

108TH CONGRESS  
1ST SESSION

# S. 1821

To establish a National Space Commission on activities of the United States  
related to the future of space.

---

## IN THE SENATE OF THE UNITED STATES

NOVEMBER 5, 2003

Mr. HOLLINGS (for himself, Mr. INOUE, Mr. ROCKEFELLER, Mr. KERRY,  
Mr. BREAUX, Mr. DORGAN, and Mr. LAUTENBERG) introduced the fol-  
lowing bill; which was read twice and referred to the Committee on Com-  
merce, Science, and Transportation

---

## A BILL

To establish a National Space Commission on activities of  
the United States related to the future of space.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

### 3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Space Com-  
5 mission Act”.

### 6 **SEC. 2. FINDINGS.**

7 The Congress finds the following:

8 (1) Since the enactment of the National Aero-  
9 nautics and Space Act of 1958, space has become

1 increasingly important for science, public safety, na-  
2 tional defense and intelligence gathering, commercial  
3 telecommunications and other Earth applications,  
4 and the advancement of international relations tied  
5 to the use of space for peaceful purposes.

6 (2) The recent loss of the Space Shuttle Colum-  
7 bia highlighted the true condition of space flight:  
8 that it is highly prone to risk, fundamentally chal-  
9 lenges the laws of nature, is extremely unforgiving  
10 of lapses in judgment, and demands the utmost con-  
11 sideration of safety and the dignity of human life.

12 (3) The Columbia Accident Investigation Board  
13 expressed extreme misgivings about the management  
14 and technical culture of the National Aeronautics  
15 and Space Administration. In addition to prescribing  
16 a specific menu of recommendations, the Board ex-  
17 pressed concerns that the agency may not be able to  
18 achieve its own reform, stating that, “Based on  
19 NASA’s history of ignoring external recommenda-  
20 tions, or making improvements that atrophy with  
21 time, the Board has no confidence that the Space  
22 Shuttle can be safely operated for more than a few  
23 years based solely on renewed post-accident vigi-  
24 lance”.

1           (4) Today, American astronauts and Inter-  
2           national Partner cosmonauts reside in space with  
3           limited means of safe rescue and support. The Na-  
4           tion remains dependent on the Space Shuttle as the  
5           sole means of International Space Station assembly  
6           and human operation in space for the foreseeable fu-  
7           ture. And the Nation faces a period of greatly in-  
8           creased expense merely to sustain current space op-  
9           erations.

10          (5) Even if new vehicle technologies were avail-  
11          able, it is a matter of public discussion whether the  
12          historic ideals and prospects for the human explo-  
13          ration and development of space still guide our na-  
14          tional program in space or whether the role and pur-  
15          pose of human presence in space has become ambigu-  
16          ous in light of other potential purposes for and  
17          uses of space.

18          (6) Meanwhile, our national program in space  
19          suffers from an aging space workforce and aging,  
20          sometimes dilapidated space facilities and systems,  
21          an atrophying of expertise, and a general lack of re-  
22          newal of purposes, objectives, and methods. Com-  
23          mercial markets requiring space launch that are cru-  
24          cial to establishing the firm economic basis for the  
25          development of space and for the commercial devel-

1        opment of space technology have not emerged but  
 2        have withered. Although the use of space for science  
 3        and national security purposes is expanding, the eco-  
 4        nomic and commercial development of space con-  
 5        tinues to be fledgling. Although the Nation stands  
 6        on the doorstep of the permanent human habitation  
 7        of space, a mature agenda for safe, economic oper-  
 8        ation in space necessary to broaden the Nation's  
 9        participation and interest in the peaceful develop-  
 10      ment of space is lacking.

11            (7) The Nation would benefit by establishing a  
 12      permanent National Space Commission to advise the  
 13      President and Congress on issues related to the re-  
 14      flight and future use of the Space Shuttle and on  
 15      the possibilities for the future development and use  
 16      of space, and to recommend measures the Nation  
 17      should take to secure the safety of future space  
 18      flight.

19    **SEC. 3. NATIONAL SPACE COMMISSION.**

20            (a) ESTABLISHMENT.—There is established a com-  
 21      mission to be known as National Space Commission.

22            (b) MEMBERSHIP.—

23            (1) APPOINTMENT.—The Commission shall  
 24      have 12 Members, who shall be appointed by the

1 President by and with the advice and consent of the  
2 Senate.

3 (2) TERM.—Members of the Commission shall  
4 serve for a term of 5 years and shall be eligible for  
5 reappointment, except that the members initially ap-  
6 pointed shall be appointed for terms of 3 years each.

7 (3) QUALIFICATIONS.—Members shall be se-  
8 lected from among individuals—

9 (A) with national reputations in the con-  
10 duct of space flight and the development of  
11 space systems and technology;

12 (B) who are representative of the many  
13 views about the future of space and the eco-  
14 nomic and technical prospects for its use and  
15 development; and

16 (C) who are or have been employed in  
17 space-related activities, including—

18 (i) leaders of aerospace companies and  
19 other industries involved in the develop-  
20 ment and use of space;

21 (ii) professionals who have performed  
22 in significant capacities in the management  
23 of space programs or ventures; and

24 (iii) distinguished members of aca-  
25 demia.

1           (4) VACANCIES.—Any vacancy occurring other  
2           than by the expiration of a term shall be filled in a  
3           manner that best replaces the qualifications of the  
4           person vacating the position, unless a person with  
5           different qualifications is to be nominated and ap-  
6           pointed for the purpose of changing or re-directing  
7           the activities or objectives of the Commission.

8           (5) STATUS AS SPECIAL GOVERNMENT EMPLOY-  
9           EES.—Members of the Commission are deemed to be  
10          special Government employees (as defined in section  
11          202(a) of title 18, United States Code) without re-  
12          gard to the number of days of service during any  
13          365-day period while engaged in the business of the  
14          Commission.

15          (6) TRAVEL EXPENSES.—Members of the Com-  
16          mission shall be allowed travel expenses, including  
17          per diem in lieu of subsistence, at rates authorized  
18          for employees of agencies under subchapter I of  
19          chapter 57 of title 5, United States Code, while  
20          away from their homes or regular places of business.

21          (c) CHAIR.—The President shall designate an indi-  
22          vidual to serve as Chair of the Commission for a term of  
23          3 years, except that until the Commission has been in op-  
24          eration for 3 full years the term of the individual so des-

1 ignated shall be 1 year. Any individual designated as chair  
 2 is eligible for redesignation as Chair.

3 (d) MEETINGS.—The Commission shall meet at the  
 4 call of the Chair. A majority of the members shall con-  
 5 stitute a quorum, but a lesser number may conduct the  
 6 business of the Commission.

7 (e) STAFF.—

8 (1) IN GENERAL.—The Commission shall ap-  
 9 point and fix the compensation (in accordance with  
 10 the guidelines prescribed by the Administrator of  
 11 General Services under section 7(d) of the Federal  
 12 Advisory Committee Act) of staff comprising—

13 (A) staff selected by the Chair as perma-  
 14 nent staff of the Commission; and

15 (B) staff selected by each Member as staff  
 16 of the Member for the duration of the Mem-  
 17 ber's appointment to the Commission.

18 (2) QUALIFICATIONS.—Staff shall be selected  
 19 from among employees of business and professional  
 20 firms in the business of the development of, manu-  
 21 facture and operation for, or use of space, individ-  
 22 uals with entrepreneurial experience, employees of  
 23 research centers and national laboratories, scholars,  
 24 professionals, and academics whose work and in-  
 25 sights are such that their work in support of the

1 Commission will enhance the Nation's ability to  
2 guide and direct the space program.

3 (3) DETAILING OF FEDERAL EMPLOYEES.—At  
4 the request of the Commission, the head of a Fed-  
5 eral department or agency may assign an employee  
6 to serve as a member of the Commission staff while  
7 employed by the United States.

8 (4) EXPERTS AND CONSULTANTS.—

9 (A) IN GENERAL.—The Commission may  
10 obtain the services of experts and consultants in  
11 the private and nonprofit sectors in accordance  
12 with section 3109 of title 5, United States  
13 Code.

14 (B) AVAILABLE ARRANGEMENTS.—In ob-  
15 taining any service described in subparagraph  
16 (A), the Commission may use any available  
17 grant, contract, cooperative agreement, or other  
18 arrangement authorized by law.

19 (C) NOTICE.—The Commission shall give  
20 public notice of any such grant, contract, coop-  
21 erative agreement, or other arrangement before  
22 making any such grant or executing any such  
23 contract, cooperative agreement, or other ar-  
24 rangement.



1 **SEC. 4. GENERAL DUTIES.**

2 (a) IN GENERAL.—The Commission shall—

3 (1) provide advice and counsel to the President  
4 and the Congress of the United States on matters  
5 related to the future development and use of space;

6 (2) address questions of special merit posed by  
7 the President or by the Congress to be addressed by  
8 the Commission;

9 (3) conduct studies, assessments, and other  
10 methods of evaluation, including market, business,  
11 and financial assessments, necessary to reach con-  
12 clusions and to formulate recommendations about  
13 the future of space;

14 (4) convene and establish public forums, re-  
15 views, and other means of public discourse for pur-  
16 poses of gathering and distributing information,  
17 facts, opinions, and data related to the future of  
18 space;

19 (5) confer with Federal, State, and local gov-  
20 ernments and regional organizations, United States  
21 corporations, laboratories, research centers and uni-  
22 versities, and appropriate departments, agencies,  
23 and enterprises of other Nations on questions re-  
24 lated to the development and use of space;

25 (6) make other recommendations as necessary  
26 to achieve the expanded development and use of

1 space, including assessments of the status, focus,  
2 and effectiveness of government and industry pro-  
3 grams and efforts designed to achieve that purpose;

4 (7) propose and establish a National approach  
5 for the safety of space flight in support of commer-  
6 cial, military and civilian space and suborbital space  
7 programs, including issues related to the commercial  
8 licensing and operation of space vehicles, the regula-  
9 tion, management, and control of space flight parts,  
10 components, systems, and facilities, and the training  
11 and advancement of government and industry per-  
12 sonnel necessary to achieve safe space flight; and

13 (8) advise the President and the Congress on  
14 any changes in Federal law or international agree-  
15 ments necessary to achieve the recommendations, so-  
16 lutions, and outcomes proposed by the Commission.

17 (b) METHODS OF SPACE FLIGHT.—In carrying out  
18 its duties under subsection (a), the Commission shall con-  
19 sider the potential for the future use of space by human  
20 and robotic means and the likely contribution of both to  
21 the long-term development and use of space.

22 (c) DISCLAIMER.—Nothing in this Act is intended—

23 (1) to prejudice the disposition, or outcome of  
24 decisions related to the ownership or institutional

1 operation and support, of Federal laboratories, cen-  
2 ters, or bases; or

3 (2) to preclude the use of special classes, de-  
4 signs, or certification rules and standards peculiar to  
5 the use of military space vehicles.

6 **SEC. 5. SPECIFIC REPORTS AND ADVISORY ACTIVITIES.**

7 (a) SPACE SHUTTLE; INTERNATIONAL SPACE STA-  
8 TION.—

9 (1) IN GENERAL.—The Commission shall evalu-  
10 ate the findings, recommendations, and observations  
11 of the Columbia Accident Investigation Board and  
12 the activities of the National Aeronautics and Space  
13 Administration to respond to the Board's report, in-  
14 cluding issues related to the re-flight of the Space  
15 Shuttle, alternative near-term crewed vehicle op-  
16 tions, and changes in the agency's organization,  
17 management, technical administration, and conduct  
18 of safety, operations and engineering, and training,  
19 and other changes intended to ensure the safety of  
20 space operations and the dignity of human life.

21 (2) CRITERIA FOR RETURN TO OPERATIONS.—  
22 The Commission shall make recommendations to the  
23 President and the Congress concerning—

24 (A) any additional criteria and conditions  
25 that the Commission considers critical for the

1 safe operation of the Space Shuttle that war-  
2 rant demonstration during the initial and sub-  
3 sequent return-to-flight test and demonstration  
4 missions; and

5 (B) longer-term criteria and conditions  
6 necessary for a return to sustained operation  
7 and management of human space flight fol-  
8 lowing the initial Space Shuttle re-flight and  
9 test and demonstration flights.

10 (3) EVALUATION OF HUMAN SPACE FLIGHT  
11 MANAGEMENT REFORMS.—The Commission shall as-  
12 sess—

13 (A) the capability of the National Aero-  
14 nautic and Space Administration to resolve all  
15 findings, recommendations, and observations of  
16 the Columbia Accident Investigation Board to  
17 the Commission's satisfaction, including man-  
18 agement and technical reforms necessary to  
19 achieve safe space flight;

20 (B) the relationship of the National Aero-  
21 nautic and Space Administration to its indus-  
22 trial, scientific, and commercial partners and  
23 the proper role of each party in the selection,  
24 design, development, and operation of high risk  
25 space flight systems; and

1 (C) additional workforce, organization, and  
2 management reforms that may be required to  
3 enhance further the ability of the National  
4 Aeronautic and Space Administration, its part-  
5 ners, or other agencies of the United States to  
6 achieve safety of human space flight.

7 (4) CONSIDERATION OF THE INTERNATIONAL  
8 SPACE STATION AND ALTERNATIVE SPACE TRANS-  
9 PORTATION SOLUTIONS.—In making its evaluation  
10 and recommendations under this subsection the  
11 Commission shall consider—

12 (A) the condition of the International  
13 Space Station along with the further risk to or  
14 security of human life resulting from any deci-  
15 sion to accelerate or slow the return to assem-  
16 bly and operation of the International Space  
17 Station and sustained human space flight oper-  
18 ations;

19 (B) alternative space vehicle and crewing  
20 options that meet the highest achievable stand-  
21 ard of crew safety and security on-board the  
22 International Space Station in the shortest  
23 amount of time;

24 (C) the modification or purchase of exist-  
25 ing space vehicles necessary to achieve a higher

1 standard of heightened crew safety or enhanced  
2 ability to conduct safe human space flight oper-  
3 ations;

4 (D) the acquisition or development of  
5 crewed vehicles on a schedule significantly more  
6 aggressive than the proposed schedule of the  
7 Orbital Space Plane; and

8 (E) the contribution of any proposed vehi-  
9 cle options to purposes in space other than  
10 servicing and support of the International  
11 Space Station.

12 (5) REPORTS TO CONGRESS.—

13 (A) ALTERNATIVE MEANS OF CREW  
14 TRANSFER.—Within 3 months after the full  
15 Commission has taken office, it shall report to  
16 the President and the Congress on crewing op-  
17 tions for the Space Shuttle during the period of  
18 assembly of the International Space Station, al-  
19 ternative interim use of available space vehicles  
20 for these operations, and alternative or acceler-  
21 ated United States crewed vehicle modification  
22 or development options in lieu of or in addition  
23 to the proposed Orbital Space Plane program.

24 (B) SPACE SHUTTLE RETURN-TO-  
25 FLIGHT.—

1 (i) PREFLIGHT ADVICE.—On a contin-  
2 uous basis from the initial return-to-flight  
3 mission of the Space Shuttle through the  
4 final such mission, the Commission shall  
5 advise the Administrator, the President,  
6 and the Congress of the results of its re-  
7 view and assessment of the Space Shuttle  
8 return-to-flight, including any additional  
9 criteria the Commission establishes for re-  
10 turn-to-flight missions.

11 (ii) FINAL PREFLIGHT RECOMMENDA-  
12 TION.—Within 60 days before the planned  
13 date for the first Space Shuttle return-to-  
14 flight, and within 30 days before each sub-  
15 sequent test or demonstration flight of the  
16 Space Shuttle, the Commission shall trans-  
17 mit its final recommendations for return-  
18 to-flight to the Administrator, the Presi-  
19 dent, and the Congress. In addition, the  
20 Commission shall attach to each such  
21 transmittal to the President and the Con-  
22 gress a record of its recommendations to  
23 the Administrator and a description of the  
24 Administrator's responses and actions in  
25 response to those recommendations.

(iii) POST-RESUMPTION ANALYSIS.—

Within 6 months after the first successful return-to-flight mission of the Space Shuttle, the Commission shall submit a report to the President and the Congress summarizing the Commission's and the National Aeronautics and Space Administration's work on the re-flight of the Space Shuttle and addressing further changes that should be accomplished to ensure safe continuous operation of the Space Shuttle and the International Space Station. The report shall address the status of organizational, management, and technical changes in the National Aeronautics and Space Administration, their effectiveness in resolving concerns about the safety, operations, engineering, and management cultures of the agency, and their effectiveness in resolving concerns and risks associated with a return-to-normal operations for the Space Shuttle and the International Space Station.

(b) FUTURE LAUNCH TECHNOLOGY AND THE DE-

VELOPMENT OF AND USES FOR SPACE.—



1 (1) IN GENERAL.—The Commission shall—

2 (A) advise the President and the Congress  
3 on the state of the Nation’s investment in and  
4 development of advanced space launch tech-  
5 nology, including advanced space lift propulsion  
6 systems;

7 (B) make recommendations on steps nec-  
8 essary to accelerate the development of tech-  
9 nologies and capabilities to advance the econ-  
10 omy of space flight and the prospect for the ex-  
11 panded use of space for economic, commercial,  
12 and industrial purposes;

13 (C) assess how State and local govern-  
14 ments and regional authorities might benefit  
15 from the expanded use of space;

16 (D) evaluate the ability of the Nation’s pri-  
17 vate research centers, laboratories, and private  
18 and public universities to contribute to and ben-  
19 efit from the expanded development and use of  
20 space;

21 (E) assess the future use of space for ex-  
22 ploration, science, research, national security,  
23 and public safety ensure that such uses are con-  
24 sistent with the long-term economic develop-  
25 ment of space, and are designed to enhance the

1 industrial and commercial capabilities of space  
2 flight whenever possible; and

3 (F) make detailed recommendations re-  
4 lated to the use of budget, regulatory, and li-  
5 censing powers and authorities of the United  
6 States to enhance, to better plan for, and to co-  
7 ordinate the activities of the United States re-  
8 lated to the development and use of space.

9 (2) REPORT TO CONGRESS.—By September 1,  
10 2005, the Commission shall transmit to the Con-  
11 gress a report that—

12 (A) summarizes its recommendations for  
13 future national goals for the development and  
14 use of space;

15 (B) provides a blueprint of capabilities that  
16 could and should be achieved by the end of the  
17 present decade, by 2015, and by 2025 in order  
18 to better position the Nation to achieve those  
19 goals; and

20 (C) addresses potential markets and uses  
21 for space and the means of financing the devel-  
22 opment and use of space.

23 (c) NATIONAL APPROACH TO THE SAFETY OF SPACE  
24 FLIGHT.—

1           (1) IN GENERAL.—The Commission shall con-  
2       duct a review and assessment of the Nation’s pro-  
3       gram of safety in space flight as conducted by the  
4       United States, the commercial space industry, and  
5       other private parties.

6           (2) CONTENTS.—The review and assessment  
7       shall—

8                (A) assess the current use of inspection,  
9       acceptance, and commercial licensing to certify  
10      the safety, flight worthiness, and flight readi-  
11      ness of space vehicles and their associated  
12      launch and ground control facilities;

13              (B) evaluate and compare current space  
14      launch and flight operations practices, including  
15      the promulgation of flight rules and over-flight  
16      plans of populated areas;

17              (C) assess and compare how Federal agen-  
18      cies, private launch operators, and commercial  
19      industry make determinations of flight worthi-  
20      ness and ground and flight system readiness,  
21      including the use of tests, analyses, demonstra-  
22      tions, and other means whereby the operational  
23      readiness of space vehicles, crew, and ground  
24      systems are verified to be ready for launch and  
25      operation;

1 (D) address current government and in-  
2 dustry practices for conducting and coordi-  
3 nating design and decision rules within and  
4 among space management agencies, firms, orga-  
5 nizations, and ground control and flight oper-  
6 ations management centers before, during, and  
7 after flight; and

8 (E) assess practices and conditions related  
9 to the acquisition and sale of parts, compo-  
10 nents, systems, services, and capabilities among  
11 Industry prime and supplier contractors and  
12 the Federal Government, including outsourcing,  
13 sole source, and other competitive and non-com-  
14 petitive forms of relationship, and their impact  
15 upon safety.

16 (3) REPORT TO CONGRESS.—No later than Sep-  
17 tember 1, 2005, the Commission shall transmit to  
18 the Congress a report that—

19 (A) summarizes the results of the review  
20 and assessment required by paragraph (1); and

21 (B) makes recommendations for a National  
22 program of—

23 (i) management of safe commercial,  
24 civil, and military space flight; and

(ii) regulation of the design, certification, or licensing of space flight systems for launch and landing over the United States, or for orbital or suborbital operation using crew or passengers aboard commercial or civil vehicles licensed or operated by the United States.

(d) ANNUAL REPORT.—In addition to other reports required or permitted under this Act, within 60 days after the end of each fiscal year, the Commission shall provide an annual report to the Congress that—

(1) summarizes its activities, reports, findings, conclusions, and recommendations during that fiscal year; and

(2) contains a year-end financial statement of the Commission's operations, including a detailed statement of the purposes for which funds have been expended by the Commission.

(e) OTHER REPORTS.—The Commission may also report to the President and the Congress on other space-related questions and issues raised by the Congress, the President, or on its own initiative.

**SEC. 6. DEFINITIONS.**

In this Act:

1           (1) ADMINISTRATOR.—The term “Adminis-  
2           trator” means the Administrator of the National  
3           Aeronautics and Space Administration.

4           (2) COMMISSION.—The term “Commission”  
5           means the National Space Commission established  
6           by section 3.

7   **SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

8           There are authorized to be appropriated to the Com-  
9           mission such sums as may be necessary to carry out its  
10          duties under this Act.

○