

“(3) TERMINATION OF OFFICE.—The office established under paragraph (1) shall terminate 2 years after the completion of the last Space Shuttle flight.

“(4) SUBMISSION.—Not later than 180 days after the date of enactment of this Act [Oct. 15, 2008], NASA shall provide a copy of the plan required by paragraph (1) to the Congress.”

Pub. L. 110-161, div. B, title III, Dec. 26, 2007, 121 Stat. 1919, provided that: “The Administrator of the National Aeronautics and Space Administration shall prepare a strategy for minimizing job losses when the National Aeronautics and Space Administration transitions from the Space Shuttle to a successor human-rated space transport vehicle. This strategy shall include: (1) specific initiatives that the National Aeronautics and Space Administration has undertaken, or plans to undertake, to maximize the utilization of existing civil service and contractor workforces at each of the affected Centers; (2) efforts to equitably distribute tasks and workload between the Centers to mitigate the brunt of job losses being borne by only certain Centers; (3) new workload, tasks, initiatives, and missions being secured for the affected Centers; and (4) overall projections of future civil service and contractor workforce levels at the affected Centers. The Administrator shall transmit this strategy to Congress not later than 90 days after the date of enactment of this Act [Dec. 26, 2007]. The Administrator shall update and transmit to Congress this strategy not less than every six months thereafter until the successor human-rated space transport vehicle is fully operational.”

Pub. L. 109-155, title V, §502, Dec. 30, 2005, 119 Stat. 2928, provided that:

“(a) IN GENERAL.—The Administrator [of the National Aeronautics and Space Administration] shall, to the fullest extent possible consistent with a successful development program, use the personnel, capabilities, assets, and infrastructure of the Space Shuttle program in developing the Crew Exploration Vehicle, Crew Launch Vehicle, and a heavy-lift launch vehicle.

“(b) PLAN.—Not later than 180 days after the date of enactment of this Act [Dec. 30, 2005], the Administrator shall transmit to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan describing how NASA [National Aeronautics and Space Administration] will proceed with its human space flight programs, which, at a minimum, shall describe—

“(1) how NASA will deploy personnel from, and use the facilities of, the Space Shuttle program to ensure that the Space Shuttle operates as safely as possible through its final flight and to ensure that personnel and facilities from the Space Shuttle program are used in NASA’s exploration programs in accordance with subsection (a);

“(2) the planned number of flights the Space Shuttle will make before its retirement;

“(3) the means, other than the Space Shuttle and the Crew Exploration Vehicle, including commercial vehicles, that may be used to ferry crew and cargo to and from the ISS [International Space Station];

“(4) the intended purpose of lunar missions and the architecture for those missions; and

“(5) the extent to which the Crew Exploration Vehicle will allow for the escape of the crew in an emergency.

“(c) PERSONNEL.—The Administrator shall consult with other appropriate Federal agencies and with NASA contractors and employees to develop a transition plan for any Federal and contractor personnel engaged in the Space Shuttle program who can no longer be retained because of the retirement of the Space Shuttle. The plan shall include actions to assist Federal and contractor personnel in taking advantage of training, retraining, job placement and relocation programs, and any other actions that NASA will take to assist the employees. The plan shall also describe how the Administrator will ensure that NASA and its con-

tractors will have an appropriate complement of employees to allow for the safest possible use of the Space Shuttle through its final flight. The Administrator shall transmit the plan to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than March 31, 2006.”

§ 70502. Exploration plan and programs

The Administrator shall—

(1) construct an architecture and implementation plan for the Administration’s human exploration program that is not critically dependent on the achievement of milestones by fixed dates;

(2) implement an exploration technology development program to enable lunar human and robotic operations consistent with section 20302(b) of this title, including surface power to use on the Moon and other locations;

(3) conduct an in-situ resource utilization technology program to develop the capability to use space resources to increase independence from Earth, and sustain exploration beyond low-Earth orbit; and

(4) pursue aggressively automated rendezvous and docking capabilities that can support the International Space Station and other mission requirements.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3430.)

HISTORICAL AND REVISION NOTES

Table with 3 columns: Revised Section, Source (U.S. Code), Source (Statutes at Large). Row 1: 70502, 42 U.S.C. 16763, Pub. L. 109-155, title V, §503, Dec. 30, 2005, 119 Stat. 2929.

§ 70503. Ground-based analog capabilities

(a) IN GENERAL.—The Administrator may establish a ground-based analog capability in remote United States locations in order to assist in the development of lunar operations, life support, and in-situ resource utilization experience and capabilities.

(b) ENVIRONMENTAL CHARACTERISTICS.—The Administrator shall select locations for the activities described in subsection (a) that—

(1) are regularly accessible;

(2) have significant temperature extremes and range; and

(3) have access to energy and natural resources (including geothermal, permafrost, volcanic, or other potential resources).

(c) INVOLVEMENT OF LOCAL POPULATIONS AND PRIVATE SECTOR PARTNERS.—In carrying out this section, the Administrator shall involve local populations, academia, and industrial partners as much as possible to ensure that ground-based benefits and applications are encouraged and developed.

(Pub. L. 111-314, §3, Dec. 18, 2010, 124 Stat. 3430.)

HISTORICAL AND REVISION NOTES

Table with 3 columns: Revised Section, Source (U.S. Code), Source (Statutes at Large). Row 1: 70503, 42 U.S.C. 16764, Pub. L. 109-155, title V, §504, Dec. 30, 2005, 119 Stat. 2929.

**§ 70504. Stepping stone approach to exploration**

In order to maximize the cost-effectiveness of the long-term exploration and utilization activities of the United States, the Administrator shall take all necessary steps, including engaging international partners, to ensure that activities in its lunar exploration program shall be designed and implemented in a manner that gives strong consideration to how those activities might also help meet the requirements of future exploration and utilization activities beyond the Moon. The timetable of the lunar phase of the long-term international exploration initiative shall be determined by the availability of funding. However, once an exploration-related project enters its development phase, the Administrator shall seek, to the maximum extent practicable, to complete that project without undue delays.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
70504 .....	42 U.S.C. 17731.	Pub. L. 110–422, title IV, § 403, Oct. 15, 2008, 122 Stat. 4789.

**§ 70505. Lunar outpost**

(a) ESTABLISHMENT.—As the Administration works toward the establishment of a lunar outpost, the Administration shall make no plans that would require a lunar outpost to be occupied to maintain its viability. Any such outpost shall be operable as a human-tended facility capable of remote or autonomous operation for extended periods.

(b) DESIGNATION.—The United States portion of the first human-tended outpost established on the surface of the Moon shall be designated the “Neil A. Armstrong Lunar Outpost”.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
70505(a) .....	42 U.S.C. 17732(a).	Pub. L. 110–422, title IV, § 404(a), (b), Oct. 15, 2008, 122 Stat. 4789.
70505(b) .....	42 U.S.C. 17732(b).	

**§ 70506. Exploration technology research**

The Administrator shall carry out a program of long-term exploration-related technology research and development, including such things as in-space propulsion, power systems, life support, and advanced avionics, that is not tied to specific flight projects. The program shall have the funding goal of ensuring that the technology research and development can be completed in a timely manner in order to support the safe, successful, and sustainable exploration of the solar system. In addition, in order to ensure that the broadest range of innovative concepts and technologies are captured, the long-term technology program shall have the goal of having a significant portion of its funding available for external grants and contracts with universities, research institutions, and industry.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
70506 .....	42 U.S.C. 17733(b).	Pub. L. 110–422, title IV, § 405(b), Oct. 15, 2008, 122 Stat. 4789.

PURPOSE

Pub. L. 110–422, title IV, § 405(a), Oct. 15, 2008, 122 Stat. 4789, provided that: “A robust program of long-term exploration-related technology research and development will be essential for the success and sustainability of any enduring initiative of human and robotic exploration of the solar system.”

INNOVATIVE TECHNOLOGIES FOR HUMAN SPACE FLIGHT

Pub. L. 106–391, title III, § 313, Oct. 30, 2000, 114 Stat. 1594, provided that:

“(a) ESTABLISHMENT OF PROGRAM.—In order to promote a ‘faster, cheaper, better’ approach to the human exploration and development of space, the Administrator [of the National Aeronautics and Space Administration] shall establish a Human Space Flight Innovative Technologies program of ground-based and space-based research and development in innovative technologies. The program shall be part of the Technology and Commercialization program.

“(b) AWARDS.—At least 75 percent of the amount appropriated for Technology and Commercialization under section 101(b)(4) [114 Stat. 1581] for any fiscal year shall be awarded through broadly distributed announcements of opportunity that solicit proposals from educational institutions, industry, nonprofit institutions, National Aeronautics and Space Administration Centers, the Jet Propulsion Laboratory, other Federal agencies, and other interested organizations, and that allow partnerships among any combination of those entities, with evaluation, prioritization, and recommendations made by external peer review panels.

“(c) PLAN.—The Administrator shall provide to the Committee on Science [now Committee on Science, Space, and Technology] of the House of Representatives and to the Committee on Commerce, Science, and Transportation of the Senate, not later than December 1, 2000, a plan to implement the program established under subsection (a).”

**§ 70507. Technology development**

The Administrator shall establish an intra-Directorate long-term technology development program for space and Earth science within the Science Mission Directorate for the development of new technology. The program shall be independent of the flight projects under development. The Administration shall have a goal of funding the intra-Directorate technology development program at a level of 5 percent of the total Science Mission Directorate annual budget. The program shall be structured to include competitively awarded grants and contracts.

(Pub. L. 111–314, § 3, Dec. 18, 2010, 124 Stat. 3431.)

HISTORICAL AND REVISION NOTES

<i>Revised Section</i>	<i>Source (U.S. Code)</i>	<i>Source (Statutes at Large)</i>
70507 .....	42 U.S.C. 17741.	Pub. L. 110–422, title V, § 501, Oct. 15, 2008, 122 Stat. 4791.

**§ 70508. Robotic or human servicing of spacecraft**

The Administrator shall take all necessary steps to ensure that provision is made in the design and construction of all future observatory-