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105TH CONGRESS, 1st Session | HOUSE OF REPRESENTATIVES | REPORT 105–61

# FAA RESEARCH, ENGINEERING, AND DEVELOPMENT AUTHORIZATION ACT OF 1997

APRIL 21, 1997.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. SENSENBRENNER, from the Committee on Science, submitted the following

## R E P O R T

together with

## ADDITIONAL VIEWS

[To accompany H.R. 1271]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, to whom was referred the bill (H.R. 1271) to authorize the Federal Aviation Administration's research, engineering, and development programs for Fiscal Years 1998 through 2000, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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## I. AMENDMENT

The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

**SECTION 1. SHORT TITLE.**

This Act may be cited as the "FAA Research, Engineering, and Development Authorization Act of 1997".

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

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

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

(2) by striking the period at the end of paragraph (3)(J) and inserting in lieu thereof a semicolon; and

(3) by adding at the end the following:

"(4) for fiscal year 1998, $217,406,000, including—

"(A) $75,550,000 for system development and infrastructure projects and activities;

"(B) $19,614,000 for capacity and air traffic management technology projects and activities;

"(C) $15,132,000 for communications, navigation, and surveillance projects and activities;

"(D) $9,982,000 for weather projects and activities;

"(E) $5,458,000 for airport technology projects and activities;

"(F) $26,625,000 for aircraft safety technology projects and activities;

"(G) $49,895,000 for system security technology projects and activities;

"(H) $10,737,000 for human factors and aviation medicine projects and activities;

"(I) $3,291,000 for environment and energy projects and activities; and

"(J) $1,122,000 for innovative/cooperative research projects and activities;

"(5) for fiscal year 1999, $224,000,000; and

"(6) for fiscal year 2000, $231,000,000.".

**SEC. 3. BUDGET DESIGNATION FOR RESEARCH AND DEVELOPMENT ACTIVITIES.**

Section 48102 of title 49, United States Code, is amended by adding at the end the following new subsection:

"(g) DESIGNATION OF ACTIVITIES.—(1) The amounts appropriated under subsection (a) are for the support of all research and development activities carried out by the Federal Aviation Administration that fall within the categories of basic research, applied research, and development, including the design and development of prototypes, in accordance with the classifications of the Office of Management and Budget Circular A–11 (Budget Formulation/Submission Process).

"(2) The President's annual budget request for the Federal Aviation Administration shall include all research and development activities within a single budget category. All of the activities carried out by the Administration within the categories of basic research, applied research, and development, as classified by the Office of Management and Budget Circular A–11, shall be placed in this single budget category.".

**SEC. 4. NATIONAL AVIATION RESEARCH PLAN.**

Section 44501(c)(2)(B) of title 49, United States Code, is amended—

(1) by striking "and" at the end of clause (iii);

(2) by striking the period at the end of clause (iv) and inserting in lieu thereof "; and"; and

(3) by adding at the end the following new clause:

"(v) highlight the research and development technology transfer activities that promote technology sharing among government, industry, and academia through the Stevenson-Wydler Technology Innovation Act of 1980.".

**SEC. 5. RESEARCH GRANTS PROGRAM INVOLVING UNDERGRADUATE STUDENTS.**

(a) PROGRAM.—Section 48102 of title 49, United States Code, is amended by adding at the end the following new subsection:

"(h) RESEARCH GRANTS PROGRAM INVOLVING UNDERGRADUATE STUDENTS.—

"(1) ESTABLISHMENT.—The Administrator of the Federal Aviation Administration shall establish a program for awarding grants to researchers at primarily undergraduate institutions who involve undergraduate students in their research on subjects of relevance to the Federal Aviation Administration. Grants may be awarded under this subsection for—

"(A) research projects to be carried out at primarily undergraduate institutions; or

"(B) research projects that combine research at primarily undergraduate institutions with other research supported by the Federal Aviation Administration.

"(2) NOTICE OF CRITERIA.—Within 6 months after the date of the enactment of the FAA Research, Engineering, and Development Authorization Act of 1997, the Administrator of the Federal Aviation Administration shall establish and publish in the Federal Register criteria for the submittal of proposals for a grant under this subsection, and for the awarding of such grants.

"(3) PRINCIPAL CRITERIA.—The principal criteria for the awarding of grants under this subsection shall be—

"(A) the relevance of the proposed research to technical research needs identified by the Federal Aviation Administration;

"(B) the scientific and technical merit of the proposed research; and

"(C) the potential for participation by undergraduate students in the proposed research.

"(4) COMPETITIVE, MERIT-BASED EVALUATION.—Grants shall be awarded under this subsection on the basis of evaluation of proposals through a competitive, merit-based process.".

(b) AUTHORIZATION OF APPROPRIATIONS.—Section 48102(a) of title 49, United States Code, as amended by this Act, is further amended—

(1) by inserting ", of which $500,000 shall be for carrying out the grant program established under subsection (h)" after "projects and activities" in paragraph (4)(J);

(2) by inserting ", of which $500,000 shall be for carrying out the grant program established under subsection (h)" after "$224,000,000" in paragraph (5); and

(3) by inserting ", of which $500,000 shall be for carrying out the grant program established under subsection (h)" after "$231,000,000" in paragraph (6).

**SEC. 6. LIMITATIONS.**

(a) PROHIBITION OF LOBBYING ACTIVITIES.—None of the funds authorized by the amendments made by this Act shall be available for any activity whose purpose is to influence legislation pending before the Congress, except that this subsection shall not prevent officers or employees of the United States or of its departments or agencies from communicating to Members of Congress on the request of any Member or to Congress, through the proper channels, requests for legislation or appropriations which they deem necessary for the efficient conduct of the public business.

(b) LIMITATION ON APPROPRIATIONS.— No sums are authorized to be appropriated to the Administrator of the Federal Aviation Administration for fiscal years 1998, 1999, and 2000 for the Federal Aviation Administration Research, Engineering, and Development account, unless such sums are specifically authorized to be appropriated by the amendments made by this Act.

(c) ELIGIBILITY FOR AWARDS.—

(1) IN GENERAL.—The Administrator of the Federal Aviation Administration shall exclude from consideration for grant agreements made by that Administration after fiscal year 1997 any person who received funds, other than those described in paragraph (2), appropriated for a fiscal year after fiscal year 1997, under a grant agreement from any Federal funding source for a project that was not subjected to a competitive, merit-based award process. Any exclusion from consideration pursuant to this subsection shall be effective for a period of 5 years after the person receives such Federal funds.

(2) EXCEPTION.—Paragraph (1) shall not apply to the receipt of Federal funds by a person due to the membership of that person in a class specified by law for which assistance is awarded to members of the class according to a formula provided by law.

(3) DEFINITION.—For purposes of this subsection, the term "grant agreement" means a legal instrument whose principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation authorized by a law of the United States, and does not include the acquisition (by pur-

chase, lease, or barter) of property or services for the direct benefit or use of the United States Government. Such term does not include a cooperative agreement (as such term is used in section 6305 of title 31, United States Code) or a cooperative research and development agreement (as such term is defined in section 12(d)(1) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(1))).

**SEC. 7. NOTICE.**

(a) NOTICE OF REPROGRAMMING.—If any funds authorized by the amendments made by this Act are subject to a reprogramming action that requires notice to be provided to the Appropriations Committees of the House of Representatives and the Senate, notice of such action shall concurrently be provided to the Committees on Science and Transportation and Infrastructure of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

(b) NOTICE OF REORGANIZATION.—The Administrator of the Federal Aviation Administration shall provide notice to the Committees on Science, Transportation and Infrastructure, and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate, not later than 15 days before any major reorganization of any program, project, or activity of the Federal Aviation Administration for which funds are authorized by this Act.

**SEC. 8. SENSE OF CONGRESS ON THE YEAR 2000 PROBLEM.**

With the year 2000 fast approaching, it is the sense of Congress that the Federal Aviation Administration should—

(1) give high priority to correcting all 2-digit date-related problems in its computer systems to ensure that those systems continue to operate effectively in the year 2000 and beyond;

(2) assess immediately the extent of the risk to the operations of the Federal Aviation Administration posed by the problems referred to in paragraph (1), and plan and budget for achieving Year 2000 compliance for all of its mission-critical systems; and

(3) develop contingency plans for those systems that the Federal Aviation Administration is unable to correct in time.

**SEC. 9. BUY AMERICAN.**

(a) COMPLIANCE WITH BUY AMERICAN ACT.—No funds appropriated pursuant to the amendments made by this Act may be expended by an entity unless the entity agrees that in expending the assistance the entity will comply with sections 2 through 4 of the Act of March 3, 1933 (41 U.S.C. 10a–10c, popularly known as the "Buy American Act").

(b) SENSE OF CONGRESS.—In the case of any equipment or products that may be authorized to be purchased with financial assistance provided under the amendments made by this Act, it is the sense of Congress that entities receiving such assistance should, in expending the assistance, purchase only American-made equipment and products.

(c) NOTICE TO RECIPIENTS OF ASSISTANCE.—In providing financial assistance under the amendments made by this Act, the Administrator of the Federal Aviation Administration shall provide to each recipient of the assistance a notice describing the statement made in subsection (a) by the Congress.

## II. PURPOSE OF THE BILL

The purpose of the bill is to authorize the Federal Aviation Administration (FAA) to conduct research, engineering, and development activities for Fiscal Years (FY) 1998, 1999, and 2000. The activities improve the national airspace system by increasing its safety, security, capacity, and productivity to meet the expected air traffic demands of the future.

## III. BACKGROUND AND NEED FOR LEGISLATION

The FAA was created in 1958 to develop air commerce and promote safety in the air. As part of the Airport Development and Airway Trust fund established by Congress in 1982, it was decided that a comprehensive research and development program was nec-

essary at FAA to maintain a safe, efficient air traffic system. In order to fund both of these research and development programs and improve airport and airways capital improvements, a series of user fees and taxes were established.

The 100th Congress, seeking to strengthen the FAA research and development programs, enacted the 1988 Aviation Safety Research Act (P.L. 100–591). This bill created the FAA Research, Engineering and Development Advisory Board. The terrorist bombing of Pan Am Flight 103 demonstrated the need for new technology to detect explosives; and Congress subsequently passed the Aviation Safety Improvement Act of 1990 which required FAA to support activities to accelerate the research and development of new technologies to protect against terrorism.

The FY 1997 authorization for research, engineering, and development was enacted as part of the FAA Reauthorization Act (P.L. 104–264). Additional funding for Aviation System Security Technology was enacted through the Omnibus Consolidated Appropriations Act, 1997 (P.L. 104–208). The current authorization for FAA research, engineering, and development expires at the end of Fiscal Year 1997.

## IV. Summary of Hearings

On March 13, 1997, the Subcommittee on Technology held a hearing to review the President's FAA Research, Engineering, and Development (RE&D) budget request for FY 1998 and beyond. The President's FY 1998 Budget request for FAA RE&D is $200 million, $8.4 million less than the FY 1997 enacted level. According to the budget request, the funding is needed to conduct research, engineering, and development programs that improve the national air traffic control system by increasing its safety, security, capacity, and productivity to meet the expected air traffic demands of the future. The panel consisted of two witnesses: Dr. George L. Donohue, Associate Administrator for Research and Acquisitions, Federal Aviation Administration and Mr. Ralph Eschenbach, Chair-FAA RE&D Advisory Committee.

Dr. George L. Donohue testified that the FAA, as directed by the 1996 Reauthorization Act, has made sure that the RE&D Advisory Committee is more involved in assessing FAA priorities. For FY 1999 programs, the FAA plans to increase the Advisory Committee's role by using six standing subcommittees, and regularly scheduled meetings of those subcommittees with FAA staff. He stated that the new acquisition management system, which took effect April 1, 1996, provides a simplified and more flexible way to meet the FAA's acquisition needs. The White House Commission on Aviation Safety and Security (also known as the Gore Commission) recently issued its final report which included several recommendations that will involve the RE&D programs. He testified that the FAA is now working to develop pertinent cost and resource information, as well as schedules and priorities, to determine how to best achieve the needed results.

Mr. Ralph Eschenbach stated that the NAS modernization must be sped up. However, with the current architectural plan and the current level of funding it will be difficult to reach the year 2005 goal as established by the Gore Commission. He also emphasized

that prototypes are vital to rapid implementation. One of the critical components necessary for injecting new technology into a market is the ability to prototype and test those components. As an example, he cited the FLIGHT 2000 demonstration program in Alaska and Hawaii which affects just 1 percent of the airplanes in NAS (National Airspace System), but provides much needed answers to implementation and operation questions.

Chairwoman Morella raised the question of FAA's computer and information systems security, pointing out that the General Accounting Office had recently issued a report critical of many federal agencies' efforts in this area. Dr. Donohue stated that he is concerned with the current level of information security, especially as the FAA moves from the older "closed" information systems to the more modern systems that have an "open" architecture that are susceptible to penetration. Mr. Eschenbach stated that he shared Dr. Donohue's concerns. Chairwoman Morella raised concerns over reductions to the weather programs. Mr. Eschenbach stated that the Advisory Committee has recommended that the FAA place a higher priority on weather research. Dr. Donohue explained that he was concerned about reductions to the program, but explained that it was a time sequencing problem since some of the new technologies that have emerged in recent years are still in the acquisition and installation stage.

Mrs. Rivers expressed concern over the request in the area of the aircraft noise reduction. Dr. Donohue acknowledged that there has been a decrease from what was spent for noise abatement a few years ago. He further noted that the FAA has been forced by budget constraints to rely to an unprecedented degree on cooperation with other federal agencies to support noise abatement activities.

## V. Committee Actions

On April 16, 1997, the full committee marked up the legislation (H.R. 1271) which was introduced by the Subcommittee Chair, Mrs. Connie Morella. The legislation was adopted, as amended (by voice vote) and ordered reported to the full House for consideration (by voice vote). Amendments to the legislation were offered in the following order:

1. Manager's En Bloc Amendment offered by Mrs. Morella and Mr. Gordon to, among other things, strike Section 6, make certain technical and clarifying corrections, and define that grants awarded under the Act will be subject to merit based review (with the exception of CRADAs). The amendment was adopted by voice vote.

2. Amendment requiring the FAA to comply with the Buy American Act (41 U.S.C. 10a–10c) by purchasing only American-made equipment and products with the funds appropriated pursuant to this Act offered by Mr. Hastings for Mr. Traficant. The amendment was adopted by voice vote.

## VI. Summary of Major Provisions of the Bill

The legislation authorizes Federal Aviation Administration Research, Engineering, and Development activities for Fiscal Years 1998, 1999, and 2000.

H.R. 1271 includes a provision requiring future FAA budgets to include in a single budget category all research and development activities that would be classified as basic research, applied research, or development under the guidelines established by OMB Circular A–11.

H.R. 1271 includes a provision requiring the FAA to include R&D technology transfer activities in the National Aviation Research Plan.

H.R. 1271 includes a provision establishing a new research grant program to support research at primarily undergraduate institutions.

## VII. Section-by-Section Analysis (by Title and Section) and Committee Views

*Section 1. Short Title*

Cites this title as the "FAA Research, Engineering, and Development Authorization Act of 1997."

*Section 2. Authorization of Appropriations*

Authorizes appropriations for FY 1998 of $217,406,000 for Federal Aviation Administration RE&D activities as follows:

(A) Authorizes $75,550,000 for system development and infrastructure projects and activities;

(B) Authorizes $19,614,000 for capacity and air traffic management technology projects and activities;

(C) Authorizes $15,132,000 for communications, navigation, and surveillance projects and activities;

(D) Authorizes $9,982,000 for weather projects and activities;

(E) Authorizes $5,458,000 for airport technology projects and activities;

(F) Authorizes $26,625,000 for aircraft safety technology projects and activities;

(G) Authorizes $49,895,000 for system security technology projects and activities;

(H) Authorizes $10,737,000 for human factors and aviation medicine projects and activities;

(I) Authorizes $3,291,000 for environment and energy projects and activities;

(J) Authorizes $1,122,000 for innovative/cooperative research projects and activities.

Authorizes lump-sum totals of $224,000,000 for FY 1999 and $231,000,000 for FY 2000 to carry out RE&D projects and activities.

*Committee View*

The Committee suggests the following authorization level for FY 1998:

FEDERAL AVIATION ADMINISTRATION RESEARCH, ENGINEERING, AND DEVELOPMENT (RE&D)

[In millions of dollars]

| | FY 1997 enacted | FY 1998 request | FY 1998 authorization |
|---|---|---|---|
| Sys Dev/Infrastructure | 72.831– | 75.550– | 75.550 |
| Capacity/ATM Technology– | 19.614– | 9.108– | 19.614 – |
| Comm/Nav/Surveillance | 10.770 | 15.132 | 15.132 |
| Weather | 10.927 | 3.982 | 9.982 |
| Airport Technology | 2.804 | 5.458 | 5.458– |
| Air Safety Technology | 24.130 | 26.625 | 26.625 |
| System Security – | 50.905 | 49.895 | 49.895 |
| Human Factors/Aviation Medicine | 12.573 | 10.737 | 10.737 |
| Environment/Energy | 3.600 | 2.891 | 3.291 |
| Innovative/Cooperative Research | .258 | .622 | 1.122 |
| Total FAA RE&D | 208.412 | 200.000 | 217.406 |

*Committee View*

The legislation fully authorizes the Administration's FY 1998 budget request and includes an increase of $17,406,000 over the FY 97 enacted level for the FAA RE&D program. Increases are targeted specifically to four of the ten RE&D accounts as follows:

1. Capacity and Air Traffic Management (an increase of $10,506,000 over the request)—The increase is to enhance computer and information system security. With $11 billion targeted to be spent by the FAA between FY 1998 and FY 2003 on air traffic control system modernization, the Committee believes it is critical that the FAA research information security risks and develop solutions to safeguard sensitive data from unauthorized disclosure.

2. Weather (an increase of $6,000,000 over the request)—Weather is the single largest contributor to delays and a major factor in aircraft accidents and incidents. The increase reflects recommendations by the FAA RE&D Advisory Committee and the National Academy of Sciences that the FAA consider weather research projects and activities a higher priority. The increase represents Committee concerns that despite the recommendations from "outside" experts, the FAA budget request for weather research represents a reduction of 64% from the FY1997 enacted level.

3. Environment and Energy (an increase of $400,000 over the request)—The Committee shares the goal the FAA has established of reducing the impact of aircraft noise 80% by the year 2000. However, the Committee is concerned that the budget request includes a reduction of almost 20% for environment and energy projects and activities. The Committee supports using the increase for aircraft noise reduction and control.

4. Innovative/Cooperative Research (an increase of $500,000 over the request)—The Committee is concerned that current FAA university research agreements under-utilize the research capabilities available at primarily undergraduate institutions. The increase is for the FAA to establish a program for awarding grants to support research projects to be carried out at primarily undergraduate institutions on subjects of relevance to the FAA.

The Committee recognizes the critical role the RE&D program plays in researching and developing the new technologies necessary

for the FAA to perform its mission and authorizes a 3% increase for FY 1999 and an additional 3.1% increase for FY 2000.

*Section 3. Budget Designation for Research and Development Activities*

Requires that future FAA budgets include in a single budget category all research and development activities that would be classified as basic research, applied research, or developmental under the guidelines established by the Office of Management and Budget Circular A–11.

*Committee View*

FAA's R&D activities are funded from two major budget categories: the Research, Engineering, and Development (RE&D) account; and "Engineering, Development, Test, and Evaluation" of the Facilities and Equipment (F&E) account. Projects funded under "Engineering, Development, Test & Evaluation" of the F&E account can be classified as research and development as defined by the Office of Management and Budget (OMB). OMB Circular A–11, Budget Formation/Submission Processes, which provides guidelines to the federal agencies used in reporting data on R&D budgets, specifies that R&D budgets should be divided into the categories of basic research, applied research, and development, where development is defined as "systematic use of the knowledge gained from research for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes."

The Committee believes that maintaining separate R&D accounts makes it considerably more difficult for Congress to track overall FAA R&D investment and to assess the priorities among areas of R&D. The current arrangement is confusing and lacks consistency, particularly since FAA does not include R&D activities supported in Activity 1 of the F&E Account in the National Aviation Research Plan. The Committee expects future budget submissions from the FAA to include in a single account, which may include whatever internal subdivisions the agency determines to be appropriate, all activities that would be classified as R&D under the guidelines of OMB Circular A–11.

*Section 4. National Aviation Research Plan*

Revises the requirements for the National Aviation Research Plan by requiring the plan to document the FAA's research and development technology transfer activities.

*Committee View*

The Committee has a strong history of support for technology transfer activities that improve United States competitiveness by speeding commercialization of inventions developed through collaborative agreements between the government and industry. Pursuant to the Committee's interest in this area, the legislation requires the FAA to include in the National Aviation Research Plan a more detailed accounting of the agency's R&D technology transfer activities.

*Section 5. Undergraduate Research Grants Program*

Establishes a program for awarding grants to support research at primarily undergraduate institutions through a competitive, merit-based process.

*Committee View*

The Committee intends that the research grants program support research projects relevant to FAA's technology needs and assist in developing the human resource base needed by the FAA to carry out its mission. Each grant must be awarded on the basis of the scientific and technical merit of the proposal made to the program, the potential of the project to involve undergraduate students, and the research credentials of the principal investigator of the project. The process for selecting awards must be competitive in the sense that proposals to the program are broadly solicited and, based on the funding available in a given year, proposals judged to have a relatively higher merit are funded in preference to proposals of lower merit. The term "competitive" does not refer to the rule of competition applicable to the federal contract awards process.

*Section 6. Limitations*

*(a) Prohibition of Lobbying Activities*

Prohibits the use of funds authorized by this Act for any activity whose purpose is to influence legislation pending before the Congress. This section does not prevent employees of the departments and agencies from communicating with Members of Congress to conduct public business.

*Committee View*

The Committee is committed to ensuring that awards for research and education are used solely for those purposes. Funds should not be used for any purpose, other than that specified in the award. The Committee, however, does not exclude appropriate communications between the Executive Branch and the Congress.

*Limitation on Appropriations*

Disallows authorization of funds which are not specifically authorized to be appropriated by this Act for FY 1998, or by an Act of Congress in succeeding fiscal years.

*Committee View*

This section emphasizes the Committee's position that the only funds authorized to be appropriated for the Federal Aviation Administration's research, engineering, and development programs are made available through this Act. It is the Committee's position that authorizations designating specific sums are required for appropriations of such sums to be authorized.

*(c) Eligibility for Awards*

Requires the head of each federal agency for which funds are authorized under this Act to exclude, for a period of 5 years, any person who received funds for a project not subject to competitive,

merit-based review process after FY 1997. This section is not applicable to the long-standing Cooperative Research and Development Agreement program nor awards to persons who are members of a class specified by law for which assistance is awarded according to formula provided by law.

*Committee View*

The Committee has a long-standing position that awards should be based on a competitive merit-based process. Merit review allows taxpayers' dollars to be spent in the most cost-effective manner.

*Section 7. Notice*

If any funds of this Act, or amendments made by this Act, are subject to reprogramming which requires notice to be given to the Appropriations Committees of the House of Representatives and the Senate, notice of such action shall be concurrently provided to the Committees on Science and Transportation and Infrastructure of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

If any program, project, or activity of the Federal Aviation Administration is preparing to undergo any major reorganization, the Administrator of the Federal Aviation Administration shall notify the Committees on Science, Transportation and Infrastructure, and Appropriations of the House of Representatives, and the Committees on Appropriations and Commerce, Science, and Transportation of the Senate of such preparation.

*Committee View*

The Committee believes that such notice must be given if it is to carry out its oversight responsibilities under the Rules of the House.

*Section 8. Sense of the Congress on the Year 2000 Problem*

It is the sense of Congress that the Federal Aviation Administration should give high priority to correcting the year 2000 problem in all of its computer systems to ensure effective operation in the year 2000 and beyond. The Federal Aviation Administration needs to assess immediately the risk of the problem upon their systems and develop a plan and a budget to correct the problem for its mission-critical programs. The Federal Aviation Administration also needs to begin consideration of contingency plans, in the event that certain systems are unable to be corrected in time.

*Committee View*

Despite knowing of the problem for years, the Federal Government has yet to adequately create strategies to address the year 2000 problem. The Committee believes Congress should continue to take a leadership role in raising awareness about the issue with both government and the private sector.

The potential impact on federal programs if the year 2000 problem is not corrected in an effective and timely manner is substantial and potentially serious. If federal computers are not prepared to handle the change of date on January 1, 2000, there is a risk to all government systems and the programs they support. It is im-

perative that such corrective action be taken to avert disruption to critical Federal Government programs.

## VIII. Committee Cost Estimate

Clause 7(a) of rule XIII of the Rules of the House of Representatives requires each committee report accompanying each bill or joint resolution of a public character to contain: (1) an estimate, made by such Committee, of the costs which would be incurred in carrying out such bill or joint resolution in the fiscal year in which it is reported, and in each of the 5 fiscal years following such fiscal year (or for the authorized duration of any program authorized by such bill or joint resolution, if less than 5 years); (2) a comparison of the estimate of costs described in subparagraph (1) of this paragraph made by such Committee with an estimate of such costs made by any government agency and submitted to such Committee; and (3) when practicable, a comparison of the total estimated funding level for the relevant program (or programs) with the appropriate levels under current law. However, clause 7(d) of that rule provides that this requirement does not apply when a cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 403 of the Congressional Budget Act of 1974 has been timely submitted prior to the filing of the report and included in the report pursuant to clause 2(l)(3)(C) of rule XI. A cost estimate and comparison prepared by the Director of the Congressional Budget Office under section 403 of the Congressional Budget Act of 1974 has been timely submitted prior to the filing of this report and included in Section IX of this report pursuant to clause 2(l)(3)(C) of rule XI.

Clause 2(l)(3)(B) of rule XI of the Rules of the House of Representatives requires each committee report that accompanies a measure providing new budget authority (other than continuing appropriations), new spending authority, or new credit authority, or changes in revenues or tax expenditures to contain a cost estimate, as required by section 308(a)(1) of the Congressional Budget Act of 1974 and, when practicable with respect to estimates of new budget authority, a comparison of the total estimated funding level for the relevant program (or programs) to the appropriate levels under current law. H.R. 1271 does not contain any new budget authority, credit authority, or changes in revenues or tax expenditures. Assuming that the sums authorized under the bill are appropriated, H.R. 1271 does authorize additional discretionary spending, as described in the Congressional Budget Office report on the bill, which is contained in Section IX of this report.

## IX. Congressional Budget Office Cost Estimate

U.S. Congress,
Congressional Budget Office,
*Washington, DC, April 18, 1997.*

Hon. F. James Sensenbrenner, Jr.,
*Chairman, Committee on Science,*
*House of Representatives, Washington, DC.*

Dear Mr. Chairman: The Congressional Budget Office has prepared the enclosed cost estimate for H.R. 1271, the FAA Research, Engineering, and Development Authorization Act of 1997.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contacts are Clare Doherty (for federal costs) and Karen McVey (for the state and local impact).

Sincerely,

June E. O'Neill, *Director.*

Enclosure.

*H.R. 1271—FAA Research, Engineering, and Development Authorization Act of 1997*

### SUMMARY

H.R. 1271 would authorize appropriations for the Federal Aviation Administration's (FAA's) research, engineering, and development program for fiscal years 1998 through 2000. The bill would authorize appropriations of $217.4 million in 1998, $224.0 million in 1999, and $231.0 million in 2000. In addition, the bill would revise the research, engineering, and development program to include a research grants program for researchers and students at undergraduate institutions.

Enacting H.R. 1271 would not affect direct spending or receipts. Therefore, pay-as-you-go procedures would not apply to the bill. H.R. 1271 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act of 1995 (UMRA); it includes an authorization of grant funding for colleges and universities, some of which are public entities.

### ESTIMATED COST TO THE FEDERAL GOVERNMENT

Assuming appropriation of the authorized amounts, enacting H.R. 1271 would result in new discretionary spending totaling $672 million over the 1998-2002 period. The estimated budgetary impact is shown in the table on the following page. For purposes of this estimate, CBO assumes that appropriations will be provided by the start of each fiscal year and that outlays will occur at historical spending rates for this FAA program.

In addition to reauthorizing the research, engineering, and development program, H.R. 1271 would establish research grants program for researchers and students at undergraduate institutions. This bill would authorize $500,000 each year for the grant program from the amounts made available to the research, engineering, and development program.

[In millions of dollars]

| | Fiscal year— | | | | | |
|---|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
| SPENDING SUBJECT TO APPROPRIATION | | | | | | |
| Spending for FAA research, engineering, and development under current law: | | | | | | |
| Budget authority [1] | 187 | 0 | 0 | 0 | 0 | 0 |
| Estimated outlays | 230 | 111 | 47 | 13 | 0 | 0 |
| Proposed changes: | | | | | | |
| Authorization level | 0 | 217 | 224 | 231 | 0 | 0 |
| Estimated outlays | 0 | 130 | 200 | 227 | 92 | 23 |
| Spending for FAA research, engineering, and development under H.R. 1271: | | | | | | |
| Authorization level [1] | 187 | 217 | 224 | 231 | 0 | 0 |
| Estimated outlays | 230 | 241 | 247 | 240 | 92 | 23 |

[1] The 1997 level is the amount appropriated for that year.

The costs of this legislation fall within budget function 400 (transportation).

Pay-as-you-go considerations: None.

ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS

H.R. 1271 contains no intergovernmental mandates as defined in UMRA and would not impose any costs on state, local, or tribal governments. A portion of the funds authorized in the bill would be available as research grants to colleges and universities, some of which are public institutions. In 1996, FAA granted $30 million, or approximately 15 percent of the program's $185 million budget, to colleges and universities. The bill would also set aside an additional $500,000 per year for a new aviation research grant program targeting primarily undergraduate institutions.

Two provisions in the bill would affect eligibility for FAA research, engineering, and development grants. The first would require compliance with the "Buy American Act." The second would exclude grantees from consideration for awards if they had received funds under any other federal grant program that was not subject to a competitive, merit-based award process. The latter provision could change the allocation of funds among grant recipients, including public colleges and universities. However, CBO cannot predict how the share of funding awarded to public colleges and universities would change because of this provision.

ESTIMATED IMPACT ON THE PRIVATE SECTOR

This bill would impose no new private-sector mandates as defined in UMRA.

Estimate prepared by: Federal Costs: Clare Doherty; Impact on State, Local, and Tribal Governments: Karen McVey.

Estimate approved by: Robert A. Sunshine, Deputy Assistant Director for Budget Analysis.

## X. Compliance With Public Law 104–4

H.R. 1271 contains no unfunded mandates.

## XI. Committee Oversight Findings and Recommendations

Clause 2(l)(3)(A) of rule XI of the Rules of the House of Representatives requires each committee report to include oversight findings and recommendations required pursuant to clause 2(b)(1) of rule X. The Committee has no oversight findings.

## XII. Oversight Findings and Recommendations by the Committee on Government Reform and Oversight

Clause 2(l)(3)(D) of rule XI of the Rules of the House of Representatives requires each committee report to contain a summary of the oversight findings and recommendations made by the House Government Reform and Oversight Committee pursuant to clause 4(c)(2) of rule X, whenever such findings and recommendations have been submitted to the Committee in a timely fashion. The Committee on Science has received no such findings or recommendations from the Committee on Government Reform and Oversight.

## XIII. Constitutional Authority Statement

Clause 2(l)(4) of rule XI of the Rules of the House of Representatives requires each report of a Committee on a bill or joint resolution of a public character to include a statement citing the specific powers granted to the Congress in the Constitution to enact the law proposed by the bill or joint resolution. Article I, section 8 of the Constitution of the United States grants Congress the authority to enact H.R. 1271.

## XIV. Federal Advisory Committee Statement

H.R. 1271 does not establish or authorize the establishment of a new advisory committee.

## XV. Congressional Accountability Act

The Committee finds that H.R. 1271 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

## XVI. Changes in Existing Law Made by the Bill, as Reported

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

### TITLE 49, UNITED STATES CODE

* * * * * * *

# SUBTITLE VII—AVIATION PROGRAMS

## PART A—AIR COMMERCE AND SAFETY

* * * * * * *

### SUBPART III—SAFETY

* * * * * * *

### CHAPTER 445—FACILITIES, PERSONNEL, AND RESEARCH

* * * * * * *

**§ 44501. Plans and policy**

(a) * * *

* * * * * * *

(c) NATIONAL AVIATION RESEARCH PLAN.—(1) * * *
(2)(A) * * *
(B) The plan shall—
(i) * * *

* * * * * * *

(iii) identify the allocation of resources among long-term research, near-term research, and development activities; **[**and**]**

(iv) highlight the research and development activities that address specific recommendations of the research advisory committee established under section 44508 of this title, and document the recommendations of the committee that are not accepted, specifying the reasons for nonacceptance**[**.**]***; and*

*(v) highlight the research and development technology transfer activities that promote technology sharing among government, industry, and academia through the Stevenson-Wydler Technology Innovation Act of 1980.*

* * * * * * *

## PART C—FINANCING

### CHAPTER 481—AIRPORT AND AIRWAY TRUST FUND AUTHORIZATIONS

* * * * * * *

**§ 48102. Research and development**

(a) AUTHORIZATION OF APPROPRIATIONS.—Not more than the following amounts may be appropriated to the Secretary of Transportation out of the Airport and Airway Trust Fund established under section 9502 of the Internal Revenue Code of 1986 (26 U.S.C. 9502) to carry out sections 44504, 44505, 44507, 44509, and 44511–44513 of this title:

(1) * * *

(2) for fiscal year 1996—

(A) $8,056,000 for management and analysis projects and activities;

* * * * * * *

(J) $5,459,000 for innovative/cooperative research projects and activities; [and]

(3) for fiscal year 1997—

(A) $13,660,000 for system development and infrastructure projects and activities;

* * * * * * *

(J) $2,000,000 for innovative/cooperative research projects and activities[.]*;*

*(4) for fiscal year 1998, $217,406,000, including—*

*(A) $75,550,000 for system development and infrastructure projects and activities;*

*(B) $19,614,000 for capacity and air traffic management technology projects and activities;*

*(C) $15,132,000 for communications, navigation, and surveillance projects and activities;*

*(D) $9,982,000 for weather projects and activities;*

*(E) $5,458,000 for airport technology projects and activities;*

*(F) $26,625,000 for aircraft safety technology projects and activities;*

*(G) $49,895,000 for system security technology projects and activities;*

*(H) $10,737,000 for human factors and aviation medicine projects and activities;*

*(I) $3,291,000 for environment and energy projects and activities; and*

*(J) $1,122,000 for innovative/cooperative research projects and activities, of which $500,000 shall be for carrying out the grant program established under subsection (h);*

*(5) for fiscal year 1999, $224,000,000, of which $500,000 shall be for carrying out the grant program established under subsection (h); and*

*(6) for fiscal year 2000, $231,000,000, of which $500,000 shall be for carrying out the grant program established under subsection (h).*

* * * * * * *

*(g) DESIGNATION OF ACTIVITIES.—(1) The amounts appropriated under subsection (a) are for the support of all research and development activities carried out by the Federal Aviation Administration that fall within the categories of basic research, applied research, and development, including the design and development of prototypes, in accordance with the classifications of the Office of Management and Budget Circular A–11 (Budget Formulation/Submission Process).*

*(2) The President's annual budget request for the Federal Aviation Administration shall include all research and development activities within a single budget category. All of the activities carried out by the Administration within the categories of basic research, applied research, and development, as classified by the Office of Man-*

*agement and Budget Circular A–11, shall be placed in this single budget category.*

*(h) RESEARCH GRANTS PROGRAM INVOLVING UNDERGRADUATE STUDENTS.—*

*(1) ESTABLISHMENT.—The Administrator of the Federal Aviation Administration shall establish a program for awarding grants to researchers at primarily undergraduate institutions who involve undergraduate students in their research on subjects of relevance to the Federal Aviation Administration. Grants may be awarded under this subsection for—*

*(A) research projects to be carried out at primarily undergraduate institutions; or*

*(B) research projects that combine research at primarily undergraduate institutions with other research supported by the Federal Aviation Administration.*

*(2) NOTICE OF CRITERIA.—Within 6 months after the date of the enactment of the FAA Research, Engineering, and Development Authorization Act of 1997, the Administrator of the Federal Aviation Administration shall establish and publish in the Federal Register criteria for the submittal of proposals for a grant under this subsection, and for the awarding of such grants.*

*(3) PRINCIPAL CRITERIA.—The principal criteria for the awarding of grants under this subsection shall be—*

*(A) the relevance of the proposed research to technical research needs identified by the Federal Aviation Administration;*

*(B) the scientific and technical merit of the proposed research; and*

*(C) the potential for participation by undergraduate students in the proposed research.*

*(4) COMPETITIVE, MERIT-BASED EVALUATION.—Grants shall be awarded under this subsection on the basis of evaluation of proposals through a competitive, merit-based process.*

## XVII. COMMITTEE RECOMMENDATIONS

On April 16, 1997, a quorum being present, the Committee favorably reported the FAA Research, Engineering, and Development Authorization Act of 1997, by a voice vote, and recommends its enactment.

## XVIII. ADDITIONAL VIEWS

While I support the merits and intent of H.R. 1271, the Federal Aviation Administration Research, Engineering, and Development Act, I cannot support the funding levels requested by this bill.

Air safety is crucial. With millions of air passengers traveling during any given day, the FAA and all facets of air travel must have access to the most advanced technology in order to ensure safety in the skies.

However, during this time of financial uncertainty, I cannot support the proposed budgetary increase, regardless of how insignificant it might seem. Research and development thrives in the private sector, where competition fuels ingenuity, drives technology, improves efficiency, and stimulates the economy. Acknowledging this, I do not believe the FAA's research and development truly needs an 8% increase over the next two years. Instead, the FAA should continue to support research and development endeavors with the more than $208 million appropriated for FY 97, which is $8 million more than the President requested.

TOM A. COBURN.

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