THE WHITE HOUSE

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NATIONAL SECURITY PRESIDENTIAL DIRECTIVE/NSPD-31

MEMORANDUM FOR THE VICE PRESIDENT
THE SECRETARY OF STATE
THE SECRETARY OF THE TREASURY
THE SECRETARY OF DEFENSE
THE ATTORNEY GENERAL
THE SECRETARY OF COMMERCE
THE SECRETARY OF TRANSPORTATION
THE SECRETARY OF ENERGY
THE SECRETARY OF HOMELAND SECURITY
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET
ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS
ASSISTANT TO THE PRESIDENT FOR DOMESTIC POLICY
ASSISTANT TO THE PRESIDENT FOR HOMELAND SECURITY
ASSISTANT TO THE PRESIDENT FOR ECONOMIC POLICY
DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY POLICY
DIRECTOR OF CENTRAL INTELLIGENCE
CHAIRMAN OF THE JOINT CHIEFS OF STAFF
ADMINISTRATOR, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
DIRECTOR, NATIONAL SCIENCE FOUNDATION

SUBJECT: U.S. Space Exploration Policy

This directive establishes U.S. policy, guidelines, and implementation actions for space exploration. This document supplements Presidential Decision Directive/NSC-49/NSTC-8, National Space Policy, Section II, Civil Space Guidelines. To the extent that these, or other existing presidential directives, are inconsistent with this directive, this directive will be the controlling authority.

The monitoring and suggestions for revisions and supplementation of this document shall be the joint responsibility of the National Security Council and the Domestic Policy Council, in cooperation with other agencies as appropriate.

I. Background

From the Apollo landings on the Moon, to robotic surveys of the Sun and the planets, to the compelling images captured by advanced space telescopes, U.S. achievements in space have revolutionized humanity's view of the universe and have inspired Americans and people around the world. These achievements also have led to the development of technologies that have widespread applications to address problems on Earth. As the world enters the second century of powered flight, it is time to articulate a new vision that will define and guide U.S. space exploration activities for the next several decades.

Today, humanity has the potential to seek answers to the most fundamental questions posed about the origins of the universe and the existence of life beyond Earth. Telescopes have found planets around other stars. Robotic probes have identified potential resources on the Moon, and evidence of water -- a key ingredient for life -- has been found on Mars and the moons of Jupiter.

Direct human experience in space has fundamentally altered our perspective of humanity and our place in the universe. Humans have the ability to respond to the unexpected developments inherent in space travel and possess unique skills that enhance discoveries. Just as Mercury, Gemini, and Apollo challenged a generation of Americans, a renewed U.S. space exploration program with a significant human component can inspire us -- and our youth -- to greater achievements on Earth and in space.

The loss of Space Shuttles *Challenger* and *Columbia* and their crews are a stark reminder of the inherent risks of space flight and the severity of the challenges posed by space exploration. In preparation for future human exploration, we must advance our ability to live and work safely in space and, at the same time, develop the technologies to extend humanity's reach to the Moon, Mars, and beyond. The new technologies required for further space exploration also will improve the Nation's other space activities and may provide applications that could be used to address problems on Earth.

Like the explorers of the past and the pioneers of flight in the last century, we cannot today identify all that we will gain from space exploration; we are confident, nonetheless, that the eventual return will be great. Like their efforts, the success of future U.S. space exploration will unfold over generations.

II. Policy Goal and Objectives

The fundamental goal of this policy is to advance U.S. scientific, security, and economic interests through a robust space exploration program. In support of this goal, the United States will:

- Implement a sustained and affordable human and robotic program to explore the solar system and beyond;
- Extend human presence across the solar system, starting with a human return to the Moon by the year 2020, in preparation for human exploration of Mars and other destinations;
- Develop the innovative technologies, knowledge, and infrastructures both to explore and to support decisions about the destinations for human exploration; and
- Promote international and commercial participation in exploration to further U.S. scientific, security, and economic interests.

III. Implementation Guidelines

The Administrator of the National Aeronautics and Space Administration will be responsible for the plans, programs, and activities required to implement this policy, in coordination with other agencies, as deemed appropriate. The Administrator will plan and implement an integrated, long-term robotic and human exploration program structured with measurable milestones and executed on the basis of available resources, accumulated experience, and technology readiness.

To implement the goal and objectives of this policy, the Administrator will conduct the following activities and take other actions as required:

A. Exploration Activities in Low Earth Orbit

1. Space Shuttle

- Return the Space Shuttle to flight as soon as practical, based on the recommendations of the Columbia Accident Investigation Board;

- Focus use of the Space Shuttle to complete assembly of the International Space Station; and

- Retire the Space Shuttle as soon as assembly of the International Space Station is completed, planned for the end of this decade;

2. International Space Station

- Complete assembly of the International Space Station, including the U.S. components that support U.S. space exploration goals and those provided by foreign partners, planned for the end of this decade;

- Focus U.S. research and use of the International Space Station on supporting space exploration goals, with emphasis on understanding how the space environment affects astronaut health and capabilities and developing countermeasures; and

- Conduct International Space Station activities in a manner consistent with U.S. obligations contained in the agreements between the United States and other partners in the International Space Station.

B. Space Exploration Beyond Low Earth Orbit

1. The Moon

- Undertake lunar exploration activities to enable sustained human and robotic exploration of Mars and more distant destinations in the solar system;

- Starting no later than 2008, initiate a series of robotic missions to the Moon to prepare for and support future human exploration activities;

- Conduct the first extended human expedition to the lunar surface as early as 2015, but no later than the year 2020; and

- Use lunar exploration activities to further science, and to develop and test new approaches, technologies, and systems, including use of lunar and other space resources, to support sustained human space exploration to Mars and other destinations.

2. Mars and Other Destinations

- Conduct robotic exploration of Mars to search for evidence of life, to understand the history of the solar system, and to prepare for future human exploration;

- Conduct robotic exploration across the solar system for scientific purposes and to support human exploration. In particular, explore Jupiter's moons, asteroids and other bodies to search for evidence of life, to understand the history of the solar system, and to search for resources;

- Conduct advanced telescope searches for Earth-like planets and habitable environments around other stars;

- Develop and demonstrate power generation, propulsion, life support, and other key capabilities required to support more distant, more capable, and/or longer duration human and robotic exploration of Mars and other destinations; and

- Conduct human expeditions to Mars after acquiring adequate knowledge about the planet using robotic missions and after successfully demonstrating sustained human exploration missions to the Moon.

C. Space Transportation Capabilities Supporting Exploration

- Develop a new crew exploration vehicle to provide crew transportation for missions beyond low Earth orbit;

  - Conduct the initial test flight before the end of this decade in order to provide an operational capability to support human exploration missions no later than 2014;

- Separate to the maximum practical extent crew from cargo transportation to the International Space Station and for launching exploration missions beyond low Earth orbit;

  - Acquire cargo transportation as soon as practical and affordable to support missions to and from the International Space Station; and

  - Acquire crew transportation to and from the International Space Station, as required, after the Space Shuttle is retired from service.

D. International and Commercial Participation

- Pursue opportunities for international participation to support U.S. space exploration goals; and

- Pursue commercial opportunities for providing transportation and other services supporting the International Space Station and exploration missions beyond low Earth orbit.