders." In addition, the Russians understood that an event as serious as a fatal fire aboard Mir could cause the U.S. political body to stop funding to Phase 1 of the Shuttle/Mir program, and Russia badly needed the cash associated with Phase 1. Thus the fire was depicted in the official Russian press release as being a "microfire" that lasted ninety seconds, giving the impression that it was a small event handled by standard Russian safety procedures.

Later in 1997, RSA officials instructed the Mir commander to attempt a manual docking of a Progress supply ship to the space station. The primary motivation for this instruction was that the agency would save money if their cosmonauts manually docked ships, rather than relying on the standard automatic docking mechanism. This had already been attempted earlier that year (before the Mir fire) and had failed. This second manual docking procedure also failed (the cause of which still remains a hot topic of debate). The second failure was more serious; the station was actually struck by the uncontrolled supply craft and punctured it in one module. It was the first decompression aboard an orbiting spacecraft. After evacuating the guest American astronaut to the "emergency exit" (the always-ready Soyuz escape module), the Russian crew members then located the leak and, after much frantic activity, were able to close the doorway on the depressurized module by using a loose "lid" that was near them on the station's wall.

In this second crisis, NASA's Moscow staff were informed of events as they transpired. However, they were only spectators in the events that followed, rather than being consulted with. This reinforced the "paying passenger" role that the Russians had placed on the visiting astronauts.

NASA staff felt that they were not informed of the potential danger of this docking experiment. Although they were aware that there had been an unsuccessful attempt earlier in the year, they were given no specific information, and were thus surprised when learning that a serious puncture had occurred as a result of the failure. The safety of American astronauts on Mir quickly became a hot political topic. These accidents were reported by the U.S. media, and soon there were ample editorials demanding that the Russians be held accountable for maintaining appropriate safety standards. One frequent U.S. criticism was that Russian standards for human safety were much lower than NASA maintained, thus putting American astronauts at risk. U.S. media coverage of the space station became so negative that Russian officials

soon became extremely defensive and hostile towards any suggestion that their safety standards were too low. The Russians stated (correctly) that they had a long history of spaceflight and were able to assure the safety of their crews. The Russian public viewed the U.S. demands as the hysterical demands of an immature space program. They became extremely sensitive to negativity in the U.S. press. The Russian national character can be extremely self-defensive, and any criticisms from "outsiders" are met with immediate hostility.[10] The Russians felt that their space experience and capabilities were beyond reproach, and that the U.S. was trying to position itself as the "master" in the cooperative agreement, since America had paid money for Russia's participation.

A more diplomatic Russian response was the editorial by Jeffrey Manber, the managing director of American operations for RSC Energia, published in the September 1, 1997 issue of *Space News*. In his editorial, he reacts to "the sudden avalanche of negative comments from the American media and political circles" after the June 1997 Mir collision accident. He then goes on to discuss the numerous accommodations made by RSA to help prevent friction between the two agencies' "cultural differences." Importantly, Manber outlines the Russian opinion that NASA has been taking advantage of the Russian space program at a miniscule price, and that the RSA had advanced the U.S. space program significantly during the four years spent in Phase 1.

A popular Russian viewpoint continues to be that the International Space Station is an American-controlled entity, and that Russia is considered a junior partner

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[10] Some more conservative members of the Russian Duma opened an inquiry into why the film "Armageddon" was allowed to be distributed in Russia. This film included a portrayal of an eccentric cosmonaut aboard a Mir-type space station that fell apart after being docked with two U.S. space shuttles. However, the film was a huge success in Russia, and the inquiry was quickly ended.

in the venture. This impression causes them to immediately distrust U.S. requests and administrative requirements.

There is a great deal of patriotism associated with the Russian space program and its outstanding successes. These sentiments were especially strong when discussions about de-orbiting space station Mir took place. The prevalent Russian attitude was that the Mir was not only a big achievement for the Russian people but also the only space station around. Why should the Americans ask us to deorbit our Mir (thus taking out any space station presence) so that we could work on "their" ISS? In 1998, Aleksey Mitrofanov, chief of the Duma's geopolitical affairs committee, told Reuters "the premature disposal of Mir makes as much sense as dumping your old but still working car before even buying a new one." Veteran cosmonaut Anatoliy Solovyov told Reuters in November 1998 that NASA's insistence on terminating Mir was a plot to subjugate Russia: "It's a purely political question that there is pressure for us to get rid of Mir as soon as possible," he said. "It is clear why. Who has the station? We do." But the U.S. was adamant that Russia deorbit Mir. One of the primary concerns of NASA administrators had been Russia's use of funds intended for Russia's components of the International Space Station. RSA administrator Yuri Koptev acknowledged that some components intended for the ISS would be diverted for use in the Mir space station. This decision reinforced NASA's fears that the funding for ISS is being diverted to other efforts, and as a result Russia would be unable to fulfill the ISS commitments which we felt they were being "paid for."[11] These concerns were based on several factors, including the Russian's inability to deliver ISS components as scheduled, along with the "puzzling" disappearance of ISS funds. Due to the structure of the 1993 agreement and the U.S. insistence that they deal only with another government agency, the ISS funds were disbursed directly to the Russian government. Although

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[11] Simon Saradzhyan. "Space Station Hardware Might Be Diverted To Mir." *Space News* 31 Jan. 2000, p. 10.

the Russian government was then supposed to disburse funds to RSA, this seldom happened. "It's an ugly process, actually. It's a very difficult, cumbersome and unpleasant process of dealing with the Ministry of Finance and forcefully getting this money from them," said Mikhail Sinelshikov, chief of piloted programs for the Russian Space Agency.[12]

Russian space agency. James Sensenbrenner, Chairman of the U.S. House of Representatives Committee on Science, had been a continual critic of the way NASA and the Clinton administration disbursed funds to the Russians without sign of ISS compliance.

"It's a good policy, but it has lots of problems," said Roald Sagdeev, a former top Soviet space policy official in a 1997 interview. Sagdeev said he believes the U.S.-Russian space station partnership was infected at birth. "There was a cultural misunderstanding," Sagdeev said. Typical Russian business contracts include provisions for fines or penalties for failure to perform. The space station partnership documents signed by Gore and Chernomyrdin contained no such penalty language, and so "that created the illusion that this [agreement] is just optional."[13] One primary U.S. motivation for space program cooperation with Russia was the possibility of avoiding arms sales to U.S. enemies (such as Iran). However, as Sensenbrenner and others have pointed out, these nonproliferation goals have not been realized. On October 17, 2000, Sensenbrenner stated that "The Administration continues to look the other way when it comes to Russia's violation of nonproliferation norms. This report by the NASA Inspector General confirms that taxpayer funds entrusted to NASA

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[12] International Space Station Controversy. CBS Worldwide, Inc. Copyright 2000, CBS Worldwide Inc., Sept. 15, 2000.

[13] Larry Wheeler. "Space station's fate in the hands of Gore and Russians." *FLORIDA TODAY*, April 28, 1997.

ended up in the hands of Russian scientists engaged in researching the development of biological weapons. NASA's lack of vigilance is unforgivable."[14]

A recent press conference with Alexander Konovalov and Sergei Oznobishchev, two officials of the Russian Strategic Assessments Institute, a prestigious organization on par with the United States' RAND Corporation. The topic was "Russia and the West: Partnership or Confrontation." Konovalov had the following to say about Russia's sales of arms to Iran:

> …I believe Russian foreign policy will increasingly reflect internal interests. There will be small interest in what America is going to say about Russia's activities in the foreign policy arena. This is illustrated by the prepared transaction with Iran. It can be said the transaction with Iran has been restored, the transaction to sell arms. Our desire will be not to do something pleasant for the United States but to pursue our national interest as our leadership understands it. True, there are many risks because we may be thrown out of the International Space Station, it may be decided not to use our Proton missiles to deliver payloads. Of course the Americans have more possibilities to exert economic influence on us than vice versa. But these possibilities, really, are not so numerous. You see, many of the channels linking us were destroyed in recent times.

James Oberg summarized their statements in his transmittal message: "The gist of this seems to be that, regarding arms sales to Iran, these guys say, sure, the Americans could threaten us, and throw us off the Space Station, but so what? It's not a "serious area of cooperation" anyway. Well, these guys are NOT government spokesmen, they're professors." He has also typified the Russian approach towards the cooperation agreement as "…western money kept their space program alive through some very hard years, but that phase may be moving towards a close." Indeed, the spirit of cooperation between the two countries seems to have come to a standstill. Instead of the optimism and expectations of a cohesive, cooperative space project, there has instead been misunderstandings, corruption, graft, safety violations,

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[14] Press Release from Sensenbrenner's office.

and alienation by both agencies. A prime example of this rift is illustrated in the Dennis Tito affair.

In June 2000, American Dennis Tito contracted with MirCorp and RKK Energia to purchase a trip to the spaceship Mir for an estimated price of $20 million. However, due to the continuing decay of the station, he was not able to accomplish that visit. He then negotiated with those officials to travel instead to the Russian segment of the International Space Station during a standard supply mission. In essence, he would occupy an empty seat on the Soyuz spacecraft for a stay of six to ten days.
NASA officials were initially quiet about the prospect of Tito's trip to ISS. But later, NASA began protesting loudly that Mr. Tito would be a distraction to the other ISS occupants, and that he would jeopardize their safety. The NASA rhetoric became more heated as Mr. Tito's launch date grew near.

Dennis Tito has been described as a "rocket science investor." He received a master's degree in Aeronautical/Astronautical engineering, and worked for JPL for several years, after which he became involved in investment banking and became wealthy. Also, a U.S.-Russian joint commission agreed that Tito's 900-hour training was sufficient to fly on ISS and to ensure his safety aboard the ISS.[15]

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[15] The full press released dated April 25, 2001 from NASA headquarters reads:

"Letter from Gen. Stafford and Academician Anfimov Regarding The Flying of Visitors to the ISS March 30, 2001: From your request of March 16, 2001, the NASA Advisory Council (Stafford) Task Force – Rosaviakosmos (Anfimov) Advisory Expert Council (TF-AEC) Joint Commission has engaged in a joint assessment of the safety and operational issues of flying a non-professional astronaut/cosmonaut to the International Space Station (ISS) during the upcoming Soyuz 2 taxi flight (scheduled for April 2001.) The discussions on the findings of this report occurred at meetings in Russia on March 27 – 30, 2001, at TsNIIMash and GCTC. Representatives from the TF-AEC Joint Commission met with experts from NASA, Rosaviakosmos, RSC Energia, and GCTC. "

The Joint Commission concurs with the Russian certification of Mr. D. Tito to safely fly onboard the Soyuz 2 vehicle and recognizes his training to interface with the Russian segment hardware, using a modified training template (900 hrs.) The Anfimov Advisory Expert Council believes that Mr. D. Tito's training is sufficient to fly on the ISS and concurs on the conclusions drawn by GCTC that his training ensures safety onboard the ISS."

However, Tito continued to be portrayed by NASA administration and the U.S. media as a "rich space tourist" who selfishly would not acquiesce to reasonable U.S. demands that he postpone his trip by up to a year, so that ISS occupants would not be "inconvenienced" by his presence. Representative Sensenbrenner delivered a statement on the House floor that he was

> …disappointed by the news that NASA has again acquiesced to inappropriate Russian demands to the Space Station program. Russia will be sending Dennis Tito, a 60-year-old American millionaire, as one of its contribution to this week's mission to the Space Station. What unique characteristics does Mr. Tito possess that earned his place on this mission? Cold, hard cash. Twenty million dollars of it from Mr. Tito to the Russians is all it took for a rocket-powered trip to the Space Station. Unfortunately, this partnership based on a core scientific mission apparently is now the next Club Med for those able to pony up millions to the Russian government.[16]

In another press conference, after publicly denouncing Tito as selfish and endangering the lives of the crew of the ISS, NASA Administrator Goldin then went on to describe how movie director James Cameron was a "true patriot" for agreeing to wait for an ISS trip until the U.S. has approved it. This statement only served to embarrass NASA; Mr. Cameron is a Canadian, whereas Mr. Tito is American.

Mr. Goldin has also said that "it will be a cold day in hell before the Russians make another unilateral decision" to launch a space tourist. He also demands that Russia reimburse NASA for any delays or problems caused by Mr. Tito's presence there. The repeated use of the word "babysitting" by Goldin and members of the U.S. Congress make clear the amount of U.S. political rhetoric being generated about this incident.[17]

It is clear that the primary objectives of the 1993 agreement between U.S. and Russia have failed. NASA has not realized any savings in constructing the space

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[16] Rep. James Sensenbrenner. *Rep. Sensenbrenner's Statement on Mr. Dennis Tito's Trip to the Space Station.* Press Release dated Tuesday, April 24, 2001.

[17] Paul Hoversten, "U.S. Expects Compensation For Cost Of Tito's Stay." Aviation Week and Space Technology, May 3, 2001.

station. It did not get a significant technical transfer with the Russians. The Russian economy remains wildly unstable, and Russia plans to continue to sell arms to Iran and other "rogue" nations.

The Clinton administration, in its insistence that NASA send funds to Russia without restrictions, appears to be the major "villain" in this incident. More cultural sensitivity to the standards and practices of Russian culture could have resulted in an effective technology transfer. An appropriately negotiated contract that included non-performance fines and involved only the participating aerospace firms (without government involvement) could have possibly made the international cooperation agreement a success. It is hoped that we will be able to learn from this disapointing chapter in space development so that the goals of the 1993 agreement can finally be realized.