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**PRESENTATION OF CONGRESSIONAL SPACE MEDAL OF HONOR
TO DR. SHANNON LUCID**

December 2, 1996

Today in the Oval Office President Clinton will present the Congressional Space Medal of Honor to Dr. Shannon W. Lucid. Under public law, the NASA Administrator has the authority to recommend to the President individuals to receive this honor. Since authorization of the Medal in 1969, it has been awarded to nine astronauts. Dr. Lucid will be the tenth recipient and the first woman ever to receive the Medal.

In 1978 President Carter presented the first six Medals to Neil Armstrong, Frank Borman, Pete Conrad, John Glenn, Alan Shepard and, posthumously, Gus Grissom. In 1981, President Reagan presented John Young with the seventh Medal and in 1992, President Bush awarded the eighth Medal to Thomas Stafford. In 1995, President Clinton awarded the ninth medal to Jim Lovell.

NASA Administrator Goldin recommended Dr. Lucid for the Medal for her "exceptionally meritorious efforts and contributions to the welfare of the Nation and of mankind." Dr. Lucid broke the record for the longest duration in space by a woman and by an American by logging 181 days in space aboard the Russian Mir Space Station. (Dr. Lucid's bio is attached).

Dr. Lucid will be accompanied by her spouse, Michael Lucid, NASA Administrator Dan Goldin and the Space Shuttle crew members from her return flight to Earth. Crew members include: Captain Bill Ready, STS-79 Commander, Lt. Col. Terry Wilcutt, STS-79 Pilot, Col. Tom Akers, STS-79 Mission Specialist, Lt. Col. Carl Walz, STS-79 Mission Specialist, and Dr. Jay Apt, STS-79 Mission Specialist. Senators Tom Daschle, Conrad Burns and John Glenn will also attend.

The program is as follows:

- * President makes remarks and citation is read.
- * President presents Medal to Dr. Lucid.
- * Lucid makes remarks and introduces Capt. Ready.
- * Capt. Ready, Commander of STS-79 crew, presents framed photo/flag from the crew to the President.

SUMMARY OF ACHIEVEMENTS SHANNON W. LUCID, Ph. D.

Dr. Lucid has enjoyed a lengthy and impressive career with NASA. In 1978, she was selected to be among the first group of astronauts to train for Space Shuttle missions and the first group to include women. Dr. Lucid has flown on five Shuttle flights, including Mission STS-76 which delivered her to the Russian Space Station Mir where she became a member of the Mir-21 crew. From March to September 1996, she conducted materials and life sciences experiments aboard the Mir, surpassed the previous record for the longest duration in space by a U.S. astronaut, and broke the record for the longest space flight by a woman.

Dr. Lucid's experience before coming to NASA included an early interest in aviation. She earned commercial, instrument, and multi-engine ratings while also pursuing a degree in biochemistry. This led to a variety of academic assignments: as a teaching assistant in the University of Oklahoma's Department of Chemistry; laboratory technician at the Oklahoma Medical Research Foundation; chemist at Kerr-McGee in Oklahoma City, 1966-1968; and graduate assistant at the University of Oklahoma Health Science Center's Department of Biochemistry and Molecular Biology. Dr. Lucid was a research associate with the Oklahoma Medical Research Foundation in Oklahoma City until NASA selected her for the astronaut candidate training program.

As an astronaut, Dr. Lucid has served in a variety of support roles and has trained to fly on five Space Shuttle missions. Following her flight aboard Columbia on STS-58, her fourth flight and a 14-day dedicated life sciences mission, she volunteered for Russian language training and subsequent assignment to Gagarin Cosmonaut Training Center in Star City, Russia, as part of the U.S.-Russian Phase 1 Program. There she trained for 14 months for assignment as the second U.S. astronaut to fly on the Russian Space Station Mir. After completing intensive training in the Russian language, as well as the Soyuz and Mir systems, Dr. Lucid launched on Atlantis on STS-76, March 22, 1996. After docking with Mir, she joined the Russian Mir-21 crew aboard the Space Station. While on Mir she conducted numerous science and technology experiments and participated in a wide variety of scientific and medical experiments designed to gather detailed biomedical data about the effects of long-term exposure to weightlessness on the human body. During her many months on orbit, she also served as an extraordinary ambassador for the United States and reached the citizenry of the world through her many media broadcasts from space. During her well-executed and candid interviews, Dr. Lucid managed to bring the day-to-day experience of living and working on the Mir to the people on Earth. She has impressed all of NASA and thousands of people throughout the world with her technical expertise, professionalism, and optimism.

Dr. Lucid's work is essential to the development of the International Space Station and to Russian-U.S. cooperation. She has met all challenges with inspirational optimism and outstanding professional demeanor. During her tour on Mir, she demonstrated the importance of a positive outlook and the priority of international cooperation, with absolute determination to do the best job possible in difficult circumstances.

Over and above Dr. Lucid's space flight records earned and scientific research accomplished during Missions STS-76/Mir-21, she excelled in service to her country and to the United States space program. Shannon is a national hero who has significantly helped to pave the way to the International Space Station era through her outstanding efforts, personality, and extraordinary endurance.

Citation
SHANNON W. LUCID, Ph. D.

By direction of the President, Dr. Shannon W. Lucid is awarded the Congressional Space Medal of Honor for exceptionally meritorious efforts and contributions to the welfare of the Nation and of humankind.

Dr. Lucid has served with NASA for 18 years and during that time flown on five important and complex Space Shuttle missions. She first served as a crewmember on STS 51-G in 1985 which deployed two communications satellites and conducted robotic operations to deploy and retrieve an x-ray astronomy satellite. Dr. Lucid was subsequently assigned to the crew of STS-34 which launched in 1989 and deployed the Galileo spacecraft which journeyed to Jupiter. This flight was followed by STS-43 in 1991 when the crew deployed the fifth Tracking and Data Relay Satellite and conducted 32 physical, material, and life sciences experiments. For her fifth mission, Dr. Lucid was a science crewmember on life sciences Mission STS-58 in 1993. This mission is recognized by NASA management as the most successful and efficient Spacelab flight that NASA has flown, with extensive research conducted in fields of human and animal physiology. Then followed Missions STS-76 and STS-79. STS-76 delivered her to the Mir and STS-79 brought her back. With STS-76, Dr. Lucid received her greatest challenge when she was assigned as the second U.S. astronaut to fly aboard the Russian Space Station Mir as cosmonaut researcher with the crews of Mir-21 and Mir-22. This was an extraordinary task in language education and cultural understanding, abundant with technical and scientific challenges. Dr. Lucid performed superbly in all areas and set a standard that future astronauts will aspire to match during long duration space flight. Dr. Lucid now holds the record for the longest duration in space for a U.S. astronaut and the longest of any woman in the world. Her efforts have significantly contributed to international cooperation in space and helped to pave the way for all future Space Station missions.

**Space Q&As
for
Press Pool--December 2 Shannon Lucid Event
(10:15-10:45 am, Oval Office)**

- 1. Space Command has announced that they now believe the Russian Mars 96 satellite landed in Chile and Bolivia. What is the U.S. doing?**

Answer: Space Command has developed new information indicating that the spacecraft likely came down over a 200 mile portion of the Pacific Ocean, Chile and Bolivia . We've shared what we know with the governments of Russia, Chile and Bolivia and have offered the continued assistance of U.S. Space Command in providing any further reentry information.

- 2. Is the U.S. going to offer to help clean up any radioactive material that may have been released?**

Answer: Since this is a Russian spacecraft, I think we need to allow the Russian government to fully assess the situation and determine if such measures are necessary or even feasible. In the interim, we will continue to provide our latest and best information to the governments of Chile, Bolivia and Russia. If clean up of radioactive material is required, we would offer an appropriate level of technical assistance.

- 3. Does this mean that we needlessly alarmed the Australians?**

Answer: No. I think in these types of situations, you operate on the best possible information you have at the time.

- 4. Is the Administration concerned with recent failures in the Russian space program and their impact on the International Space Station?**

Answer: Although we regret the loss of the Mars 96 mission, we do not believe it will have a direct impact on our space station cooperation with Russia. Our space cooperation with Russia continues to be a priority under the commission headed by Vice President Gore and Prime Minister Chernomyrdin. The success of Shannon's mission bodes very well for our future space station work with Russia.

5. **Is the Administration at all concerned with rumors that the Russians simply can't afford to pay for their role in the Space Station.**

Answer: We have been working with the Russians for a number of years and they have always demonstrated an incredible resilience. Again, the Vice President has worked very closely with Prime Minister Chernomyrdin to lay the groundwork for Russian participation in the space station program. The contributions of all of the partner's involved--included the United States--are always subject to the ability of that partner to fund their portion. The key to succeeding in this project will be maintaining a close partnership so that problems can be seen far enough in advance. At present, we expect the Russians to meet their commitments to the space station program.

6. **Has the U.S. ever had an accident before?**

Answer: Over the past four decades, there have been only three missions which experienced malfunctions. The first was an aborted mission in 1964 involving a navigational satellite. The power source burned up upon reentry in accordance with the design philosophy of the time. Today, they are designed to successfully withstand reentry and contain the material. In 1968 a NIMBUS-B satellite aborted and the spacecraft fell into the ocean. The radioactive material was retrieved and used in a later mission. In 1970, the lunar module from the Apollo 13 mission burned up during reentry. The graphite encased radioactive fuel survived intact and fell into the ocean near Tonga at a depth of 20,000 feet. Subsequent monitoring has detected no leakage from the cask.

7. **The Russians just lost a satellite carrying radioactive material on board. This morning, the United States launched a mission to Mars that also carried plutonium. Aren't you concerned that it may reenter like the Russian satellite.**

[ANSWER ASSUMES SUCCESSFUL 2:00 AM LAUNCH ON DEC. 2.]

Answer: No. The mission launch this morning--the Mars Pathfinder mission--went off without a hitch. The amount of radioactive material on board is extremely small, only eight grams, in the form of miniature heater units for circuits on board the spacecraft. Before we launch space missions with this type of material, we conduct an Environmental Impact Statement, a comprehensive safety analysis, and an independent safety evaluation of all risks associated with the mission. Early in this Administration, we strengthened the review process by adding the EPA and the Nuclear Regulatory Commission to the assessment panel.

8. What is that risk?

Answer: The devices themselves are designed to contain the plutonium even in an accident situation. So, there's about a one in million probability that any plutonium would be released. In this instance, even if the material were released, the radiation dose would be indistinguishable when compared to average background radiation.

9. Are the astronauts on board the Space Shuttle in any danger? What happens if they can't fix the door problem?

[ANSWER ASSUMES DOOR PROBLEM CONTINUES THROUGH DEC.2]

Answer: No. The crew trains exhaustively to deal with nearly every form of contingency planning. They are in constant communication with mission control and NASA has informed us that they do not view this a safety problem for the astronauts.

THE WHITE HOUSE

WASHINGTON

November 27, 1996

MEMORANDUM FOR THE PRESIDENT

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FROM: JOHN H. GIBBONS  ASSISTANT TO THE PRESIDENT FOR
SCIENCE AND TECHNOLOGY

SUBJECT: Preparation for Congressional Space Medal Award to Astronaut Shannon Lucid

On Monday, December 2, you are scheduled to present astronaut Shannon Lucid with the Congressional Space Medal of Honor in recognition of her accomplishments, particularly her record-breaking stay on the Russian Mir Space Station. You may be questioned by the press or Congressional members present on two space-related issues: First, the proposed Space Summit you called for last August; second, the implications of the recent Russian spacecraft failure (which included a plutonium power source).

The Space Summit

Last August, you called for a "Space Summit" where the Congressional leadership could meet with you about the future of the U.S. space program. The Summit would focus on NASA's program priorities and out year funding projections prior to completion of the FY98 budget. In your statement on the Mars meteorite, you endorsed convening a Summit before the end of the year. Republican members have indicated that they would not wish to attend a Summit meeting on NASA's budget before information on the overall budget is available. Senator Mikulski, on the other hand, supports holding the Summit in January before your budget is released to the Hill. Working with the Vice President's office and Frank Raines, we have developed a proposed solution to Senator Mikulski's concerns. Specifically, the Vice President will call her early next week and offer her a private meeting on NASA's out-year budget prior to the release of the overall budget to the Hill. With this commitment, we will ask her to support (or at least not to oppose) delaying the Summit until February, shortly after they receive your budget numbers.

Russian Spacecraft Failure and Implications for Cooperation

We are coordinating with the NSC to send you a separate memorandum on Space Command's analysis of the November 16 reentry of the Russian Mars 96 spacecraft and subsequent measures taken. The failure has raised questions about the stability of the Russian space program and the implications for the International Space Station. From my perspective, the failure should not directly affect our planned cooperation on the International Space Station.

This doesn't mean that funding stability in Russia is not an area of concern. We know that the Russians are experiencing funding problems for their portions of the International Space Station. Like many areas within the Russian government, the Russian space program must compete for

extremely scarce funding. We have taken the position that it is in the U.S. interest to retain Russia as a partner in the Space Station program but, at the same time, we expect Russian to meet its commitments.

Over the last two months, we have worked closely with the Russian Space Agency to facilitate funding for critical Russian elements to the Space Station. If asked on this point, I recommend you say that we regret the loss of the Russia's Mars 96 mission but remain confident in Russia's ability to continue a viable space program, including their cooperation with us on the International Space Station.

Finally, the Mars 96 reentry may raise questions about our own safety approval process for missions using radioactive material. The next such mission is the Mars Pathfinder mission, presently scheduled to launch on Monday, December 2 at 2:00 am EST. It carries an extremely small amount of radioactive material (8 grams). By comparison, the Russian spacecraft had approximately 200 grams. For your information, I have enclosed my November 19 memorandum to Leon Panetta outlining the U.S. approval process for launch of spacecraft using radioactive material. While I am confident of U.S. safety procedures, I believe it would be prudent to ensure that international protocols exist in the future to cover non-U.S. launches.

cc:

Leon Panetta
Erskine Bowles
Leon Fuerth

Enclosure:

November 19, 1996 Memorandum to Chief of Staff

THE WHITE HOUSE
WASHINGTON

November 19, 1996

MEMORANDUM FOR THE CHIEF OF STAFF 

FROM: JOHN H. GIBBONS, ASSISTANT TO THE PRESIDENT FOR
SCIENCE AND TECHNOLOGY

SUBJECT: U.S. Approval Process for Launch of Spacecraft Using
Radioactive Material

In the wake of the demise of the Russian satellite carrying nuclear material, I wanted to be sure you were aware of the rigorous safety review process the United States uses for similar space missions and one major upcoming U.S. mission that will use nuclear material.

Pursuant to National Security Council Presidential Memorandum 25 (PD/NSC-25), White House approval is required for launches of spacecraft utilizing reactors or radioactive material. The directive authorizes me, as Director of OSTP, to render approval for the launch or, if I deem it advisable, to forward the matter to the President for approval.

The approval process is based on three key documents. First, an Environmental Impact Statement is completed by the agency sponsoring the mission. Second, the Department of Energy completes a Safety Analysis Report (SAR). This is a comprehensive safety assessment demonstrating that the mission has met all of DOE's safety regulations. Third, an interagency panel composed of experts from DOE, NASA, DoD, the Nuclear Regulatory Commission and the EPA conduct an independent assessment (called a Safety Evaluation Report) of the DOE safety analysis. These reports along with a written request for approval to launch are forwarded to OSTP by the sponsoring agency.

Since we have been in office, I have acted on only one mission, the NASA Mars Pathfinder. This mission, slated for launch next month, uses an extremely small amount of radioactive material (8 grams) to heat electronic components on the spacecraft. By contrast, the Russian mission carried approximately 200 grams. For this reason, and consistent with PD/NSC-25, I approved the launch as a case not requiring the President's approval.

Next year, however, the United States will launch the Cassini spacecraft to Saturn. The Cassini mission, scheduled for launch in October/November of 1997, will carry approximately 32 kgs of plutonium (approximately 70 pounds). I expect to receive DOE's safety analysis and the interagency safety evaluation no less than 90 days prior to launch.

Once I have reviewed the safety analysis, I will forward the decision for launch approval to the President with an appropriate recommendation.

It is likely that we will face litigation from groups attempting to stop the Cassini launch. The last major mission the United States launched containing a significant amount of radioactive material was the Galileo mission in 1989 to Jupiter. Prior to Galileo's launch, the Department of Justice and NASA prevailed in law suits attempting to block the launch. They are prepared to handle similar litigation for Cassini.

Please feel free to contact me regarding the safety review process or with any questions you may have on the Cassini mission. My staff point of contact on these issues is Mr. Jeff Hofgard at 456-6043.

cc: Robert Bell
Erskine Bowles
Mike McCurry
Leon Fuerth