

104TH CONGRESS  
2D SESSION

# H. R. 3484

To authorize the Federal Aviation Administration's research, engineering,  
and development programs, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

MAY 16, 1996

Mrs. MORELLA (for herself and Mr. WALKER) introduced the following bill;  
which was referred to the Committee on Science, and in addition to the  
Committee on Transportation and Infrastructure, for a period to be sub-  
sequently determined by the Speaker, in each case for consideration of  
such provisions as fall within the jurisdiction of the committee concerned

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## A BILL

To authorize the Federal Aviation Administration's research,  
engineering, and development programs, and for other  
purposes.

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 "FAA Research, Engi-  
5 neering, and Development Reform Act of 1996".

6 **SEC. 2. AUTHORIZATION OF APPROPRIATIONS.**

7 Section 48102(a) of title 49, United States Code, is  
8 amended—

1           (1) by striking “and” at the end of paragraph  
2           (1)(J);

3           (2) by striking the period at the end of para-  
4           graph (2)(J) and inserting in lieu thereof “; and”;  
5           and

6           (3) by adding at the end the following new  
7           paragraph:

8           “(3) for fiscal year 1997—

9           “(A) \$10,000,000 for system development  
10           and infrastructure projects and activities;

11           “(B) \$39,911,000 for capacity and air  
12           traffic management technology projects and ac-  
13           tivities;

14           “(C) \$20,371,000 for communications,  
15           navigation, and surveillance projects and activi-  
16           ties;

17           “(D) \$6,411,000 for weather projects and  
18           activities;

19           “(E) \$6,000,000 for airport technology  
20           projects and activities;

21           “(F) \$37,978,000 for aircraft safety tech-  
22           nology projects and activities;

23           “(G) \$36,045,000 for system security tech-  
24           nology projects and activities;

1           “(H) \$23,682,000 for human factors and  
2           aviation medicine projects and activities;

3           “(I) \$3,800,000 for environment and en-  
4           ergy projects and activities;

5           “(J) \$1,500,000 for innovative/cooperative  
6           research projects and activities; and

7           “(K) such sums as may be necessary for  
8           other research, engineering, and development  
9           activities described in the President’s fiscal year  
10          1997 budget request to the Congress under the  
11          category ‘Engineering, development, test, and  
12          evaluation’ of Facilities and Equipment.”.

13 **SEC. 3. RESEARCH PRIORITIES AND BUDGETING.**

14          (a) Section 48102(b) of title 49, United States Code,  
15          is amended—

16               (1) by redesignating paragraph (2) as para-  
17               graph (3); and

18               (2) by striking “AVAILABILITY FOR RE-  
19               SEARCH.—(1)” and inserting in lieu thereof “RE-  
20               SEARCH PRIORITIES.—(1) The Administrator shall  
21               consider the advice and recommendations of the re-  
22               search advisory committee established by section  
23               44508 of this title in establishing priorities among  
24               major categories of research and development activi-

1       ties carried out by the Federal Aviation Administra-  
2       tion.

3       “(2)”.

4       (b) Section 48102(c) of title 49, United States Code,  
5       is amended to read as follows:

6       “(c) DESIGNATION OF ACTIVITIES.—(1) The  
7       amounts appropriated under subsection (a) are for the  
8       support of all research and development activities carried  
9       out by the Federal Aviation Administration that fall with-  
10      in the categories of basic research, applied research, and  
11      development, including the design and development of pro-  
12      totypes, in accordance with the classifications of the Office  
13      of Management and Budget Circular A–11 (Budget For-  
14      mulation/Submission Process).

15      “(2) The President’s annual budget request for the  
16      Federal Aviation Administration shall include all research  
17      and development activities within a single budget category.  
18      All of the activities carried out by the Administration with-  
19      in the categories of basic research, applied research, and  
20      development, as classified by the Office of Management  
21      and Budget Circular A–11, shall be placed in this single  
22      budget category.”.

23      (c) Section 44508(a)(1) of title 49, United States  
24      Code, is amended—

1 (1) by striking “and” at the end of subpara-  
2 graph (B);

3 (2) by striking the period at the end of sub-  
4 paragraph (C) and inserting in lieu thereof “; and”;  
5 and

6 (3) by inserting after subparagraph (C) the fol-  
7 lowing new subparagraph:

8 “(D) annually review the allocation made by the  
9 Administrator of the amounts authorized by section  
10 48102(a) of this title among the major categories of  
11 research and development activities carried out by  
12 the Administration and provide advice and rec-  
13 ommendations to the Administrator on whether such  
14 allocation is appropriate to meet the needs and ob-  
15 jectives identified under subparagraph (A).”.

16 (d) Section 44501(c) of title 49, United States Code,  
17 is amended—

18 (1) in paragraph (2)(A) by striking “15-year”  
19 and inserting in lieu thereof “5-year”;

20 (2) by amending subparagraph (B) to read as  
21 follows:

22 “(B) The plan shall—

23 “(i) provide estimates by year of the schedule,  
24 cost, and work force levels for each active and  
25 planned major research and development project

1 under sections 40119, 44504, 44505, 44507, 44509,  
2 44511–44513, and 44912 of this title, including ac-  
3 tivities carried out under cooperative agreements  
4 with other Federal departments and agencies;

5 “(ii) specify the goals and the priorities for allo-  
6 cation of resources among the major categories of  
7 research and development activities, including the  
8 rationale for the priorities identified;

9 “(iii) identify the allocation of resources among  
10 long-term research, near-term research, and develop-  
11 ment activities; and

12 “(iv) highlight the research and development  
13 activities that address specific recommendations of  
14 the research advisory committee established under  
15 section 44508 of this title, and document the rec-  
16 ommendations of the committee that are not accept-  
17 ed, specifying the reasons for nonacceptance.”; and

18 (3) in paragraph (3) by inserting “, including  
19 a description of the dissemination to the private sec-  
20 tor of research results and a description of any new  
21 technologies developed” after “during the prior fiscal  
22 year”.

23 **SEC. 4. PROGRAM GUIDANCE.**

24 (a) FINDINGS.—The Congress finds that—

1           (1) considerable effort and expenditure has  
2           been devoted since 1981 to the modernization of the  
3           National Airspace System, with limited results;

4           (2) long-standing management, organizational,  
5           and cultural impediments at the Federal Aviation  
6           Administration have led to cost overruns, schedule  
7           delays, program terminations, and other wasteful in-  
8           efficiencies;

9           (3) a lack of coordination between the tech-  
10          nology developers and operational sections of the  
11          Federal Aviation Administration has led to research,  
12          engineering, and development programs that are un-  
13          balanced because they either are too technology driv-  
14          en or have operational requirements that are unreal-  
15          istic or unwarranted;

16          (4) the research, engineering, and development  
17          functions of the Federal Aviation Administration  
18          have been carried out without the benefit of critical  
19          management education and competencies;

20          (5) the failure to employ contemporary manage-  
21          ment techniques and industry best practices has led  
22          to inadequate contractor oversight and poor risk  
23          management; and

24          (6) significant improvements in modernizing the  
25          National Airspace System will require fundamental

1 changes in the Federal Aviation Administration’s ac-  
2 quisition management system and in the orientation  
3 of the officials who implement the system.

4 (b) DEFINITIONS.—For purposes of this section—

5 (1) the term “affordable” means having life-  
6 cycle costs that are in consonance with the long-  
7 range funding and operational design plans for the  
8 National Airspace System;

9 (2) the term “evolutionary acquisition” means  
10 an acquisition strategy in which a core capability is  
11 fielded with a modular structure that allows for  
12 changes as requirements are refined;

13 (3) the term “life-cycle costs” means the total  
14 costs to the Federal Government of a system over its  
15 useful life, including the costs of research, develop-  
16 ment, acquisition, support, and disposal;

17 (4) the term “nondevelopmental” means not re-  
18 quiring significant further development to be made  
19 usefully operational; and

20 (5) the term “pre-planned product improve-  
21 ment” means an acquisition strategy that defers  
22 technically difficult or unknown system requirements  
23 to mitigate risks or to field a system that incor-  
24 porates design considerations that facilitate future  
25 changes.

1           (c) OPERATIONAL PRINCIPLES.—The Federal Avia-  
2 tion Administration shall develop, implement, and main-  
3 tain a disciplined acquisition management system that fa-  
4 cilitates the transforming of broadly stated requirements  
5 into affordable, operationally effective and suitable prod-  
6 ucts and services to meet the needs of users of the Na-  
7 tional Airspace System. Such acquisition management sys-  
8 tem shall be based on and incorporate the following prin-  
9 ciples:

10           (1) The employment and integration of—

11                   (A) a process to establish and validate re-  
12                   quirements;

13                   (B) full life-cycle acquisition management;  
14                   and

15                   (C) planning, programming, and budget-  
16                   ing.

17           (2) Full involvement of both acquisition and  
18           operational Federal Aviation Administration person-  
19           nel in the processes described in paragraph (1) (A),  
20           (B), and (C).

21           (3) Early and continuous involvement of Na-  
22           tional Airspace System operators and users, advisory  
23           committees, and industry vendors and experts in es-  
24           tablishing and stabilizing sound, realistic operational  
25           requirements.

1           (4) Assignment of acquisition officials based on  
2 demonstrated leadership, professionalism, and prov-  
3 en acquisition management competencies, consistent  
4 with their positional responsibility and authority.

5           (5) Full life-cycle, event-driven acquisition  
6 strategies which explicitly link major interim pro-  
7 gram decisions and contractual commitments to  
8 demonstrated accomplishments in research, engi-  
9 neering, and development.

10          (6) The balancing of system design require-  
11 ments and constraints based on cost-benefit sensitiv-  
12 ity analysis.

13          (7) Consideration of maximum practicable use  
14 of nonmaterial, nondevelopmental, or commercial so-  
15 lutions before embarking on protracted research, en-  
16 gineering, and development activities by the Federal  
17 Aviation Administration.

18          (8) Consideration of evolutionary acquisition  
19 and pre-planned product improvement strategies to  
20 mitigate risks and expeditiously field products and  
21 services.

22          (9) Use of contemporary management tech-  
23 niques and industry best practices to—

24               (A) compare the current status of a pro-  
25 gram to where it should be;

1 (B) reassess the goals of a program and  
2 the plans for achieving those goals;

3 (C) assess program risks and strategies for  
4 mitigating those risks; and

5 (D) assess whether the program is afford-  
6 able.

7 (d) DOCUMENT OF APRIL 1, 1996.—The Congress  
8 recognizes that the acquisition management system set  
9 forth in the document dated April 1, 1996, issued by the  
10 Federal Aviation Administration, is substantially compat-  
11 ible with the principles stated in subsection (c) of this sec-  
12 tion. The Federal Aviation Administration may implement  
13 that proposed system as a suitable compliance with the  
14 requirements of this section, and may modify elements of  
15 that system to the extent that those modifications conform  
16 with the principles stated in subsection (c) of this section.

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