

AEROSPACE INDUSTRIES ASSOCIATION

1980 ANNUAL REPORT



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INTRODUCTION



The Aerospace Industries Association of America, Inc. (AIA) is the national trade association which represents U.S. companies engaged primarily in research, development and manufacture of such aerospace systems as manned and unmanned aircraft, missiles, spacecraft and space launch vehicles; propulsion, guidance and control systems for the flight vehicles; and a variety of airborne and ground-based equipment essential to the operation of the flight vehicles. A secondary area of industry effort, grouped under the heading "non-aerospace products," consists of a broad range of systems and equipment generally derived from the industry's aerospace technological expertise but intended for applications other than flight.

The industry AIA represents is one of the nation's largest. In 1980, sales totaled \$50.5 billion, including \$42.5 billion in sales of aerospace products and services and \$8 billion in non-aerospace sales. Export sales amounted to \$14.6 billion, a 24 percent increase over the previous year; as in recent years, the aerospace industry led all U.S. manufacturing industries in terms of export volume and positive contribution to the nation's trade balance.

The industry's backlog at year-end 1980 topped \$97 billion, including \$42 billion in government orders and \$55 billion in orders from other customers. Industry employment at the end of 1980 was 1,203,000, the highest level since 1969, and the industry's payroll reached an all-time high of \$28.2 billion.

Aerospace Industries Association functions on national and international levels, representing its membership in a wide range of technological and other relationships with government agencies and the public. To facilitate its work at the national level, AIA is a member of the Council of Defense and Space Industry Associations (CODSIA), a coordination medium for six industry associations with mutual interests related to federal government procurement policies. In international activities, AIA cooperates as practical with trade associations in other countries, individually and through the International Coordinating Council of Aerospace Industry Associations (ICCAIA), an informal body of the free world's national aerospace associations. AIA also serves as secretariat for TC 20, the aircraft and space vehicles group of the International Organization for Standardization (ISO).

AIA's policies are determined by a Board of Governors composed of senior executives of 26 mem-

EXECUTIVE COMMITTEE



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ROBERT S. AMES
Textron, Inc.

ber companies plus the AIA president, who is the association's senior professional employee and who also serves as its general manager. A key element is the Executive Committee—made up of eight members elected from the Board of Governors—which exercises the powers of the Board between Board meetings.

AIA's primary services to its membership are conducted by eight Councils, Services and Offices whose heads report to the AIA president. Within this structure, AIA's professional staff coordinates and supports the work of an array of committees, subcommittees, task groups and *ad hoc* groups whose membership is made up of key specialists from AIA member companies. The 1980 activities of the Councils, Services and Offices and their associated working groups are detailed in the following pages.

AEROSPACE OPERATIONS SERVICE



The Aerospace Operations Service is composed of five committees: Manufacturing, Quality Assurance, Product Support, Spare Parts and Service Publications. Key areas of interest and activity include advanced manufacturing technology, processes and management; quality technology and management systems; post-delivery product support; and technical manuals and training. Subcommittees, liaison panels and manufacturing technology advisory groups (MTAGs) pursue improved management and operating techniques, methods and equipment, systems and procedures and maintain working liaison with government agencies. Among the Service's major activities during 1980 were:

Manufacturing Projects/Studies

Under guidance of the Manufacturing Executive Committee, the Manufacturing Committee's MTAGs started 23 new projects in 1980 while continuing work on projects initiated in prior years. Among those initiated in 1980 were a study of large hydraulic press requirements; a survey of manufacturing business systems; an updating of NAS optical tooling standards to include laser technology; establishment of a basis for more effective transfer of manufacturing technology data throughout major U.S. industries; a long range plan for computer-aided manufacturing; telecommunications in manufacturing; and an update of National Aerospace Standard 963, Numerically Controlled Horizontal and Vertical Jig Borer. Projects extended from 1979 included aerospace welder performance qualifications; aerospace manufacturing productivity; automated wire harness assembly machine (NAS specification development); and resource and forecasting methodology. Reports of completed studies and projects were distributed to the Manufacturing Committee and other interested committees.

Heavy Press Study

The Manufacturing Committee established a study project to assess the adequacy of U.S. heavy press facilities. An *ad hoc* panel is gathering information applicable to current and future aerospace industry requirements, including existing and potential forging requirements; forgings not possible with existing presses but feasible through use of larger presses; potential savings through improved definition of existing or larger forgings; forging production rates and schedules for current and future aircraft; alternative design and fabrication options where large presses are not available; composite materials; and future design trends.



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Chairman, 1980/81
Manufacturing Committee



ROBERT D LOVELL
Northrop Corp

Chairman, 1979/80
Manufacturing Committee



HAROLD CHRISTIANSEN
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Chairman, 1980
Quality Assurance Committee



FRED T CARLSON
The Boeing Company

Chairman, 1980
Product Support Committee



W J STEFAN
The Boeing Company

Chairman, 1980
Spare Parts Committee



W S LORENG
ITT Avionics Division

Chairman, 1980
Service Publications Committee

Work Measurement Standard

AIA received from the Air Force Systems Command a draft standard on work measurement which proposes criteria to be contractually required in contractors' work measurement systems. The criteria are more rigid and detailed than current USAF provisions in contracts with some member companies. Submitted through CODSIA, AIA comments cited industry's serious concern with some features of the standard. The AIA response objected to proposed applications beyond existing work measurement systems; application to competitive contracts; mandatory use of the standard in cost estimating; lack of reasonable dollar thresholds to preclude greater costs than returns; and a number of other questionable and unrealistic provisions. Industry discussions with AFSC resulted in AFSC agreement to review the draft in detail—with AIA/CODSIA representatives—for modifications prior to publication.

Quality Assurance Projects/Studies

Eleven new quality assurance projects/studies were initiated in 1980 and several carried over from previous years were completed. Among the latter were the *Quality Resources Study for 1979*; the *Quality Technology Project*; a draft revision of *Corrective Action and Disposition System for Non-conforming Material*; a review of a draft *Allied Quality Assurance Publication, AQAP-1*; review of *AQAP-13, Software Quality Assurance Requirements*; and a review of a proposed USAF military handbook, *Evaluation of Contractor's Software Quality Assurance Program*.

Software Quality Assurance

A working subcommittee was established by the Quality Assurance Steering Committee to provide a forum for the exchange of information between

industry and government and for discussion of issues relating to software quality assurance. The subcommittee will focus on customer standards, regulations and procedures, and serve as a medium for consolidating industry problems, concerns and recommendations.

NATO Standard Agreement

Through CODSIA, AIA submitted comprehensive comments and recommendations to DoD regarding the proposed revision No. 3 to AQAP-1. The proposed document was to be cited in DoD production contracts in place of *Quality Assurance Requirements*, the current basic contractual quality assurance document. It would also be integral to NATO contracts. AIA/CODSIA took exception to many of the draft's cost-driving features. Industry representatives discussed their objections with DoD officials, in preparation for the latter's negotiations with NATO Quality Assurance committees. DoD agreed to support 45 of 52 AIA/CODSIA recommendations.

Quality Technology Study

The Quality Assurance Committee completed a study on Quality Technology (Q-Tech), undertaken at the suggestion of the Air Force Systems Command. The project group explored methods and technology required to enable quality assurance technology to maintain pace with rapidly advancing manufacturing technology, processes and management.

The study cited a lack of parity between product assurance technology and innovative engineering/manufacturing technologies, with little concerted assurance applications development by either industry or government.

Recommendations included greater administrative emphasis on quality technology projects; enlargement of technology applications activities to address more specifically overall quality/reliability assurance needs; increased annual funding on essential cost-effective projects offering high probability of success; initiation of certain assurance technology programs, starting in five high-potential payback areas; and realignments within the government laboratories.

Automatic Test Project (ATE)

The final report and executive summary of the Industry/Joint Services Automatic Test (ATE) Project were published after the Joint Association Project Group presented its results and recommendations to the Tri-Services Joint Logistics Commanders in March 1980.

The project examined, over a several year period, the coupling between automatic test and weapon system acquisition, technological shortfalls in testing, and automatic test applications. Eleven major recommendations for DoD and industry action were presented. DoD has initiated implementation of several of the recommendations and additional actions are pending.

Publications Seminar

Military and commercial airline representatives joined AIA members at a mid-year service publications seminar on coping with the problems of the 1980s. Among the conclusions was that commercial publications can summarize existing basic tech-

nical data, but increased automation is seen as the solution to data proliferation and improved data access over the long haul. Military customers view manual effort for in-house publishing as no longer cost effective. They prefer the automated prototype system which represents the first step toward a fully automated system. In this proposed approach, contractors will have full responsibility for engineering and developing technical data, and will transmit or deliver it on magnetic tape.

CETS Problems

An AIA task panel on DoD policy and conditions affecting Navy use of member company Contractor Engineering Technical Services (CETS) representatives concluded that Navy planning and programming for procurement and use of CETS personnel is not being carried out effectively.

AIA submitted recommendations for policy improvements to eliminate unrealistic time restrictions and distinctions between the advice/instruction/training functions and the liaison function in the application of contract field services. The recommendations were subsequently included in a DoD-commissioned Logistics Management Institute study on the use of civilian technicians, released in July 1980.

Complicating shipboard task assignments, especially aboard aircraft carriers, are the working and living conditions for CETS personnel. To alleviate this situation, the AIA panel drafted a Naval Operations Instruction intended to improve conditions for contractor personnel aboard ships.

Logistics Research

A joint AIA/DoD study effort on the subject of logistics research has resulted in a research project with the University of Missouri Institute of Science and Technology, objective of which is development of managerial and planning approaches by which DoD can increase readiness and reduce operations/support costs. Specific issues include hardware innovations, improved program procedures, better analytical techniques, institutional improvements, increased attention to human factors, and logistics criteria for inclusion in systems and logistics development programs.

Logistics Support Analysis

In a follow-on to earlier efforts—involving AIA, the Electronic Industries Association and the National Security Industrial Association—to develop recommendations for improving Logistics Support Analysis implementation, a joint OSD-Service-Industry Tri-Association Group has been established. The group's objectives include development—within a year—of guidelines for the analyses, tradeoffs and products required to implement acquisition and logistics policies, and the completion of work on revision of data definitions, structure and data processing specifications necessary for integrated logistics support programs.

Air Force Service Test

AIA members assisted an Air Force task group in conducting a service test of Air Force use of the commercial airline provisioning method which utilizes ATA Specification 200. This approach was taken to alleviate problems encountered with the

multi-country provisioning of the F-16 aircraft. The mock provisioning effort included briefings on ATA specification requirements, differences between the government and commercial airline systems, and the specific computer products with which the Air Force Logistics Centers would be dealing.

A final report notes that there are benefits to be gained by the Air Force in developing the capability to accept and process provisioning data in the commercial format. Necessary modification costs to the current Air Force provisioning system will be more than offset by the reduced provisioning data costs which would result.

Air Transport Association Liaison

A continuing review in the service publications and spare parts areas is being carried on by AIA member company representatives and their counterpart in the British, French, German and Italian trade associations with their airline counterparts in the Air Transport Association.

Among the joint efforts completed was a revision of the procedures for establishing standards for periodic reporting by airlines of inventory data to suppliers on their proprietary items and for reporting by suppliers to the airlines on the collective airline usage of their parts. Application of these procedures will facilitate predictions of usage rates for future initial provisioning and development of realistic lead times.

AEROSPACE PROCUREMENT SERVICE



The Aerospace Procurement Service supports the business management activities of member companies in the fields of accounting and financial management, contract administration, procurement law, industrial relations, industrial security, materiel management, patents, proprietary information and small and minority business. The Procurement and Finance Council and the Industrial Relations, Industrial Security, Materiel Management and Patent Committees, each composed of senior executives of member companies, provide experts to initiate actions seeking to improve business relationships or to resolve problems of mutual concern to government and industry. The Service was engaged in these major activities during 1980:

Cost Accounting Standards

Although the Cost Accounting Standards Board ceased operations on October 1, 1980, there remained a requirement to comply with the rules, regulations and standards promulgated in the Board's 10-year existence. Efforts to transfer to another agency the functions of promulgating, interpreting and amending standards failed in the 96th Congress.

Early in 1980, AIA representatives met with the CAS Board concerning proposed standards on the allocation of direct and indirect costs, which had potential for far greater impact than all previously-issued standards. AIA's principal points were that standards should not require or contribute to unnecessary proliferation of overhead pools; that practices of accounting for blanket-type direct costs not be abridged; and that accounting for special facilities continue on a "ready-to-serve" basis and not require that all costs be charged only to contracts which required use of such facilities. The standard as published indicated a positive response to AIA's views; as a result, the burden of compliance will be much less than would otherwise have occurred.

Critical Materials

Critical materials shortages, capacity and prices, and the absence of a national policy on non-fuel minerals, continued to be matters of industry concern during 1980. The Materiel Management Committee developed an AIA position supporting legislation to establish a National Non-fuel Minerals Policy. Subsequently passed by Congress, the legislation became Public Law 96-479.

Financial Accounting and Reporting

AIA provided comments and discussed with representatives of the American Institute of Certified



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Procurement & Finance
Council



ALBERT J. MILLER
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JAMES F. FITCH
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Industrial Security
Committee



WARREN G. SULLIVAN
General Dynamics Corp.

Chairman
Industrial Relations
Committee



JOHN E. PETERSON
TRW Inc.

Chairman
Materiel Management
Committee

Public Accountants (AICPA) a proposed *Statement of Position on Accounting for Construction-Type and Certain Production-Type Contracts*. Because the statement includes long-term contracts for production of unique goods or related services to a buyer's specification, a characteristic of the aerospace industry, it could have a significant impact on financial reporting. A number of the AIA comments and recommendations were accommodated in the revised statement which the AICPA will send to the Financial Accounting Standards Board for review.

Hazardous Materials

Through a multi-disciplined, multi-committee organization spearheaded by the Occupational Safety and Health Subcommittee, AIA finalized the administrative basis and understanding with the Defense Logistics Agency for member company participation in DoD's Hazardous Materials Information System. By this agreement, a computerized industry-wide system for collecting and utilizing hazardous materials has been made available to industry.

IR&D/B&P

An *ad hoc* Committee of AIA's Board of Governors discussed with senior DoD officials the matter of contractor cost sharing arising from ceilings imposed on contractors in advance agreements on Independent Research and Development (IR&D) and Bid and Proposal (B&P). As a result of that meeting, the negotiation process for advance agreements has improved.

The year produced an amendment to Public Law 91-441 to increase the dollar threshold at which a company or its divisions must negotiate advance

agreements with the DoD on IR&D/B&P costs that can be charged to defense contracts. The new thresholds are \$4 million and \$500,000, respectively. The amendment also authorizes the Secretary of Defense to adjust the thresholds every three years in accordance with changes in economic indices selected by the Secretary.

AIA was also actively involved with the DoD in reviewing multiple approaches to increasing the procurement relationship between industry and universities in the area of basic research. The impact of recent DoD and Air Force policy on manufacturing technology and its relationship to IR&D was a subject of considerable discussion.

In mid-December, AIA presented industry views on IR&D and its importance to a committee of the National Research Council formed to study IR&D issues. In addition to the presentation, the committee was provided copies of AIA studies and other documentation on IR&D.

Impact of Inflation

An *ad hoc* Committee of AIA's Board of Governors discussed with DoD officials the incompatibility of DoD contract financing practices with the current economic environment. It was noted that the present progress payment rate of 80 percent was established when interest rates were 6-8 percent and inflation was 4 percent. Even though the interest rate grew to 15-20 percent and inflation to almost 15 percent, there was no change in the progress payment rate. The result has been an increase in contractor investment in the operating capital needed to perform DoD contracts, an erosion of profits, and a reduction of investment in assets needed to improve productivity.

Recommendations to DoD included indexing the progress payment rate, expediting progress payments, increasing the use of milestone billings, and allowing the cost of operating capital. The last point was formalized in an AIA letter to DoD recommending that the cost of operating capital be made an allowable, allocable cost in the pricing and costing of DoD contracts.

Patent Policy

The year 1980 was a very active one as regards Congressional action toward establishing a single Federal Patent Policy. Bills on the allocation of rights to inventions made under government contract covered a broad spectrum. The result of this activity was Public Law 96-517, which provides that small businesses and non-profit organizations may retain title to inventions stemming from government contract work.

Principally through the Patent Committee, AIA participated in Congressional activities on all facets of patent legislation. In general, AIA found the patent policy of Public Law 96-517 acceptable. AIA voiced objections to recoupment and maintenance fees, remained neutral on reexamination, and supported increases in patent fees and copyright protection of computer programs.

Personnel Security Questionnaire

AIA proposed, and DoD accepted, a combined study to revise and improve the Personnel Security Questionnaire by making it shorter and adaptable

to word-processing systems, thus reducing the time required to complete personnel clearances.

Product Liability

For several years, an *ad hoc* Board of Governors Committee on Product Liability has been developing proposed legislation which would provide appropriate compensation to the public for damages arising from an aircraft incident occurring in commercial air transportation and, at the same time, provide appropriate protection against catastrophic losses to all parties legally liable for such damages. In 1980, AIA and the Air Transport Association reached agreement on the major provisions of the proposed Air Travel Protection Act. The associations also reached agreement as to further actions in connection with proposed amendments to the Warsaw Convention, which deals with international air transportation.

Profit Limitations

With the demise of the Renegotiation Board, the Vinson-Trammell Act—which limits profits on government contracts for aircraft and naval vessels—was automatically reactivated. There is general recognition among the Congress, cognizant federal agencies and industry that the Act is outmoded and should be repealed. However, some who support repeal also see a need for an alternative profit-limiting statute. AIA urged that the Act be repealed and that no alternative statute is needed in view of the controls imposed on defense contractors in the current procurement process.

Reporting Requirements

The Office of Federal Procurement Policy has issued and re-issued for public comment a Federal Agency Quarterly Subcontracting Report form (Individual) and a Federal Agency Quarterly Subcontracting Report form (Summary). In each instance, AIA, working through the Business Systems and Reports Task Force Group, sought to have the agencies limit information requirements to those prescribed by law.

Retirement Practices

In 1979, the Age Discrimination in Employment Act changed the mandatory retirement age from 65 to 70. Through the efforts of the Compensation Practices Subcommittee, AIA has developed an on-going study to compare and evaluate member companies' retirement experiences, by occupational category, with special attention to extensions beyond normal retirement age.

Security Software Protection

DoD requested AIA's assistance in solving a major problem: protecting classified software application on hardware used in both classified and unclassified modes. AIA provided a multi-disciplined team of computer and industrial security personnel to work with DoD counterparts in developing a procedure that will protect classified information throughout multi-mode operations, thus saving contractors considerable time and money by not having to purge a system after each classified run or invest in additional equipment.

Service Contract Act

The Department of Labor proposed extensive amendments to the Service Contract Act that would,

if adopted, have serious and costly impact on a government contractor's ability to manage its business and provide efficient contract performance. Through CODSIA, AIA presented to the DoL and the Office of Management and Budget comprehensive arguments against amendments that would extend coverage of the Act to professional employees and would expand "locality" definitions used for wage and fringe benefit determinations to the entire country. AIA also opposed an amendment that would redefine conforming procedures determinations to include retroactive liability for incorrect determinations made by contractors in good faith.

Technical Data

The Patent Committee continued to take action seeking to protect member company rights in proprietary information and data. AIA communicated concerns to DoD over the public availability—through the Freedom of Information Act—of technical data furnished to the government under defense contracts. DoD responded by issuing guidelines on the public release of technical data and a directive under which technical data is excluded as comprising government record.

A related problem is that much technical data is furnished to the government with unlimited rights, and thus is available to the public. AIA is seeking to have DoD withhold publication of technical data for a period of time sufficient to permit filing of foreign patent applications on inventions.

Uniform Procurement System

The Office of Federal Procurement Policy (OFPP) transmitted to the Congress a proposed Uniform Procurement System (UPS). The heart of the system is a Federal Acquisition Regulation (FAR) which will comprise the single procurement regulation applicable to all federal agencies. Recognizing that federal agencies have unique missions, the proposed UPS provides that each agency may issue supplements to the FAR provided they are not contrary to the FAR. Principally through the Procurement and Finance Council, AIA has commented on the FAR.

AEROSPACE RESEARCH CENTER



The Aerospace Research Center is engaged in research, analyses and studies designed to bring perspective to the issues, problems and policies which affect the industry and the nation. Its studies contribute to a broader understanding of the complex economic, social and political issues which bear on the nation's technological and economic status.

During 1980, the Center published a number of studies and participated in several projects which focus on industry concerns but involve broad national issues.

Center Studies

Recent national trends in R&D funding, in technology innovation, and productivity led to publication of a study entitled *Research and Development: A Foundation for Innovation and Economic Growth*. The study examined the contribution of federally-supported R&D to U.S. economic strength and the positive link between an industry's level of R&D performance and its international trade position. A high level of R&D performance has led to the aerospace industry's position as the leading industrial exporter. The study looked at the industry's prospects in terms of R&D funding trends worldwide and compared U.S. and Soviet defense and R&D outlays.

Another study, *Productivity in the U.S. Aerospace Industry, 1960-1978*, presented productivity trends over a 19-year period. It compared the aerospace industry's performance with that of a number of other U.S. industries and that of the aerospace industries in the European Economic Community, Japan and Canada. Factors that affect productivity, such as capacity utilization and investment, were examined, as were the public policies that have a broad impact on industry productivity performance. An important aspect of the study was a look at the various measures of productivity and the implications and accuracy of each.

A highlight of Research Center activities was coordination of a meeting of aerospace industry executives and Department of Commerce staff on issues of mutual interest: productivity/innovation, capital investment and foreign trade. The Center prepared briefing papers for the discussion and maintained liaison with DoC staff through the months preceding the national election.

National issues were also the focus in preparation of "Issue Statements" disseminated to key can-

didate staffers before the national election and to transition team members following the election. In addition to the issues discussed at the DoC meeting earlier in the year, the Issue Statements included industry positions on critical materials, space, transportation, R&D, energy and national defense.

Airport/Airway Congestion

The Center edited and published a report by the Technical Council's Civil Aviation Advisory Group on airport and airway congestion. The publication focused on industry concerns that congestion is threatening safety, imposing enormous delays and costs on carriers, shippers and passengers, and is likely to restrain air transportation growth.

Foreign Competition

In cooperation with the Civil Aviation Advisory Group, the Center initiated—late in 1980—a study which will explore the increasing strength of foreign competitors in the world transport aircraft market. The report will assess the implications of this trend and compare U.S. export practices and policies with those of other nations.

Export Benefits

With the assistance of the International Council, the Research Center is conducting a study on the national economic benefits of U.S. manufactured aerospace exports. The study will identify and measure the industry's contribution to the U.S. economy with respect to Gross National Product, export earnings, purchasing power, tax revenues and jobs. It will emphasize that the industry's ability to fund high technology R&D, and to contribute to national prestige and strength, is dependent upon a continuing strong export performance.

EDS Surveys

In 1980, the Economic Data Service (EDS) engaged in a number of surveys, including a study for the Air Force Systems Command on the impact of inflation on defense contracting. EDS's continuing services included the annual Industry Energy Consumption Report for the Department of Energy, the Semi-Annual Survey of Aerospace Employment, Aerospace Economic Indicators for *Aerospace* magazine, and quarterly reports of import and export statistics. EDS issued statistical series on employment, earnings, hours worked, government expenditures, contract awards, and production activity. The industry's annual authoritative statistical source, *Aerospace Facts and Figures, 1980/81*, was also developed by EDS.

AEROSPACE TECHNICAL COUNCIL



Chartered to focus on the realities, complexities and uncertainties relating to high technology systems development, the Aerospace Technical Council is the industry's senior technical body. It acts to detect changes in a fast-paced environment and to communicate the industry perspective to key policy levels. The Council directs the activities of its two divisions, which manage 11 committees and oversee a large number of working level technical projects. Major Council activities in 1980 included:

Airport/Airway Congestion

In cooperation with the Aerospace Research Center, the Council's Civil Aviation Advisory Group released a report on the escalating airport and airway congestion problems facing the nation and commercial aviation. Subsequent to the report, an *ad hoc* project group was activated to develop a plan for continuing AIA quest for solutions to these problems. The group will maintain an active AIA posture supporting legislation, research and development, funding and other matters. The effort will include programs for development of airport and air traffic control improvements to enhance safety and increase capacity. This activity will also include input to and evaluation of the ongoing study in the same areas being conducted by the Office of Technology Assessment.

Airport Type Certification

At a public hearing in November 1980, AIA joined other organizations in voicing strong opposition to a Federal Aviation Administration proposed change of policy in procedures for type certification of aircraft and engines. The far-reaching proposal would provide for re-evaluation of the basis for type certification of large transport aircraft. It also calls for retroactive application of new and amended regulations where FAA determines a need, and application of new or amended regulations issued in the period between application for and issuance of a type certificate.

A preliminary investigation of the potential economic impact of this proposal indicates costs of more than \$100 million for recertification evaluation and compliance with retroactive requirements for existing airplane programs expected to be affected. The increased costs to U.S. manufacturers could result in loss of sales to foreign competitors and a resulting negative effect on the U.S. trade balance.

Aircraft Safety

As part of a multi-organizational Federal Aviation Administration advisory committee, AIA participated



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WARREN E. MATHEWS
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Propulsion Committee



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United Technologies Corp.
Chairman
Civil Aviation Advisory Group



EUGENE SLAUGHTER
The Singer Co.
Chairman
Electronic Systems
Committee



NATHAN SHAPIRO
Lockheed Corp.
Chairman
Airplane Noise Control
Committee



CHARLES R. COX
Textron, Inc.
Chairman
Helicopter Noise Control
Committee



DONALD W. BAHR
General Electric Co.
Chairman
Aircraft Engine
Emissions Committee



DARRELL E. CORNELL
Northrop Corp.
Chairman
Flight Test and
Operations Committee

in a 1980 study of design aspects of transport aircraft related to fire and explosion reduction. In the committee's view, the current FAA investigation of anti-misting kerosene offers the most significant potential for reducing the post-crash fire hazard.

Under FAA/NASA funding, three transport manufacturers are reviewing accident data related to their aircraft and developing crash scenarios that could lead to design improvements for enhancing occupant survival in a crash. Other safety studies in progress seek to reduce hazards associated with in-flight cabin functions and to improve emergency lighting, evacuation slides and flotation devices.

Rotorcraft Regulatory Review

A Rotorcraft Regulatory Review Program was initiated with the submittal of several hundred regulatory proposals by industry and the Federal Aviation Administration. The proposals were reviewed at a late-1979 regulatory conference and at a 1980 public meeting convened at the request of AIA and the Helicopter Association of America (now Helicopter Association International).

Two major issues surfaced during these conferences. One concerns revised certification procedures to include three categories of utility aircraft—defined by gross weight, utilization and number of engines—and a transport category for rotorcraft carrying 10 or more passengers. The other issue centers on development of airworthiness criteria for helicopter instrument flight. Sixteen helicopter approvals have been made utilizing several versions of interim standards. These standards, which represent a consolidation of FAA, manufacturer and operator comments, will form the basis of the proposed Instrument Flight Rules for helicopters.

OMB Circular

In 1980, the Office of Management and Budget issued Circular A-119, *Federal Participation in the Development and Use of Voluntary Standards*, which lists a series of "due process" procedures which must be followed by private standards groups who want to retain participation by federal agency personnel. AIA's standards-producing committees are directly affected because of the high degree of participation by government agency personnel—especially those of the Department of Defense—in the development and implementation of aerospace standards.

The Department of Commerce, charged with implementing the circular, issued procedures for listing voluntary standards groups eligible for participation under A-119 rules. Along with other organizations, AIA objected to the overly prescriptive and burdensome nature of the procedural requirements imposed by OMB and DoC. AIA submitted comments to DoC, requesting exemption from the listing requirements in recognition of the unique user-oriented nature of its standards program and the special requirements of national security to which it responds. NASA and the Department of Defense, major users of AIA standards, strongly endorsed the AIA position.

International Standardization

TC 20, the aircraft and space vehicles Technical Committee of the International Organization for

Standardization (ISO), held its 24th plenary meeting in September; it was the third meeting since the U.S. assumed the secretariat of TC 20, which is provided by AIA. The session marked a milestone in the committee's progress toward fulfilling its role as a management body. At the plenary meeting, TC 20 completed a review of the activities of its 10 subcommittees, by means of "master plans" submitted by each of the subcommittees. After five years of experience in international standardization, it appears that AIA's assumption of the secretariat was a well-advised move toward increasing U.S. visibility and input in this area, which is steadily gaining in recognition and practical importance.

Defective Aluminum Plate

First apparent in 1979, the serious problem regarding improper heat treatment of several thousand aluminum alloy plates was resolved in 1980. The AIA *ad hoc* committee formed to coordinate industry views and activities reported resolution actions to the Defense Logistics Agency.

More than 100,000 pieces of suspect plate were inspected by 14 AIA companies; 1,020 defective pieces were discovered and removed from the system. Alterations were made to the furnace and ancillary equipment at the aluminum production facility. The committee formulated a draft of a proposed standard intended to tighten controls governing the heat treat process for aluminum.

Materials and Structures

AIA met with Air Force representatives at Wright Air Force Base and reviewed Air Force experience on recent aircraft programs employing new durability and damage tolerance concepts. Structural integrity, damage tolerance, durability and structural ground tests were discussed.

Review was also started on a new military specification on aircraft structures. The specification draft was reviewed by a number of aerospace companies. Other work is under way on corrosion prevention specifications for electronic components and weapon systems; reliability stress analysis of mechanical equipment; and specification reviews of proposed documents on electrical cable, coatings, hydraulic fluid, aluminum alloys, titanium alloys, material selection and heat treating.

Electronic Systems

AIA's ability to influence electronic system specifications and standards in the formative state, rather than merely reacting, is a primary goal. During 1980, more than 20 electronics-related military standards, specifications and handbooks were reviewed. Among major areas of concern were systems aspects of computer software, nuclear and natural radiation requirements, electromagnetic compatibility, aircraft electric power, and environmental test limits and requirements.

In the microelectronics area, a *Minimum List of Microcircuits for Document Support/Standardization* was compiled. The list, prepared annually for the Defense Electronic Supply Center, represents industry recommendations of microcircuits which should be made standard for new electronic equipment designs.

Energy Policy

AIA's Energy Task Force, created to monitor aerospace-related energy programs, formulated an *AIA Statement on Energy Policy* which was subsequently approved by the Board of Governors. The statement was prepared because it appears that the U.S. energy situation will remain a pervasive issue for the next 20 years, worsening considerably in the late 1980s but slowly stabilizing in the 1990s.

Space Project Group

AIA established a project group—composed of technical, financial, legal and international experts—to review the proposed *Agreement Governing the Activities of Space on the Moon and Other Celestial Bodies*, more commonly known as the "Moon Treaty."

The group found that industry should view the uncertain status of international control over possible space ventures as a significant deterrent to investment in such ventures. A particular concern expressed was that the Moon Treaty could result in an international regime which could control the technology developed by participants in a venture and give a share of the benefits to the parties who neither contribute nor participate in the venture. The AIA position was communicated to the Department of State with a number of reservations. AIA urged that, prior to ratification, a specific set of principles be embodied in the treaty in a binding manner; the association also submitted proposed principles.

INTERNATIONAL SERVICE



T. NORMAN LABASH
General Electric Co.

Chairman
International Council

The International Council is a guidance and coordination point for the exporting segment of the aerospace industry. It serves as a medium to exchange views between government and industry.

The year 1980 was characterized by uncertain and often contradictory official attitudes toward international trade. Financing for commercial aircraft sales by the Export-Import Bank drifted downhill. Negotiations to advance an international agreement on criteria for credits in support of commercial aircraft sales were delayed. Little progress was evidenced in a range of military cooperative efforts between the U.S. and its allies. There were, however, signs of an improving international trade environment as the Congress, elements of the Executive Branch, portions of the public and segments of the U.S. industrial community increasingly embraced the concept of expanded U.S. trade. During 1980, the International Council addressed these trade matters:

International Finance

AIA pushed to reverse the former Administration's budget recommendations which restricted funding for the Export-Import Bank. The year saw a period when the Bank was completely out of funds. Congress relieved the situation with a foreign aid appropriations bill containing \$5.1 billion in combined lending and guarantee authority for the Bank.

The intensity of officially-supported foreign competition spurred the U.S. government to explore an agreement on international credits in support of commercial aircraft sales. The aerospace industry urged consistency in government negotiations for a fair international agreement, with negotiations conducted in full consultation with industry. Moves to carry out such negotiations failed, not only for the aircraft sector but for other industries.

Multilateral Trade Agreement

AIA worked through the Industry Sector Advisory Committee and the International Council to monitor governmental enforcement of the Multilateral Trade Agreement, considered basic to the U.S. commercial transport manufacturing sector. The industry sees a clear need to follow the successful treaty negotiations with effective monitoring of the agreement's implementation. The ISAC has created a range of sub-groups—customs procedures, standards and certification, government support of aircraft programs, military and export finance—to offer additional outlets for coordinated AIA actions.

Militarily Critical Technologies

AIA and member companies worked with the Department of Defense to develop an initial list of militarily critical technologies. Although DoD is still

reviewing the classification and other issues, DoD processors of export licenses are using the document as a guide to decisions.

Through the AIA-sponsored Multi-Association Policy Advisory Group, AIA joined the American Electronics Association, the Computer and Business Equipment Manufacturers Association, the Electronic Industries Association, and the National Security Industrial Association in drafting letters to Executive Branch and Congressional officials to set forth the concerns of the industries over the incomplete work of the initial list.

Export Disincentives

A major AIA thrust in 1980 centered on attacking export disincentives and bringing substance to a national export policy. AIA expressed to the government the damage done to U.S. commercial aircraft sales by its use of commercial sanctions as a weapon of foreign policy. AIA provided the Executive Branch and the incoming Administration with material on other disincentives affecting the U.S. export performance.

Transatlantic Arms Collaboration

AIA effected improved consultation and planning on transatlantic arms collaboration between the association and the Department of Defense through a series of meetings and seminars. Member companies participated in a number of small meetings with senior DoD officials concerned with international security affairs, defense research and engineering, and procurement policy. Additional discussions were held at the International Council's Spring Meeting in San Diego. Companies participated in seminars on the reciprocal procurement Memoranda of Understanding concluded by the United States with Italy, Belgium, Norway, Denmark, Germany and Portugal. There were also a number of multinational co-development and co-production work shops, including panels with industry and government program managers.

This activity resulted in several improvements. The Department of Defense agreed to consult with industry when negotiating Memoranda of Understanding. AIA was able to obtain better implementation of the *Defense Directive on Standardization and Interoperability*, and modifications to the *Defense Directive on Co-Development and Co-Production*. The Defense Department is soliciting industry's inputs and sharing a quarterly roundtable with all of AIA's interested member companies to discuss developments, trends and difficulties.

OFFICE OF LEGISLATIVE COUNSEL



The Office of Legislative Counsel is responsible for communicating to AIA members the status of legislative matters affecting the industry. In 1980, the Office worked with AIA staff and member companies to prepare testimony on the Vinson-Trammell Act, the National Materials Policy Act, and airline safety. In addition, letters or position papers were submitted for the record of Congressional hearings on the Export-Import Bank, patent policy, increased penalties under the FAA Act, the Moon Treaty, com-muter aircraft availability, changes in the FAA's mandate, and the Airport and Airway Improvement Act of 1980.

OFFICE OF PUBLIC AFFAIRS



The Office of Public Affairs is responsible for informing the public about the goals and accomplishments of the aerospace industry in support of national security, space exploration, technological leadership, civil aviation, commerce, international trade and other national goals. In fulfilling these responsibilities it maintains liaison with and provides support for the Public Affairs Council. Support is also provided as needed to the Washington offices of member companies.

The Office of Public Affairs in 1980 continued to focus its primary efforts on the accomplishments of the aerospace industry as the nation's primary generator of high technology, as well as providing information on such economic factors as inflation, balance of trade, innovation, productivity, energy, and the problems of capital formation that affect the industry.

Liaison is maintained with government public affairs offices in those agencies of direct and indirect interest to AIA, as well as with such offices in pertinent trade associations. There was a substantial level of media inquiries during the year on matters related to the industry.

Publications

The quarterly publication, *Aerospace*, covered diverse subjects concerning industry activity. Feature articles included reports on productivity, pictorial coverage of new developments in aerospace, based on the Global Technology 2000 exhibits at the annual convention of the American Institute of Aeronautics and Astronautics; the Navstar navigation satellite; an article by the U.S. Trade Representative on the role of aerospace exports; a review of the industry's economic performance with a report on the outlook for the coming year; a full color picture story on Halley's comet; and a review of 1980 aerospace highlights.

Under a new cooperative agreement with *Aviation Week & Space Technology*, a McGraw-Hill publication, the 1980/81 AIA Directory of Helicopter Operators in the United States, Canada and Puerto Rico was compiled by AIA for computerization, publication, and commercial marketing by *Aviation Week*.

The 1981 AIA Directory of Heliports in the United States, Canada and Puerto Rico will be published under the same agreement.

Under a long-existing agreement with *Aviation Week*, *Aerospace Facts and Figures 1980/81* was published. The Aerospace Research Center compiles the statistical data for this book. It is edited, designed and produced by the Office of Public Affairs.



JAMES R. GREENWOOD
Gates Learjet Corp.

Chairman
Public Affairs Council

The internal publications, *Quarterly Digest* and *Key Speeches* were continued as Public Affairs projects.

Speeches

President Harr spoke before several audiences during the year, including the Air University and the American Astronautical Society. The annual Year-End Review and Forecast of the aerospace industry was presented to the Mid-East Region of the Aviation/Space Writers Association. Approximately 40 working press representatives attended as well as many government officials. There was extensive coverage from the news conference/luncheon.

TRAFFIC SERVICE



The Traffic Service provides staff representation before transportation regulatory commissions, carrier rate and tariff bureaus and various government agencies concerned with transportation issues. Providing specific direction for these representations is the responsibility of the Traffic Committee, aided by small task forces created to study specific problems and to develop action programs for Committee consideration. During 1980, these programs led to Traffic Service participation in formal proceedings before the Interstate Commerce Commission, U.S. Customs Service, the Materials Transportation Bureau of the Department of Transportation, and various carrier organizations.

Task Force Activities

The Export-Import Task Force recommended actions with respect to the duty-free entry of aircraft parts as contemplated by the Civil Aircraft Agreement. Concerned with U.S. Customs' implementation of the agreement, the Task Force provided practical positions related to international aerospace trade to assure the formulation of entry regulations to carry out the intent of the agreement with a minimum of regulatory restraint. The industry's viewpoint has in part been accepted by Customs and implemented into regulations which will result in considerable savings.

The DoD/NASA Task Force programmed and conducted industry/government traffic management seminars. It also performed initial review and drafted comments on government procurement regulations affecting traffic management.

The Air Cargo Task Force facilitated for member companies the transition of air cargo transportation from a regulated to a deregulated environment.

The Household Goods Transportation Task Force maintained surveillance of rate and service proposals of carriers and related ICC proceedings. The Task Force compiled data, provided facts, and made available witnesses to back up Traffic Service in its handling of household goods cases before carrier bureaus and the Interstate Commerce Commission.

The DOT/Hazardous Task Force performed similar functions as related to the air and surface movement of hazardous materials. Additionally, this Task Force was responsible for reviewing Department of Transportation rulemaking notices concerned with the transportation of hazardous materials and for preparing position papers for filing.

The Transportability Task Force coordinated the



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Chairman
Traffic Committee

activities of the Traffic Committee's efforts to obtain uniformity among the states of procedures for granting permits for the movement of over-dimension shipments on the nation's highways. The Task Force is completing an aerospace transportability manual for use by members in planning the movements of extreme dimension aerospace components.

The Surface Deregulation Task Force maintained surveillance over legislative and regulatory proposals and actions to deregulate rail and motor carrier transportation. Members were advised of contemplated deregulation proposals at meetings of the Traffic Committee, thus permitting them to determine positions and to take appropriate action.

Along with deregulation of air passenger services, considerable activity was generated with respect to the role of company travel departments and the extent to which they can assist in conserving travel funds. In 1980, the Business Travel Task Force apprised Committee members of developments in this area, particularly those related to a forthcoming proceeding before the Civil Aeronautics Board concerning ticketing and marketing and the role of commercial travel agents vis-a-vis company travel departments.

The Rates and Classification Subcommittee, as a permanent Subcommittee of Traffic Service, is responsible for maintaining surveillance of carrier rate and rule changes which are considered detrimental. If AIA action appears to be warranted, this subcommittee develops facts and compiles data necessary to permit AIA representation. The issues confronting this subcommittee are wide-ranging. They include: the reasonableness of increased rates for the transportation of parts and components for aircraft and missiles; rules for the movement of hazardous materials; the fairness of the practices of heavy specialized carriers; and household goods carriers whose services are used extensively by member companies in the movement of electronic equipment and employee personal property. In view of major transportation legislation in 1980, the Interstate Commerce Commission has announced a series of rulemaking proceedings which are under review.

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 Control Systems Division of
 Colt Industries Inc.
Criton Corporation
E-Systems, Inc.
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