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Message to the Membership



MR. HARR

The aerospace industry during 1973 reversed the trend of declining sales which started in 1968 and recorded sales of \$24.9 billion, an increase of 10 percent over 1972.

If interrelated factors such as the energy shortage and the nation's general economic condition combine to bring about a shift in aerospace business, there could be a slight decline in sales for 1974. The administration's Federal Budget for Fiscal Year 1975, however, suggests an upturn in aerospace procurement by the government sector during the year.

Other key economic elements of industry's performance during 1973:

- Commercial transport aircraft sales accounted for the most significant growth in sales, climbing from \$4.062 billion in 1972 to \$5.812 billion—a 43 percent increase.

- Aerospace employment fluctuated slightly. An estimated 935,000 workers at year's end represented a slight decline from the 944,000 workers at the end of 1972.

- Aerospace industry net profits, as a percentage of sales after taxes, increased slightly to 2.7 percent, compared with 2.4 percent in 1972, a growth pattern experienced by most U. S. industries. However, the aerospace profit percentage continued far below that of all manufacturing industries, which was 4.6 percent for 1973.

- The largest single customer for the aerospace industry continued to be the Department of Defense, with purchases totalling \$13.8 billion, a gain of 3.5 percent over 1972.

- Aerospace exports continued to make a significant contribution to the nation's total balance of trade. Exports rose dramatically to more than \$5 billion, the highest dollar volume ever attained. Commercial transport manufacturers delivered a total of 130 units to customers in 38 foreign nations. In total,

aerospace exports registered a 35.5 percent increase over 1972. In fact, without the aerospace industry's contribution, the U.S. would have experienced an overall negative balance of nearly \$2.7 billion, instead of a favorable balance of \$1.677 billion (the first such since 1970).

The President of AIA testified before Congress several times at the invitation of various Congressional committees. This effort enjoyed the full support and direct assistance of member company officials and Association councils and committees. Subject matter and committees included:

- Authorization Legislation for the National Aeronautics and Space Administration before the Senate Aeronautical and Space Sciences Committee.

- Trade Reform Act before the House Ways and Means Committee.

- Conversion to the Metric System before the House Science, Research and Development Subcommittee of the Committee on Science and Astronautics.

- Creation of an Office of Federal Procurement Policy before the House Legislation and Military Operations Subcommittee of the Committee on Government Operations.

- Space Act of 1958 and Future Role of the Aerospace Industry before the Senate Aeronautical and Space Sciences Committee.

- Creation of an Office of Federal Procurement Policy before the Senate *ad hoc* Subcommittee on Federal Procurement of the Committee on Government Operations.

In addition, the Association's positions on such subjects as Foreign Military Sales, Pension Reform Legislation, and Patents were provided to appropriate committees and subcommittees.

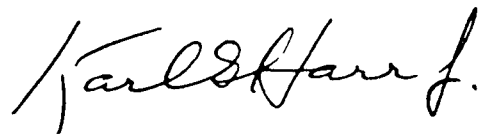
In another area, AIA's membership in the International Coordinating Council of Aerospace Industries Associations (ICCAIA), an organization sponsored originally by AIA, began to show results in 1973. For the first time in the history of the International Civil Aviation Organization (ICAO) the manufacturers of civil aircraft were represented formally and were permitted to participate in ICAO's proceedings. AIA supplied official observers to the third meeting of the Committee on Aircraft Noise (CAN III), members to the 10th meeting of the Airworthiness Committee, and representation to the first meeting of Working Groups B, C and D of the Committee on Aircraft Noise. AIA representatives have been unanimous in their endorsement of continued participation in ICAO by ICCAIA on matters of mutual concern. In addition to participation in ICAO affairs ICCAIA, with the Airport Association Coordinating Council and the International Air Transport Association, has sponsored the International Industry Working Group to improve

coordination of requirements for consideration in the aircraft-airport interface on a world-wide basis.

Between regular semi-annual meetings the operation of the Association continued to benefit from monthly conferences with members of the Executive committee of the Board of Governors.

A high level of activity was maintained by the Association staff, with the strong support of key personnel of member companies. Highlights and details are covered in the following sections of this 1973 Annual Report.

Respectfully submitted,



KARL G. HARR, JR.
President

Aerospace Operations Service

The Aerospace Operations Service (AOS) is concerned with the management fields of manufacturing, quality assurance, subcontract and materiel management, and post-delivery product support. Its six committees are augmented by subcommittees, ad hoc specialists groups, and project task panels of industry experts. They handle tasks related to new and revised governmental policies, regulations, statutes and procedures, and initiate projects to enhance the performance of the member companies in their functional areas.

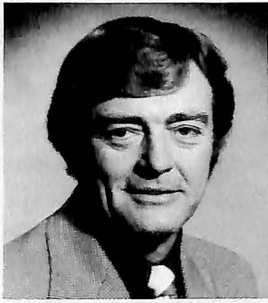
With the increasing emphasis on cost control, the Manufacturing Committee highlighted productivity in a workshop at a national meeting of representatives of government and industry. At a subsequent meeting, representatives of the Department of Defense, the Air Force Materials Laboratory and industry made presentations on current activities in the field of manufacturing technology. A similar interchange featured industry specialists in a review of company activities in advanced techniques of manufacturing, improvements of existing practices, and of selected government-funded programs related to metal forming, composites, and application of computer techniques in the manufacturing process.

Packaging and Material Handling

In view of the significant increases in cost of packaging and the severe shortages of many common materials previously used, a seminar was held with participation by industry and representatives of DOD and the military services on the utilization of commercial packaging for military contracts, new packaging methods and techniques, and interpretation and application of the multitude of imposed contractual specifications and standards. A new method gaining support, the application of foam-in-place packaging, was reviewed in detail.

Contractor Procurement Survey Reviews (CPSRS)

The Government conducted an extensive statistical survey of members' CPSRS directed toward the improvement of company procurement systems. A total of nearly 500 findings were documented in the returned questionnaires and the analysis of these is being grouped into eight subject areas. The final report will be published early in 1974 and distributed to member companies. Subsequent studies are being contemplated which



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 Chairman, Spare Parts
 Committee



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WALLACE E. FORE
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 Manufacturing Committee



ARNOLD GOOZE
Aerojet-General Corporation
 Chairman, Product
 Support Committee

will involve the assistance of government procurement officials to assess the cost effectiveness of many of the changes directed in the industry procurement systems.

Socio-Economic Aspects of Subcontracts

Work with DOD, the Department of Commerce, and the Small Business Administration continued on the subject of effective utilization of the capabilities of small business and minority small business in subcontracting on government contracts. Continued emphasis on the importance of minority small business was supported by President Karl G. Harr, Jr., as a member of the national Minority Purchasing Council.

Review and Comment on Government Specifications

This continues to be a significant activity in both the quality and the packaging and handling fields. Of particular importance was the final resolution of a problem in the gaging of screw threads with the specifications being amended as proposed by industry. Another major effort, continued from the initial work in 1971, was the review and comment on the MIL-STD-1520 (USAF), Corrective Action and Disposition System for Non-conforming Material, intended to replace USAF Specification Bulletin 515 early in 1974.

World Airlines Technical Operations Glossary—Fourth Edition

Joint efforts of AIA, the Association European des Constructeurs de Materiel Aerospatiale (AECMA), the Air Transport Association (ATA) and the International Air Transport Association (IATA) resulted in the preparation and world-wide distribution during August of the fourth edition of the World Airlines Technical Operations Glossary. The glossary is expected to improve world-wide inter-industry communications through the use of common definitions of terms relevant to the operation of the airlines' maintenance and engineering organization, including their interfaces with the manufacturers' product support and engineering organizations.

This continuing mutual review effort, which included the incorporation of a number of AIA recommended improvements, is directed toward standardizing definitions of terms common to the ATA specifications for service publications and supply data. The eventual goal of these efforts is to establish the glossary definitions as the acceptable ones wherever differences now occur in the ATA specifications.

NAS 900 Series Machinery and Equipment Specifications

A significant effort continues in revising and developing new specifications for the procurement of machines, equipment and

standard tools. Projects in work, or recently completed, include specifications for numerically controlled composite filament tape-laying machines, gas tungsten arc fusion welding equipment, direct numerical control (DNC) and adaptive control (AC) systems, and the review of all existing specifications for the inclusion of additional requirements imposed by the Occupational Safety and Health Standards Act (OSHA), and by recently defined alignment and reliability requirements.

Computer Aided Manufacturing

The final report of the *ad hoc* task group on Computer Aided Manufacturing was completed and is being prepared for publication. The culmination of several years of work, it will be distributed to all member companies for implementing concepts they consider useful. Two separate projects completed by *ad hoc* groups of technical specialists during the year were Equipment Utilization and Efficiency, and Tape and Tool Proofing for Numerical Control.

Improved Procurement Quality Assurance

This project, initiated at the request of the Air Force Systems Command, was completed and results distributed to member companies and to components of the Department of Defense. One on-going task—Quality Improvement of Electronic Piece Parts and Electronic Systems—will be completed in 1974.

Quality Resources Study

The object of this study is to update the Association's annual report on this subject which serves as a quality management tool as well as a reference for various company management functions concerned with quality costs and staffing. By using the same base comparison, data from the previous years can be compared with current data to indicate trends and changes, including those in overall averages.

Air Transport Association Liaison

Joint review efforts between industry supply and technical data publications personnel and their counterparts in the SBAC (Society of British Aerospace Companies), the French USIAS (Union Syndicale des Industries Aeronautiques et Spatiales), and the Air Transport Association were continued and extended to the product support area.

Because of the significance accorded to the ATA World Airline Suppliers' Guide by both domestic and international carriers, AIA recommendations clarifying the objectives and instructions outlined in the current edition of this document were presented to ATA early in the year. It was emphasized that this

Guide, which provides assistance to the manufacturer-supplier in establishing support policy with his airline customer, is intended only as a guide, rather than as a governing document. Informal discussions with ATA members have indicated that many of the AIA recommendations will receive favorable consideration in the next update of this Guide.

Anticipating the adoption by the Federal Government of a metric system as the official basic measurement system, members recently prepared a set of proposed rules and guidelines to standardize methods for presenting dual values of weights, measures and temperatures in manufacturers' publications which will be used by airlines during the period of conversion.

This proposal, which is compatible with American National Standards Institute and International Standards Organization values, and which was prepared in response to an ATA requirement to show weights, measures and temperatures in both metric and conventional inch/pound/Fahrenheit values in the texts and illustrations of publications, will be submitted to ATA early in 1974. The purpose is to prevent errors which might occur when units of measurement are converted from one system to another.

Another continuing task group activity with ATA and the British and French trade groups concerns the improvement of ATA specification requirements for integrated data processing of supply information. These efforts during 1973 resulted in the development of a new specification chapter covering the functional requirements for exchanging supply and purchasing information between suppliers and their airline customers utilizing a common communications text without restrictions or preference as to the type of data exchange equipment used by individual suppliers and airlines. In effect, this interface procedure will not change internal airline or supplier systems, can be activated at the option of the supplier, and permits flexibility in message content and format. It is anticipated that this specification chapter will be approved for implementation during 1974.

Integrated Logistics Support

Close working liaison continued with the DOD-Industry Integrated Logistics Support Advisory Committee providing further recommendations for the final draft of the ILS Planning Guide, supplementing earlier AIA proposed improvements submitted during the middle of 1972. In accordance with these later recommendations, a chapter on contractor support services has been added to the final draft, expected to be officially released early in 1974. The new chapter identifies and outlines the sequence of operations for contractor support services, such as advice, training and designated logistic support for the maintenance and operation of weapon systems and equipment provided by the producer to the military services user until the user has achieved the capability of performing these services.

With the addition of this support service guidance, together with other recommendations calling for a more adequate treatment of the interfaces of ILS with other disciplines (such as

quality control, reliability, configuration management), this latest ILS Planning Guide will provide a more comprehensive basis for managers within industry and the military services to tailor their management planning of specific tasks at a practical level of detail for logistic support planning and integration.

In a separate ILS review effort, AIA provided other recommendations to the Navy on a proposed standard for Logistic Support Analysis (LSA) for developing quantitative and qualitative logistic support objectives which can be refined into design parameters for use in design-cost-operational trade-offs. These recommendations pointed out the need for clarified identification of government-contractor responsibilities and interface requirements, as well as condensation of task and data requirements. Acceptance of these suggested improvements should result in more meaningful logistic support requirements in contract specifications. In turn, this will permit better control of major support costs and may provide an earlier means for achieving realistic and demonstrable life-cycle cost predictions. These efforts have persuaded the Navy to plan to redraft this standard accordingly.

DOD Consolidation of Provisioning Documentation

Participation in a Council of Defense and Space Industries Associations (CODSIA) project with the Department of Defense which had been initiated at the beginning of 1972 was continued. Its objective is to simplify and also reduce the proliferation of provisioning contractual documents used by the military services for the selection and ordering of spare parts. During 1973 these CODSIA efforts were instrumental in the development of a uniform DOD provisioning technical documentation standard prescribing the format and preparation instructions to be used by contractors. CODSIA recommendations also were provided for incorporation in the initial draft of a uniform provisioning procedures standard. This document will prescribe the terms and conditions governing the provisioning of end items, including the contractor's responsibilities for the items that he manufactures as well as all appropriate subcontracted items incorporated in his products.

Acceptance of these proposed improvements in this procedures standard will permit issuance of provisioning requirements information concurrent with the placing of Invitation for Bids or Request for Proposals to sub-tier suppliers for production hardware. This would preclude submittal after contract award which would complicate and increase the cost of procuring this data. Also, it will modify restrictive requirements to a position commensurate with other current specifications, contract clauses and Armed Services Procurement Regulation (ASPR).

Technical Manual Specification Reviews

Suggested improvements were provided to the Army on six specifications concerning technical manuals for Army aircraft,

consolidated procedures for the preparation of operators' manuals and checklists and crew members' checklists, requirements for demilitarization of surplus military items, general requirements for the preparation of technical manuals, non-nuclear explosive ordnance disposal procedures and content requirements for depot maintenance work.

The latter four of these documents represented the Association's continuing efforts to assist in the Technical Manual Specification Standardization (TMSS) program of DOD for the reduction of redundant procedures and conflicting requirements.

Government Competition in Publications Preparation

The trend among military services to perform ever-increasing portions of technical manual preparation and maintenance in-house, rather than having the work performed by the equipment manufacturers for both production and out-of-production hardware, was further substantiated by a recently completed member company survey. This increased government activity has caused a substantial decline in publications work in a majority of the companies and an attendant decline in contractor ability to provide technical manual support of products after delivery. Of survey respondents, only 19 percent have been afforded an opportunity to participate in competitive bidding with military agencies for handbook preparation.

Based on the data gathered, a position paper has been prepared for presentation to DOD officials early in 1974. It recommends a continuation of the practice of acquiring those publications and services from private industry that now are procured in that manner, and a reversal of conversion of such activities to in-house performance. It also recommends that DOD develop an instruction to be issued to the military services establishing quantitative and qualitative limits on the technical manual preparation and/or maintenance to be done in-house or by competitive procurement among commercial publications houses not related to the manufacture of hardware. It is believed that this would be compatible with DOD's current program to place greater reliance upon industry for life-cycle support of weapon systems.

Microfilm/Microfiche Requirements

In the technical data publications area the aerospace industry is faced with a multiplicity of specifications and lack of standardization of microfilm systems (e.g. microfilm and/or microfiche) employed for military service and commercial airline customers. This was the finding of a survey of member companies conducted during 1973 in an effort to determine trends toward a particular type of microform system which, in turn, could facilitate the standardization of formats.

It was noted that there are many microfiche systems which

utilize various image/data reduction ratios ranging from 12-to-1 up to 250-to-1. However, one of the ratios most widely used by AIA members is 24-to-1, which also is the accepted standard for such organization as the American National Standards Institute and the International Standards Organization. These facts were emphasized in recommendations provided to the General Aviation Manufacturers Association during the Fall of 1973 in response to their efforts to propose a new "aerofiche" specification utilizing still another reduction ratio of 40-to-1.

Based on survey results, it appears that a number of industry users have not been able to determine whether a standardization program for microforms is feasible. However, the proliferation of projection/reading equipment and type of viewing systems necessary to accommodate the various image/data reduction ratios is imposing an increasing burden on both the supplier and the users. An AIA planned government-industry microfilm workshop is scheduled for early 1974 to seek a solution to this problem.

Aerospace Procurement Service

The Aerospace Procurement Service acts in support of the business management activities of member companies, particularly in the fields of contract administration, finance, accounting, procurement law, patents, industrial relations and industrial security. One council and three committees of senior company executives provide experts to initiate actions seeking improvements in the business relationships of government and industry, to resolve problems of mutual concern to government and industry in these fields and to develop and present the views of the aerospace industry on Government actions impacting the supported and related activities.

In this functional area efforts were continued to obtain sound and equitable Government procurement policies, practices and procedures affecting the business management activities of the aerospace industry. The year was marked by concentrated efforts in certain areas such as access to records, cost accounting standards, cost recovery of independent research and development (IR&D) and bid and proposal (B&P), implementation of the Occupational Safety and Health Act and patent law and regulation revisions.

Access to Records

Defense Contract Audit Agency (DCAA) auditors continued during 1973 to press for greater access to the records of contractors, particularly those records used for management purposes. In May the Board of Governors appointed an *ad hoc* committee to handle this matter and several meetings were held with high-level DOD officials. A principal point by industry at such meetings was the necessity for DOD auditors to recognize and observe the specific purpose for which a contractor furnished access or disclosed certain records. As a result of these actions, it was generally agreed to seek solution to access to records problems at the contractor level. To accommodate this procedure, further activity has been held in abeyance. At the close of the year discussions among DOD auditors and member companies still were under way.

Independent Research and Development/Bid and Proposal

In government contracts, particularly those with the Department of Defense, the recovery of a contractor's reasonable costs for independent research and development (IR&D) and bid and proposal (B&P) effort continues to present a major problem.

In recent years, actions initiated within Congress have imposed specific requirements on the recovery of these costs.

Reimbursement to contractors for reasonable and allowable costs were made more complex by Public Law 91-441 of 1970, which required the Secretary of Defense to find a potential relationship of contractors' efforts to a specific military operation or function. This requirement has had a decisive repressive impact on both IR&D and B&P efforts.

A new and serious concern for industry arose during 1973 when reimbursement for these cost was again challenged in the Senate. This challenge culminated in a request by Senators Thomas J. McIntyre and William Proxmire to the General Accounting Office to conduct an in-depth study of IR&D and B&P. The thrust of the study was evidenced by 22 questions posed by the Senators in which the need for, elimination of, or the substitution of government-directed effort for IR&D and B&P are raised as issues.

To develop and present comprehensive views across the whole spectrum of this problem area in 1974, an *ad hoc* Tri-Association Committee of senior company executives was established by the Electronic Industries Association, the National Security Industrial Association and the AIA.

Meantime, working with CODSIA, several presentations were made during 1973 seeking appropriate revision of the ASPR to handle equitably the cost of deferred IR&D and B&P expenses on follow-on contracts. At year end DOD had these suggested revisions under consideration.

Economic Stabilization Program

The end of Phase II, the short-lived Phase III and the beginning of Phase IV of the President's Economic Stabilization Program, all occurred in 1973. AIA continued its role of monitoring and advising member companies as to significant developments which might have an impact on the aerospace industry.

In mid year, AIA requested the Cost of Living Council to decontrol the aerospace industry. The request was based upon two major premises: military aerospace sales are under significant Government controls, and commercial sales consist principally of long term contracts to provide capital goods to the air transport industry. The request is under consideration, according to the Cost of Living Council. Economic data on the industry is being collected and will be furnished to the Council to assist in expediting favorable action on the request for decontrol.

Product Liability

For several years the Association has been seeking an appropriate means to assure a fair, full and fast recovery by the public, including air passengers, for damages that might arise from an accident occurring in either domestic or foreign air transportation. These efforts have resulted in the development of a program, including draft legislation proposed by industry to

achieve this goal, to afford proper protection of all parties that might be legally liable, including aircraft manufacturers and their suppliers.

Efforts to advance this program had been deferred pending resolution of an amendment to the Warsaw Convention, known as the "Guatemala Protocol", which would affect only foreign air transportation. In November, however, the AIA Board of Governors decided that to defer positive action beyond January 1, 1974, would not be judicious. Therefore, action was initiated to prepare presentations to appropriate audiences for use by senior executives of member companies.

Patents

A resurgence of Congressional interest in the U.S. Patent System in both domestic and international areas occurred during

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1973. In addition, several Federal agencies issued regulations to implement the revised President's Policy Statement on Patents.

Legislation which would substantially revise U.S. Patent Laws (Title 35 USC) was introduced in both the Senate and House (S.1321, S.2504, and H.R. 11868). The Association filed comments on S.1321, taking exception to certain specific provisions of the bill, such as interparties opposition practice, establishing an Office of Public Counsel, deferred examination, and maintenance fees. At year's end, S.1321 had not been acted upon and because S.2504 and H.R. 11858 were dormant, comments still were under development.

Several bills introduced in the 93rd Congress dealing with the energy crisis, such as S.1283, contained provisions dealing with the disposition of rights to inventions made under Government research and development contracts and the mandatory licensing of privately developed patents and proprietary information. AIA comments, supporting a patent policy under which contractors generally retain title to inventions made under government R&D contracts and opposing mandatory licensing, were filed with cognizant Congressional committees.

The Association reviewed several proposed revisions to the U.S. Patent Laws which would enable participation by the United States in the Patent Cooperation Treaty. AIA was in general agreement with the proposed legislation, so no comments were filed.

Revisions to the Federal Procurement Regulations (FPR), the Federal Property Management Regulations (FPMR) and the Procurement Regulations of the Department of Interior were proposed to implement the revised Presidential Policy Statement on Patents. In each case comments were filed urging certain changes to the proposed regulations. It also was noted that the incentives of the U.S. patent system are best utilized when contractors have the right to retain title to inventions made under Government R&D contracts and that the Government should not be in the patent licensing business, particularly to issue exclusive licenses. The regulations as issued reflected acceptance of some of AIA's suggestions. At year's end, patent licensing provisions of the FPMR were being considered by the courts.

Technical Data

DOD and industry have long been concerned about the rights of the Government and the contractor in computer software developed or used in the performance of a Government contract. To establish appropriate guidelines for the Government's acquisition of rights in computer software, DOD issued a proposed revision to the ASPR. Acting through CODSIA, comments were filed which are being considered by the DOD.

In connection with technical data, the Patent Committee has under development a position paper proposing an appropriate policy for Federal Agencies to govern the acquisition and handling of contractors' proprietary information.

Industrial Relations and Security

Many of the safety standards developed by the American National Standards Institute (ANSI) are the basis for requirements imposed on contractors under the Occupational Safety and Health Act. AIA has representatives on 19 ANSI committees producing standards and has sent 11 draft standards to member companies for review and comment. Additionally, two questionnaires served to compile safety data for the companies.

The Occupational Safety and Health Administration (OSHA) issued a proposed rulemaking under which the results of monitoring by OSHA inspectors in the course of inspections to determine compliance with standards on noise, ionizing radiation, and asbestos and other air contaminants, would be made available for public inspection. Public availability of such raw data could result in misinterpretation, creating a potential for unwarranted employee apprehension or public condemnation. Accordingly, objections to the proposed rulemaking were made, pointing out that interested parties are adequately informed under existing procedures.

Annual surveys were continued on various personnel practices and collective bargaining agreements. A list of expiration dates of all reported collective bargaining agreements, in chronological order by year and month was compiled. During 1974, participating companies will be conducting labor negotiations for 101 collective bargaining agreements covering about 135,888 employees. October 1974 will be the busiest month, with 26 agreements expiring.

Close liaison with the administrators of the Defense Industrial Security Program continued. A meeting was held with the administrators and Security Chiefs of the 11 Defense Contract Administration Service Regions to exchange views, discuss problems and work toward a more uniform application of security regulations in all regions.

Working with CODSIA, the Association presented industry views and recommendations on proposed changes in the Industrial Security Manual (ISM). One case involving more than 90 important changes to the ISM necessitated by the DOD Information Security Program Regulation implementing Executive Order 11652 and the National Security Council Directive, resulted in a meeting with Government administrators to determine the rationale for the changes so that more responsive suggestions to provide proper security compatible with industrial operations could be provided.

Fifteen facilities of member companies were among the 36 winners of the 1973 James S. Cogswell Outstanding Industrial Security Achievement Award. About 12,000 industrial firms having DOD security clearances to perform on classified contracts were considered for the award.

Warranties and Consequential Damages

In late 1972 DOD decided to treat warranties and consequential damages separately and provided industry an opportunity

to comment on proposed ASPR revisions on the latter subject. While the proposed ASPR revision accommodated many previous AIA comments, a number of problems remained. Two comprehensive papers were developed and submitted, and discussions were held with DOD. Some major issues have been resolved favorably, (e. g. in the area of subcontractor flowdown, liability to transferees, service contracts and insurance). At the end of 1973 the final revision to the ASPR had been developed for inclusion in the 1974 edition.

A proposed ASPR revision on warranties, received in the summer of 1973, accommodated many industry recommendations. However, some inequitable provisions and voids were not corrected. A comprehensive response was submitted in late 1973. The final revision probably will be published about mid-1974.

Cost Accounting Standards

Activities of the Cost Accounting Standards Board are beginning to have a much greater impact on member companies. At the close of 1973, four standards had been issued and four other were under active development. Although the Board appears receptive to suggestions, the content and administration of its promulgations has increased the cost and complexity of Government contracting without commensurate benefits.

Comments were submitted through CODSIA with suggested changes to proposed standards throughout the process of development and promulgation. Industry action also sought, under the law, Congressional rejection of the standard on allocating home office costs to segments because it contained rigid accounting rules rather than broad criteria. Because of concern expressed by member companies in this matter, the Board of Governors appointed an *ad hoc* group on Cost Accounting Standards to develop a program. The program, approved at the Board of Governors meeting in November 1973, includes a meeting of AIA top management with the Cost Accounting Standards Board and increased manpower to be applied to Cost Accounting Standards matters.

Profit Policy and Contractor Investment

In 1972, DOD revised its policy so that progress payments and cost reimbursements would be made not more often than twice a month and subcontracting costs would be based on payments made. To compensate for the increased investment required of contractors, DOD provided percentage factors to be added to negotiated profit rates. These percentage factors are based on the then existing short-term borrowing rates. Because such borrowing rates have increased significantly DOD has been requested to amend its policy to have the percentage factor computed on current short-term borrowing rates. DOD is considering this recommendation.

The profit increment policy is an interim measure. DOD has published a new profit policy providing that profit on certain

negotiated contracts would be based 50 percent on contractor investments (Return on Investment) and 50 percent on other effort as represented by estimated costs (Weighted Guidelines). This new policy was to be implemented on a voluntary basis and on selected production type contracts. As a matter of fact, however, there have been no volunteers to test the new policy in actual contract negotiations. The Association believes that contractor investment should be considered in negotiating contract terms and conditions. However, AIA does not favor the DOD policy and, acting with CODSIA, has recommended that the Cost of Capital be considered as a contract cost. This approach has a number of significant advantages, but adoption will be difficult because of the traditional DOD position that "interest costs are unallowable." At year's end DOD was studying a number of alternate courses of action to implement its new profit policy.

Government Furnished Facilities and Property

During the year DOD increased pressure on companies to submit and obtain approval of plans to "phase out" the possession and use of Government furnished facilities and property. However, DOD has granted a number of deviations based on submitted justifications within the kinds of exceptions authorized. Administration of this program is difficult because of the absence of legislative authority for the negotiated sale of Government property in possession of contractors. Moreover, Congress has not acted on bills authorizing such sales.

At DOD's request, the Logistics Management Institute (LMI) has conducted a study of "Rent Across the Board" policy and believes such a policy could be substituted for the existing "Rent-Free Usage" provisions of contracts. Association comments on the LMI proposal indicate, in general, that legislation to authorize contractor purchase of property is not necessary to make the policy viable.

Although a minimum of additional facilities and property are now being furnished to contractors by government, problems continued to arise with respect to the administration and control of existing property which is older and less useful. Particularly AIA has been seeking relief from the additional administrative burdens imposed in new regulations and interpretations issued by the Air Force Contract Management Division (AFCMD).

Another burden in the administration of facilities and property could be added if DOD adopts a recommendation of the General Accounting Office that contractors be required to use debit and credit type accounting in addition to the item and financial records that are now maintained.

During the year NASA adopted a new "Equipment Visibility System" designed to obtain more detailed records on existing equipment in order to increase the reutilization of such assets. At year's end, AIA has scheduled a meeting with NASA to discuss some of the difficulties contractors have encountered in re-

sponding to NASA request for data to implement the new system.

Business Systems and Reports

During 1973, Federal independent regulatory agencies were removed, by statute, from the obligations of the Federal Reports Act of 1942 to obtain approval of the Office of Management and Budget as to data collections from the public. Such agencies now can request data from the public, the only requirement being that the data request be forwarded to the General Accounting Office, which has 45 days to advise as to whether the data is available from government sources.

While still under the constraints of the Federal Reports Act of 1942, the Federal Trade Commission proposed a collection of data identified as the "Line of Business Report." This Report, as proposed, called for a significant amount of cost and revenue data for every product line of a large company. The Office of Management & Budget conducted a public review of the FTC request, at which it was strenuously opposed by representatives of the private sector. The Association submitted a statement and was represented at the meeting. Because of the statutory change, FTC is developing a revised format and report requirements.

DOD continued to implement the Cost/Schedule Control System Criteria (C/SCSC) by adding further ASPR provisions; the development of a C/SCSC Surveillance Guide for use by DOD personnel in contract administration functions; and the issuance of a proposed new Cost/Schedule Status Report, for use on contracts not large enough to warrant a full Cost/Schedule Control System Criteria requirement. These developments are

being monitored.

AIA also monitored a DOD study of Military Standard Contract Administration Procedures (MILSCAP). This study may influence future direction of the system and could have implications for contractors because of the data requirements imposed upon them.

Commission on Government Procurement

In early 1973 the Commission on Government Procurement issued a five volume report containing 149 recommendations relating to the Federal procurement process. For those topics within its purview, the Procurement and Finance Council established an *ad hoc* review group to analyze each, and to reach a tentative position as to whether the association should support, oppose, suggest additions or changes, or take no position. Each recommendation was assigned to an existing task or project group, as appropriate. A principal Commission recommendation is the statutory establishment of an Office of Federal Procurement Policy (OFPP), the main function of which would be to establish a system of Government-wide coordinated, and to the extent feasible, uniform procurement regulations. Legislation was introduced in both the House (Congressman Holifield) and Senate (Senator Chiles) to set up an OFPP. In hearings, the association testified in support of this legislation.

As to certain actions seeking to implement Commission recommendations (e.g., organizational conflicts of interest and role of the contracting officer) AIA has commented both formally and informally. On others (e.g. major acquisitions) AIA action is being held in abeyance pending the appropriate time.

Aerospace Research Center

The Aerospace Research Center is an integral in-house activity designed to support the broad involvement of the Aerospace Industries Association in policy areas of national and industry-wide concerns. As such, the Center contributes to a fuller understanding of complex problems and issues through an objective and analytical investigation of the facts surrounding important developments affecting the social, technological and economic well-being of the nation.

The year brought new dimensions to the Aerospace Research Center. Both the economic data services and the library facilities were placed under the stewardship of the Center. The integration of these operations with the existing capabilities of the research center served to enhance the supportive role the Center has played since its inception in 1971.

The activities of the Aerospace Research Center during the last 12 months ranged from periodic in-house reports on such broadly based issues as "the energy problem," to refined studies on particular concerns such as "monopsony," to the rendering of either forecasts or reviews on the movement of

economic forces pertinent to the continued development of the aerospace industry. The *Year End Review*, a coordinated effort of the Research Center and the Office of Public Affairs, falls into this latter category.

The Center also focused on areas that are of present and future concern to the industry as a whole. Investigation began on such problems as technology transfer, R&D trends in relation to capital outlays, long range economic forecasting, and other economic matters of significant interest to the membership. The Center also initiated studies dealing with the financial characteristics of the aerospace industry and with new techniques and methods for analyzing the economic problems of the industry. Most of these studies, begun during 1973, will be completed during the first half of 1974.

The Research Center also contributed to position papers and speeches on various topics (e.g., international trade and competition, and the energy crisis) to assist the President of AIA in some of his public pronouncements.

Throughout the year, the economic data services of the Center continued to analyze and prepare statistical reports on a variety of subject areas. *Aerospace Facts and Figures* and the *Semi-Annual Employment Survey* are mainstays of this operation. In addition, reports based on information provided from a number of sources, including member companies and Government Agencies, were issued on import and export data for the industry, employment trends, and other areas of general interest regarding aerospace.

The Research Center's reference library continued to function as a useful repository of aerospace information for staff members, member companies, Government offices and educational institutions. During the latter part of 1973, an improvement program was initiated to review and update the library's holdings and to develop an improved cataloging system for the library's special collections. The project, designed to increase the overall effectiveness of the Research Center, will be completed late in 1974.

Aerospace Technical Council

The Aerospace Technical Council is the industry's top level technical advisory body through which broad technical and management problems affecting both government and industry are reviewed and solutions are sought.

During 1973, the Council continued to serve as the channel for communication with senior technical management officials in the Government, with the objective of bringing the industry viewpoint and perspective into consideration while Government policy is being formulated. Through exchanges of industry-Government views, mutually acceptable solutions to technical management problems having significant impact on the aerospace industry were proposed.

The series of counterpart meetings with Executive Branch officials provided valuable exchanges on such subjects as implementation of Department of Defense policy for major systems acquisition, design-to-cost policies and implementation, Independent Research and Development (IR&D), technology assessment, the national technology program, technology incentives, the role of the President's new Science Advisor, R&D levels, operation of the newly established DOD Standards Board, acceptance of industry standards and elimination of duplication, and Commission on Government Procurement recommendations. During the coming year the scope of "unfinished business" makes it particularly important that there be early and frequent meetings with the incumbent Assistant Secretaries.

The Council concentrated on three project activities. It reviewed and endorsed a proposed Department of Defense Directive on Development of Major Defense Systems; it reviewed and commented on proposals for the National Aeronautical Facilities Program; and in coordination with the Procurement and Finance Council conducted a major study of Defense System Cost Reductions in the implementation of Design-to-Cost policy.

Through its Executive Committee, Technical Specifications Division, and Airworthiness Requirements Division, the Council set policy for its nine technical working committees, and exercised management review and control of the technical project activities of those committees.



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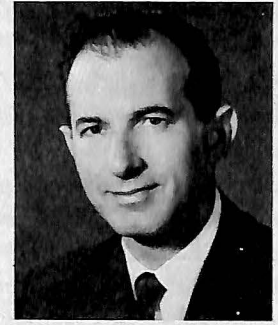
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HARRY DRELL
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 Emission Control Committee



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 Systems Committee



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 Chairman, National Aerospace
 Standards Committee



WILLIAM J. SKILLMAN
McDonnell Douglas Corporation
 Chairman, Propulsion
 Committee



EDWIN D. SAYRE
General Electric Company
 Chairman, Materials and
 Structures Committee

Implementing Design-to-Cost

At the close of the year a study to review and analyze, from the perspective of industry experience, the existing extensive material on Design-to-Cost' philosophy and the direction of implementation of this concept was being completed. The objective was to identify implementation problems and to propose practical solutions.

The study found that industry endorses the principles of DOD directive 5000.1 as basic necessities for the contractual implementation of design-to-cost philosophy and that, in particular, the principle of continuous, practical trade-offs between system cost, performance, and schedule is critical to success. The analysis concluded, however, that there are several potentially significant problem areas, all related to implementing stated Government policies. These problems are anticipated at the working level in the practical implementation of top echelon policy. In all, the study tabulates 15 specific major problems which inhibit the continuous trade-off process, with corresponding recommendations.

The study predicts that although industry agrees with design-to-cost philosophy and is motivated to fulfill it, the concept will become just another idea that will pass from the scene, without having had any significant effect on Defense business, unless positive action is taken to ensure that design-to-cost policy is effectively implemented at all levels of the Government and industry.

Defense System Engineering

The development of system engineering policy and implementing documents was monitored closely in discussions with DOD representatives throughout the year. In March, the Joint Logistics Commanders completed their draft of a proposed military standard on Defense System Engineering which had been requested by the Director, Defense Research and Engineering (DDR&E) Steering Group on Defense Systems Acquisition. In August the Air Force issued a regulation which establishes policy and principles for the management of a totally integrated engineering effort, outlining the engineering effort typically applied, phase by phase throughout the acquisition life cycle. Each of the military services is preparing a guide in support of the proposed military standard to fulfill the needs of each individual command.

In September, a National Security Industrial Association (NSIA) proposed DOD directive covering the Development of Major Defense Systems, including system engineering policy, was reviewed and endorsed. The completed document was forwarded to DDR&E in November.

A project was established late in the year to review the Air Force Regulation and the JLC prepared standard. Comments are being prepared for the Air Force and DDR&E aimed at an acceptable solution to contractual requirements for system engineering.

Acquisition Management Systems and Data Requirements

With the current critical need to reduce costs involved in the acquisition of weapon systems there were encouraging signs during the year that the DOD at top levels is seriously attempting to eliminate unnecessary costs associated with contractually applied management systems and associated management data.

A new Executive Department policy requires that such requirements generated by DOD be approved at the level of the Office of Management and Budget (OMB) before being used contractually. As a result, the three Military Services have been directed to make a thorough review of all existing management systems and management information which can be required of contractors, with the objective of reducing duplication, minimizing overlap, associating data with prescribing documents, and reducing to the absolute minimum the number of management systems which will have to be approved by the OMB.

The Services also have been directed to establish Review Boards to thoroughly review Requests for Proposals (RFPs) and contracts for the purpose of eliminating non-essential requirements for management systems and data reports which cause excessive weapon systems acquisition costs. A special study at the Office of the Secretary of Defense (OSD) level was directed to earmark those standards and specifications which most frequently are not applied with a view to holding down contract costs.

DOD led the Executive Branch effort to study and define application procedures for those recommendations of the Commission on Government Procurement which deal with cost-need justification analysis of data requirements and with the standardization and minimization of criteria for contractually applied management systems.

The Air Force in its Project ACE (Acquisition Cost Evaluation) has recognized as one of the major findings that excessive costs are caused by the overzealous application of management systems and data requirements and misapplication of standards and specifications.

A top level DOD policy document which encompasses many principles which industry has long advocated with regard to the procurement of data and the application of management systems was being coordinated at year's end. This document advocates procurement of data, properly time-phased for generation and delivery, utilizing the contractor's format to the utmost extent practicable. It also promises more recognition of the contractor's management system for satisfying the government's need for management information.

Aerospace Technical Council project groups have worked with DOD in developing many of these policies.

Engineering Disciplines and Design Requirements

DOD requirements documents covering the engineering disciplines and test requirements continued to receive attention by

the Council. There were projects which dealt with reliability and maintainability test programs, reliability prediction techniques, human engineering requirements, value engineering provisions, automatic test equipment compatibility requirements, built-in test equipment provision, and transportability engineering. The emphasis in the AIA review of such documents and in the AIA positions concerning such requirements was to seek assurance that requirements imposed contractually permit the contractor adequate freedom to exercise the necessary trade-offs in the system engineering process to achieve optimum system and cost effectiveness and to meet design-to-cost objectives.

Airworthiness Standards

Council representatives were fully responsive to the Federal Aviation Administration's invitations to comment on proposals to change existing airworthiness standards, establish new standards and discuss the application of current aircraft certification rules. Formal technical presentations were made to FAA's airworthiness engineering representatives on proposed criteria for design of cockpits of transport category airplanes, lower deck passenger compartments of wide bodied jet transport aircraft, and use of reduced jet engine thrust for takeoff by transport aircraft. AIA representatives reviewed and presented at a public meeting extensive comments on an FAA proposed guide covering procedures and methods for certification flight testing of transport category aircraft. A similar guide for helicopter flight testing has been reviewed and formal comments will be furnished to the FAA in February 1974.

International Airworthiness Requirements

A close working relationship continued with the Association European des Constructeurs de Materiel Aerospatiale (AECMA) which consists of aircraft manufacturers of France, Germany, The Netherlands, The United Kingdom, Italy, Sweden and Belgium. This European Association has continued to develop a joint airworthiness code for transport aircraft and AIA has reviewed portions of the draft code and submitted comments. During the year the International Coordinating Council of Aerospace Industries Associations (ICCAIA) participated for the first time in an International Civil Aviation Organization (ICAO) committee meeting. ICCAIA, with representation from Japan, Canada, AECMA and the U.S., is continuing to consider international airworthiness proposals and to prepare for the next ICAO meeting in Montreal, Canada, in 1975.

Aircraft Noise and Emission Control

Council representatives participated in the Congressionally-directed study of aircraft noise conducted by the Environmental

Protection Agency (EPA) and provided formal comments on drafts of that agency's study report to Congress. Comments were submitted on the standards proposed by EPA to control air pollution from aircraft and aircraft engines and the standards ultimately adopted appear reasonable. The Federal Aviation Administration is charged with enforcing compliance with the emission standards and its implementing rule also has been reviewed and is considered satisfactory. In the international area, a representative served as the ICCAIA observer to ICAO's third annual meeting of the Committee on Aircraft Noise in Montreal, and attended a working group meeting of ICAO's Committee on Aircraft Noise in Paris. For each meeting Council Representatives developed AIA position statements for the ICCAIA observer.

Defense Standardization Management

AIA recommendations for a centralized, high level Defense Standardization Management Group were partially implemented by the June 6 release of DOD Directive 4120.3, establishing the Defense Materiel Specifications and Standards Board. The Board is patterned after the Armed Services Procurement Regulation (ASPR) Committee and is composed of 10 Flag Rank members, including a permanent chairman. The Board includes four members with R&D and five with Logistics backgrounds. The Board plans to work through panels in broad areas such as materials, electronics and communications, propulsion, general specifications, mechanical hardware, and metricizing.

Board Chairman Admiral Eli T. Reich, USN (Ret.), responded to August letters to DOD on industry interface with the Board. He agreed that the utilization of industry standardization committees in a unified effort with defense components could lead to improvement in standardization accomplishments. He further promised an early meeting to discuss areas being considered for DSB panel activity and how industry can interface with the DSB and its panels. DOD has estimated that the provision of increased management attention to standardization by the Board has, as one of several benefits, a potential dollar savings of \$500 million per year.

International Standardization

Metric conversion and international competition are expected to lead to the release of several thousand International Standards Organization (ISO) standards in this decade which will have a major impact on U.S. aerospace design and production. AIA and SAE (Society of Automotive Engineers) have approved a revised charter for U.S. Technical Advisory Group for ISO/TC-20 to assure effective aerospace industry representation. Several AIA representatives have been appointed, including one representative from each of seven member companies with major involvement and world-wide sale of aerospace products. These men will be the focal point for AIA participation and will use appropriate

committees for developing and coordinating Association positions. Other required changes are being implemented to strengthen the U.S. industry voice in international standardization to maximize its value to the U.S. aerospace industry. The advantage of AIA participation now is to learn how to work in the ISO system while the workload is low in order to be ready to contribute effectively when important standards are coordinated during the next few years.

Metric Conversion

An AIA statement supporting voluntary conversion of the measurement system in use in the United States to the International Metric (S.I.) system was presented to the House subcommittee on Science, Research and Development at its hearings in May. A similar statement was submitted to the Senate Commerce Committee in November.

The Association stated that the aerospace industry favored a federally planned and coordinated program that makes the metric system the predominant but not exclusive system in the United States. It is essential that a national program include the timely development of suitable engineering standards in metric units while retaining those U.S. engineering designs, practices and standards that are internationally accepted or embody superior technology. A national plan for conversion should be established with reasonable target dates and goals. The conversion costs to private industry should be treated as a normal cost of doing business.

In other metric activities, a National Aerospace Standard (NAS10000) has been published as a guide for the preparation of metric standards. AIA participated with the Society of Automotive Engineers in the development of metric standards for aerospace fasteners.

National Aerospace Standards

National Aerospace Standards (NAS) comprise a series of more than 1300 voluntary, industry-established standards and specifications defining mechanical and electrical hardware, structural fasteners, large numerical controlled machine tools, cargo pallets and airport planning. During 1973, 36 new standards covering specialized fasteners and other mechanical hardware were published, along with revisions to 110 existing standards.

Material and Process Specifications

The review of Government material and process specifications provides government agencies preparing these documents with current user experience and advice, and results in acceptable and usable documents at minimum cost.

Specification reviews during 1973 have covered such materials and process items as aluminum, titanium and other metal alloys; structural sandwich and composite materials; joining processes, such as brazing, welding and adhesive bonding; sealants, finishes, coatings and elastomers. A review of published documents indicates a high degree of acceptance of the industry's recommendations.

A plan for the management of overlapping interests in materials and process specification development has been proposed to the recently established Defense Materiel Specifications and Standards Board.

Structural Design Criteria

Industry specialists are working with military service representatives to develop structural design and test criteria utilizing fracture mechanics, to improve the structural integrity and service life of military aircraft. Programs have been initiated to develop mechanical properties data on specific materials and to establish design criteria for "damage tolerant" structures.

Electronic Design

The March through September meeting cycle of the Government-Industry Uniformity program was devoted to review of 24 MIL-STD 454 requirements which involved parts selection and application. The study resulted in AIA recommendations that more resources be allocated to this key standardization element (Preferred Parts List). Specifically, it was recommended that a Government-Industry group be formed to handle PPLs, with membership composed of one representative of each military service component and industry group concerned.

Bringing together the various military services and their divisions with industry representatives could make the desirable restriction of use of preferred parts (and documents) more acceptable to all concerned because of improved communication and confidence that the PPLs will be more aggressively maintained and applied.

Propulsion

There has been a high level of activity in the broad, highly technical field of aerospace propulsion. Communications problems have become matters of increasing concern in the propulsion field with dissolution of the Aeronautical Standards Group which provided the forcing function for the development of multi-service requirements for propulsion equipment. During 1973 there were 20 separate documents among the three Services which related to only five basic propulsion requirements.

To re-establish communication a new channel was opened. The problem of proliferation of propulsion requirements was

brought to the attention of the Joint Logistics Commanders. A commitment was obtained for the early release of a joint requirement for turbojet and turbofan engines which would supercede and cancel a number of existing documents. This document was released for publication in October and incorporated much material developed by AIA in an earlier effort. In addition, a commitment was obtained from the Joint Commanders that future revisions of requirement documentation would be coordinated with AIA prior to release for publication. Programs for 1974 will be oriented toward further improvement in communications and redirection in requirement documentation.

Although the maturing of the national space and missile programs has reduced somewhat development and production programs in rocket propulsion, AIA has continued to serve as the accepted source of information and expertise in this field. During 1973, AIA provided expanded liaison with the Air Force Rocket Propulsion Laboratory, the Army Materiel Command, the Interagency Propulsion Committee, the American Society for Testing Materials and the Chemical Propulsion Information Agency.

In the field of commercial air transport propulsion substantial assistance was provided to the Federal Aviation Administration in the evaluation of domestic airworthiness requirements and of the proposed development of common airworthiness requirements in the European countries.

Flight Test and Operations

A point of major concern has been the DOD application of very

restrictive requirements to the management of contractor flight operations when the aircraft involved are those for which the government assumed ground and flight risk. In many cases, the requirements can impact directly on the contractor's ability to perform effectively under the terms of his contract. However, there are no provisions for relieving the contractor of such responsibility.

After two years of intensive activity a conference was arranged late in 1973 with policy level representatives of OSD, Army, Navy and Air Force to present the industry's position on contractor flight operations. An agreement was obtained that DOD representatives would review an industry prepared substitute for the present requirements. The industry proposed regulation will be submitted early in 1974. Meanwhile, DOD will hold in abeyance a proposal to convert the present regulation to an Armed Services Procurement Regulation (ASPR) requirement.

As a result of accidents with privately owned and operated aircraft in the "Experimental" category, the FAA strictly interpreted regulations covering the operation of airplanes in this category. The result was a severe restriction on the ability of manufacturers to operate "Experimental" airplanes in the course of their development, test and demonstration activities. Negotiations with FAA have resulted in redefinition of the category to provide differentiation of those "Experimental" aircraft operated by aerospace manufacturers and those privately operated "home built" or ex-military aircraft.

International Service



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Committee*

The International Service is a guidance and coordination point for the exporting segment of the aerospace industry. Operating through the International Committee, its primary activity is serving as a medium for the exchange of views between industry and government agencies, to assist in creating, within the national interest, the optimum environment for increasing aerospace exports.

Total U.S. aerospace exports exceeded \$5 billion in 1973, the highest dollar volume yet attained. A total of 130 commercial jet transport aircraft valued at \$1.667 billion were delivered to the airlines of 38 foreign nations. With military exports and other U.S. aerospace products added to the substantial quantity of transports exported, the U.S. aerospace trade balance improved to \$4.4 billion, a 35 percent increase over 1972.

The International Service and International Committee continued to address the major factors affecting the sale abroad of aerospace products.

As concerns grew concerning the export of technology, joint domestic-foreign programs involving high technology came under intensive Government review. As a result some aerospace companies were required to alter plans that involved foreign business ventures. Policies emanating from debate on this issue tended to limit the world market for U.S. aerospace firms.

R&D Recoupment on Foreign Sales

Another aspect of the control of technology was the interagency study conducted by the Council on International Economic Policy (CIEP) concerning the desirability of a government-wide policy on Research and Development recoupment on foreign sales. Due to the magnitude of potential R&D recoupments in a high-technology industry with large export sales, such as aerospace, the views of the aerospace industry were requested. The International Service, with selected representatives from the International Committee, Procurement and Finance Council, and Patent Committee, developed the industry's position which was presented to the CIEP on August 21, 1973. By year's end analysis of recoupment by Government officials indicated that such a complex matter could not be easily resolved on a government-wide basis.

Export Financing

The demand for the export credit financing of commercial jet

transport aircraft during much of 1973 was met so effectively by the Export-Import Bank of the U.S., with substantial assistance from commercial banks, that this subject temporarily was deemphasized as a project of the International Committee.

The export financing of military aerospace products presented a challenge to the industry during 1973, due principally to Congressional constraints. Funds provided through Military Sales Act provisions of the foreign assistance legislation, which had provided the most effective method of financing military aerospace exports through the use of DOD guarantees and credits, were substantially reduced in FY 1974.

PL 93-189 reduces the amount available for foreign military credit sales to \$325 million which drastically reduces DOD's ability to approve new export programs, with the exception of Israel, which was considered as a separate case. Without the ability to provide substantial guarantees and some credits on the part of DOD, the financing of military aerospace exports will present a serious challenge to industry.

International Trade Negotiations

The International Committee conducted a thorough review of the issues concerning the export of U.S. aerospace products and developed recommendations which were presented by President Harr in testimony on the Trade Reform Act of 1973 before the House Ways and Means committee.

Due to the direct effect of the upcoming trade negotiations on future international business, the industry prepared for active participation through the nominations of Mr. William Allen, Chairman Emeritus, The Boeing Company, to represent the aerospace industry on the Industry Policy Advisory Committee, and Mr. George Prill, President, Lockheed Aircraft International, Inc., to be the principal member of the Aerospace Technical Advisory Committee. They will serve in connection with the industry-Government consultations concerning trade negotiations.

The Secretary of Commerce and the Special Representative for Trade Negotiations invited the aerospace industry to nominate qualified aerospace executives to be members of the Technical Advisory committee on Trade Negotiations. Eight such nominations were submitted to the Department of Commerce.

Export Control

Improved relations with Eastern Europe, the Soviet Union and the People's Republic of China during 1973 created new and

important commercial export aerospace sales opportunities. This called for further improvement in the export control process. Therefore, inter-agency committees and the U.S. Government Office of Export Control responded to industry requirements by means of comprehensive reviews of individual cases. Under consideration is the activation of an Aerospace Technical Advisory Committee on Export Control which is permitted by the Export Administration Act of 1969.

During the year, under contract to the State Department, the Battelle Memorial Institute began a study of the munitions control process to identify areas requiring improvement. The International Committee cooperated in this effort and will monitor developments

Other Activities

The International Legislative Committee sponsored monthly meetings to review and analyze legislation having a direct bearing on the international trade of aerospace products. The Trade Reform Act of 1973, the Burke-Hartke, the Military Sales Act, the Export Administration Act were among the bills discussed and reported to the membership.

An *ad hoc* group studied anti-trust restraints on international trade in order to develop an industry position on possible legislative remedies. It reported that although the Justice Department knew of no studies demonstrating any significant deterrence to international trade, the Commerce Department appeared willing to support a documented effort to enact exemption legislation.

An International project to increase dialogue with the officials of the International Association of Machinists and Aerospace Workers, in an effort to resolve common problems and differing viewpoints, was continued. Through guest speakers at national meetings an exchange of views was conducted on the industry's future and continued growth.

During the year, leading foreign industrialists and foreign government officials met with the International Committee for a review and analysis of international cooperative aerospace programs.

International Committee members conducted four briefings on Government-industry cooperation before the Attache-Designee (Army, Navy, Air Force) classes as a regular part of the training of the Defense Intelligence School before the Attaches were assigned overseas. These briefings provide a beneficial exchange of ideas and result in a better understanding of mutual problems in promoting industry's international sales and the national interest.

Office of Public Affairs



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Chairman, Public
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The mission of the Office of Public Affairs is to inform 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 of importance to the nation.

During 1973 the Office of Public Affairs, following plans approved by the Public Affairs Council, emphasized subjects of major interest to the industry:

- Aviation and space industry contributions to mankind.
- Contribution of aerospace to the national balance of trade.
- Importance of research and development—both government and company-initiated—including R&D trends and incentives to growth.
 - Impact of air transportation.
 - Ecological improvements in aviation.
 - Importance of an ongoing space program.

Two new efforts in the Public Affairs area—the establishment of an Education Services function and a trial production of three one-minute television film “news features”—were initiated.

During the year the Economic Data Service and the Aerospace Reference Library were transferred from the Office of Public Affairs to the Aerospace Research Center.

Educational Services

Acting on Public Affairs Council discussions and study during 1972 and early 1973 about the growing need for more positive efforts in support of aerospace education, Dr. Wayne R. Matson joined the Office of Public Affairs as Associate Director—Educational Services. Efforts during the remainder of the year included assistance to the National Aerospace Education Association (NAEA) and the Federation of Americans Supporting Science and Technology (FASST).

During the year it was recognized that there is a need for a national aerospace education focal point in order to make the individual efforts of the aerospace education community (education-industry-Government) more effective. After considering many avenues, AIA headed an effort to develop a *National Journal of Aerospace Education*. (The first monthly issue was to be published in February 1974.) Initially funded by grants, the journal is published under the aegis of the National Aeronautic

Association. The NAA asked Dr. Matson to serve as Editor-in-Chief of the new journal.

Education Services handles educational correspondence; conducts surveys through the Public Affairs Council as to company interests and involvement in aerospace, career, and economic education; communicates and cooperates with both aerospace and non-aerospace organizations involved in or providing educational services; and continues to analyze the potential educational resources of AIA and its member companies.

Audio-Visual Activities

The Council endorsed a pilot program to produce television "news featurettes," each one minute long and connected with a news event of potential interest to television news directors.

AIA produced three such films which were distributed to some 250 television stations in major market areas. Member companies, the Department of Defense, NASA and the Maryland State Police furnished all film used in the features.

As a test, three different producers were used for the following:

1. "Aerospace and the Balance of Trade." Timed to coincide with the early 1973 Department of Commerce report of a national deficit balance of trade, it emphasized the importance of aerospace exports in keeping the deficit balance as small as it was.

2. "First Anniversary of the Earth Resources Technology Satellite." This film, made with the cooperation of NASA, was tied to the first anniversary of ERTS and demonstrated its accomplishments.

3. "Helicopter Rescues" showed that the use of helicopters as life saving ambulances is on the increase, thus creating a need for more heliports, particularly at hospitals. Featured were the Maryland State Police helicopters working with the Maryland Trauma Center at Baltimore.

All three films had excellent TV use, particularly the one on the first anniversary of ERTS, which (among other showings) was syndicated throughout the United States and overseas by NBC whereby more than 7 million households viewed it.

As a result of 1973's experience it has been decided to continue the program another year, planning for three or four featurettes, depending on timely subject matter and availability of film from member companies and Government sources.

Publications; Media Services

Aerospace Magazine: During the year, *Aerospace Magazine* was published on a quarterly basis. AIA continued, with success, to seek prominent outside authors. These included Floyd E. Smith, President of the International Association of Machinists and Aerospace Workers, providing an article on "Man in Space: A Look Forward;" Jerry Hannifin, Washington Correspondent for *Time* magazine, reporting on the Paris Air Show; Michael Collins, Director of the National Air and Space Museum of the Smithsonian Institution, writing on the new

aerospace museum building on The Mall in Washington; Secretary of Transportation Claude S. Brinegar viewing "Transportation in the 1980s," and Roy P. Jackson, Assistant Administrator for Aerospace Technology, NASA, writing on the agency's activities in aeronautics. The final issue of the year, using inputs from member companies, was devoted to the subject of "This, Too, Is Aerospace." This described diverse developments by aerospace companies that are benefitting mankind.

Aerospace Perspectives: This publication, conceived and developed in 1972, has attracted reader interest and increased demand for copies. In 1973, five themed *Perspectives* were published: "Helicopters to The Rescue," "Apollo: End of a Beginning," "ERTS: Problem Solver For Mankind;" "U.S. Aerospace at The Crossroads," dealing with the importance of aerospace industry in international trade; and "Can We Maintain Leadership?" discussing the importance of both Government and industry-initiated research and development.

Aerospace Research Center Studies: Two ARC studies were produced during 1973:

"Monopsony—A Fundamental Problem in Government Procurement." This study, a unique approach to the Government/industry procurement problem was introduced with a news release and a briefing for selected Washington aerospace writers. Coverage was good, and wire service stories resulted in particularly wide national coverage. Extensive direct distribution also was made.

"Federal Research and Development Resources—Trends in Allocations: 1960-1973" was distributed as an AIA in-house information document.

News Releases: Numbered official news releases for 1973 (exclusive of such material as speeches and testimony texts) totaled 32. As usual, the widest play was given to President Harr's year-end Aerospace Industry Review and Forecast.

General Media: AIA continued to use a news service for distribution of informative pieces about aerospace. During 1973 five written and graphic messages were produced: "Transport Aircraft Noise Abatement Progress;" "Trends in Federal Dollar Outlays;" "Helicopters Save Lives;" "Airports as Neighbors;" and "Who Pollutes With What?"

Immediate distribution is made to 2500 newspapers, mostly suburban, in all major market areas, and ultimate distribution to some 89,000 addressees, including every print medium in the country. Surveys of clippings returned indicate this to be a highly cost-effective method of distributing news messages of importance to the industry.

Aerospace Facts and Figures, 1973/74: This reference work, published in May with the cooperation of member companies and commercially distributed by *Aviation Week and Space Technology*, a McGraw-Hill publication, continues to be a unique economic data source for Government Agencies, the financial community, educators and the industry.

Vertical Lift Aircraft Activities

During 1973, vertical lift aircraft received an ever increasing amount of recognition, interest and demand for their unique versatility in a wide number of applications, particularly including construction, banking, crime suppression, and rescue and medical evacuation in a broad variety of emergency situations.

1. Publications:

a. Both the *Directory of Helicopter Operators* and the *Directory of Heliports and Helistops* were issued during 1973. Beginning in 1974, one directory will be completely re-done and issued and the other will be updated with correction pages issued to holders.

b. "Up, Over and Below: You Can Get There from Here —When a City Has Heliports." This pamphlet has been particularly well received by those interested in the use of helicopters by hospitals, states and municipalities.

2. Other VTOL Activities

A member of the staff was the official National Aeronautic Association U.S. Delegate with the U.S. Helicopter Team at the 2nd World Helicopter Championships in England (the U.S. team was sponsored by the Bell Helicopter Company, Textron, Inc.). Staff services also were extended to the American Trauma Society, the National Aeronautic Association, the Helicopter Association of America Heliport Committee, the Aviation Advisory Committee of the Metropolitan Washington Council of Governments, the Federal City Section of the American Helicopter Society, the AVCO/AWA Helicopter Heroism Award Committee, and the

Whirly-Girls, Inc., an international organization of women helicopter pilots.

Activities of President Harr:

In the public affairs area Mr. Harr's activities included both public appearance and private meetings with key individuals and groups concerning subjects of interest to the industry as a whole.

Among the formal audiences addressed in 1973 were a selected group of investment experts at Pasadena, the Federal Aviation Administration Conference, the International Association of Machinists at Seattle, the Rotary Club of Texas at Houston, and the Trade Winds Club of Boston

In addition, as noted elsewhere in this report, President Harr testified before a number of committees and subcommittees of Congress on matters of direct interest to the aerospace industry.

Meetings:

The Public Affairs Council met twice during the year. The annual spring meeting in Washington, D.C., featured a reception for national news media representatives and public affairs representatives from the pertinent agencies of the Government. The fall meeting was held at Scottsdale, Arizona. A number of PAC Executive Committee meetings were held during the year under the active leadership of Chairman John Thayer. The chairman of the Public Affairs Council for 1974, elected at the Scottsdale meeting, is H. Walton Cloke, Vice President, Public Relations and Advertising, Rockwell International Corporation.

Traffic Service



MELVIN D. McKINNEY
*McDonnell Douglas
Corporation
Chairman, Traffic Committee*

Traffic Service is responsible for obtaining for the aerospace industry economical and efficient transportation facilities and service. Within its area of activity the Service represents the Association before transportation regulatory agencies, boards, associations of carriers, and the courts.

Recognizing the potential adverse effect of the developing energy shortage on the ability of member companies to obtain adequate transportation service, at its June meeting the Traffic Committee initiated a program of action in this critical area. A committee task force was assigned responsibility to identify and recommend action on specific problems, particularly those concerned with the effect of federal regulations on carriers and actions to conserve fuel supplies. Specialized aerospace carriers were supported in their efforts to reduce fuel consumption by eliminating circuitous routings. Committee actions in this important area will continue.

As in prior years, a major portion of the activity of Traffic Service during 1973 was devoted to representing AIA interests before Federal regulatory agencies in matters related to services and rates of common carriers. While handling a wide range of cases before those agencies, primarily the Interstate Commerce Commission (ICC) and the Civil Aeronautics Board (CAB), and before carrier rate bureaus and bodies, Traffic Service also devoted considerable attention to maintaining close liaison with Executive Agencies responsible for transportation policy and administration. The Traffic Committee undertook several projects of material value to the industry and its customers.

A summary of representative activities undertaken by the Traffic Service and the Traffic Committee during the last year follows:

Litigation

Traffic Service was a party to 17 cases before the ICC. Nine of them began during the year while eight were carried over from prior years. Nine ICC cases were concluded with savings to members of \$1,009,452. Fourteen rate bureau cases were handled during the year, 13 of which were completed for savings of \$160,719. The interests of members were

represented in two court cases and in two proceedings before the CAB. Decisions are pending in all four cases.

The following is a review of representative cases handled by Traffic Service in 1973:

- Protested to the ICC the trucking industry proposal that all freight charges be prepaid. Such a requirement would have been particularly adverse to the interests of the industry and would have required a complete revision of vendor contract procedures. The proposal also would have increased costs and would have resulted in the loss of control over inbound material. The ICC ruled in favor of AIA and required the carriers to continue freight-collect service.

- Filed successful protests with the ICC in opposition to proposals of household goods van carriers to increase charges for various types of service.

- Opposed, before the ICC, several proposals by specialized heavy hauler motor carriers that would have increased charges unreasonably or would have limited liability for loss and damage to aerospace material. These carriers are used extensively by the aerospace industry for the transportation of extreme dimension articles.

- Intervened in opposition to proposals of the motor carrier industry to assess penalties against shippers for late payment of freight bills. A decision in this case is pending.

- Participated in two proceedings before the CAB. One case is an investigation into the liability and claims practices of air carriers; the other relates to an investigation into the continuing need for air express service. Decisions in both cases were pending at year's end.

- Participated in two court cases in which the industry claimed that motor carriers were attempting to enforce unreasonable and discriminatory freight rates for the transportation of material unique to the aerospace industry. Although each case involves only a single AIA member, the far-reaching issues contained therein are of vital interest to the entire industry. Decisions in these cases are pending.

Special Projects

Traffic Committee task forces completed the following assignments:

- Compiled and published "Blue Book of Aerospace Parts No. 6," a translation of industry nomenclature to bill-of-lading nomenclature. The publication assists traffic managers in determining the correct description of aerospace shipments so as to permit application of proper freight charges.

- Prepared and published "An Introduction to Aerospace Industry Import and Export Procedures," a comprehensive compilation and discussion of Government regulations, forms and requirements affecting the import and export of aerospace material.

- Reviewed and determined the impact on the industry of an initial rulemaking proposal initiated by the Hazardous Materials Regulations Board (HMRB) and prepared and filed a statement setting forth the position of members. At the end of the year the HMRB distributed a final notice of proposed rulemaking that incorporated many of the AIA recommendations. Comments on this final proposal are due to HMRB in late May 1974.

- Undertook an analysis of the freight rate tariff publication procedures of the ICC. This task force was instrumental in stimulating the Commission to make a complete review and revision of the procedures governing motor carrier tariffs.

- Other task forces were active with respect to air cargo development and promotion, the business travel requirements of members, and the liability and claims rules and regulations of common carriers.

Government Interface

Throughout the year Traffic Service and the Traffic Committee, utilizing a special task force, closely coordinated their activities with Government customers. A major activity involved the planning of a joint Government-industry seminar which will be held early in 1974. The seminar will review Government regulations and requirements for contractor preparation of transportation plans for the movement of material in support of Government contracts.

Close coordination with military traffic management offices also has been maintained with respect to carrier rate and freight classification matters of common interest.

Transport Aircraft Council



ROBERT I. MITCHELL
Lockheed Aircraft Corporation
Chairman, Transport
Aircraft Council



LUIN L. LEISHER
The Boeing Company
Chairman, Commercial
Transport Aircraft Committee

The Transport Aircraft Council coordinates and presents transport aircraft and engine manufactures' views with respect to commercial air transport matters; it plans and gives direction to AIA actions designed to assure that the most effective and efficient potential of civil air transport aircraft is realized.

The Commercial Transport Aircraft Committee assists the Council by representing the manufacturers in day-to-day activities and by maintaining an overall Association Civil Transport Aviation Plan.

The Transport Aircraft Council continued to serve as the focal point within AIA for matters related to civil transport aviation, including liaison with other organizations involved with this segment of the industry.

Following an in-depth review and analysis of the Council's functions, the formation of a working committee was authorized. This Committee, the Commercial Transport Aircraft Committee, completed its initial work on an AIA Civil

Transport Aviation Program Plan. The purpose of the Plan is to integrate the relevant activities of all AIA committees and councils and is directed toward the sound growth of air commerce, both nationally and internationally.

During 1973, the Council and its Committee 1) provided an industry reaction to the President's Aviation Advisory Commission Report, 2) surveyed the International Civil Aviation Organization activities and recommended areas for the International Coordinating Council of Aerospace Industries Association's participation, and 3) developed an industry position on proposed administrative user charges.

The negotiations with the Air Navigation Commission of the ICAO to adopt the industry-developed standard entitled, "Airplane Characteristics for Airport Planners" (NAS 3601) were continued. The use of this format by ICAO will simplify the problems of manufacturers supplying aircraft data for use in the ICAO program to study aircraft-infrastructure compatibility.

The Council provided representation to the Steering Committee for the International Industry Working Group which is carrying out a program to collect airport physical, operating and economic data on a world-wide basis. This will supplement the program to collect, in a standard format, the same data for airports in the continental United States.

During 1973 a major revision of the CTOL (Conventional Take-off and Landing) Transport Aircraft Characteristics, Trends and Growth Projections document was completed and the updated revision will be distributed in early 1974. A similar revision to the companion STOL (Short Take-off and Landing) document will be completed in 1974. These publications have become important references for airport planners, communities and operators on an international basis.

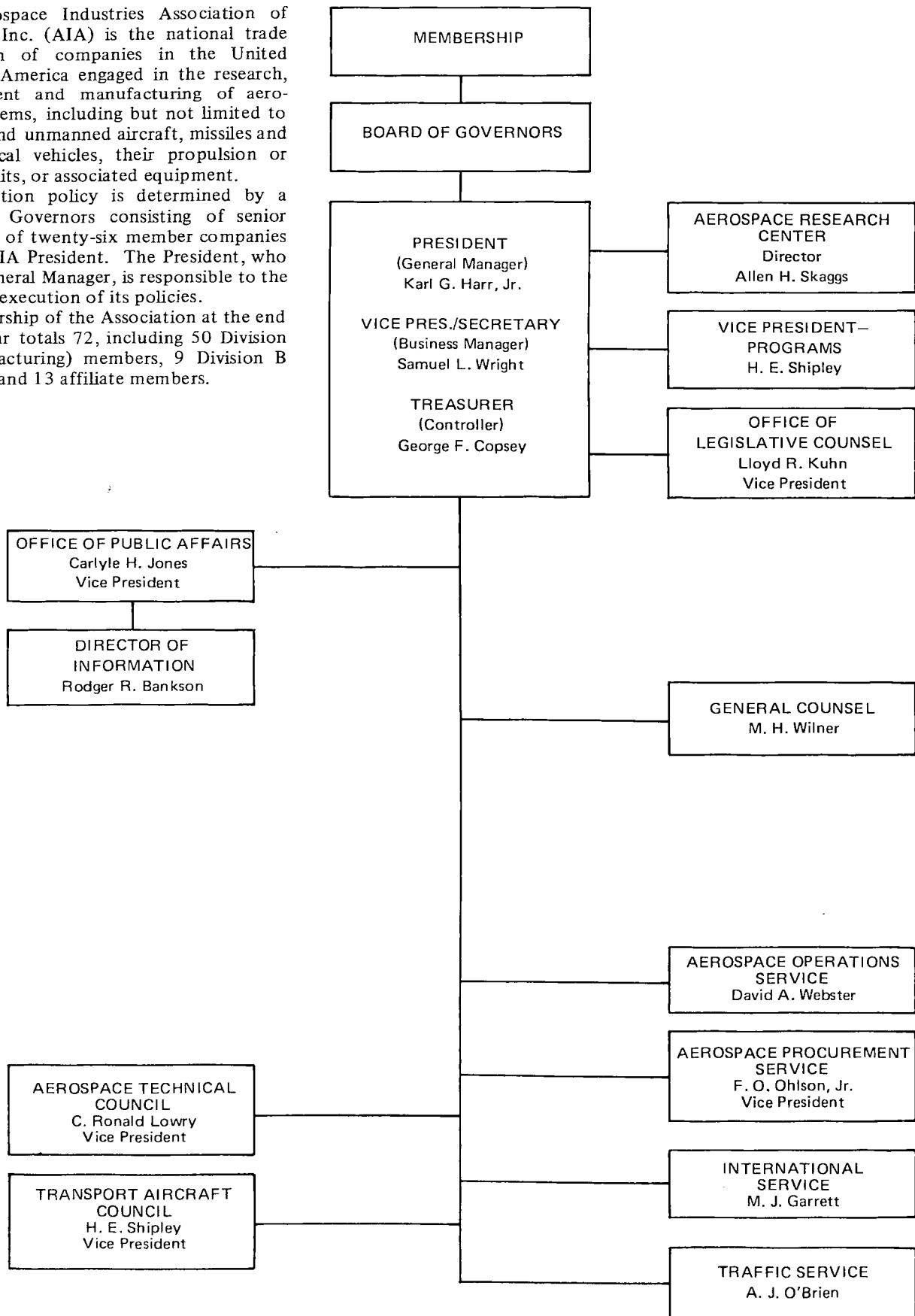
ORGANIZATIONAL CHART

(January 1, 1974)

The Aerospace Industries Association of America, Inc. (AIA) is the national trade association of companies in the United States of America engaged in the research, development and manufacturing of aerospace systems, including but not limited to manned and unmanned aircraft, missiles and astronautical vehicles, their propulsion or control units, or associated equipment.

Association policy is determined by a Board of Governors consisting of senior executives of twenty-six member companies and the AIA President. The President, who is also General Manager, is responsible to the Board for execution of its policies.

Membership of the Association at the end of the year totals 72, including 50 Division A (manufacturing) members, 9 Division B members, and 13 affiliate members.



AIA MEMBERSHIP

MANUFACTURING MEMBERS

AERODEX, INC.
AEROJET-GENERAL CORPORATION
AERONCA, INC.
AMPHENOL SAMS DIVISION
 The Bunker-Ramo Corp.
AVCO CORPORATION
THE BENDIX CORPORATION
THE BOEING COMPANY
CCI CORPORATION
CHANDLER EVANS INC.
 Control Systems Division of Colt Industries
COLLINS RADIO CO.
E. SYSTEMS, INC.
THE GARRETT CORPORATION
GATES LEARJET CORPORATION
GENERAL DYNAMICS CORPORATION
GENERAL ELECTRIC COMPANY
 Aerospace Group
GENERAL MOTORS CORPORATION
 Detroit Diesel Allison Division
THE B. F. GOODRICH COMPANY
 Engineered Systems Co.
GOODYEAR AEROSPACE CORPORATION
GYRODYNE COMPANY OF AMERICA, INC.
HEATH TECHNICAL CORPORATION
HERCULES INCORPORATED
HONEYWELL INC.
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 Federal Systems Division
ITT DEFENSE-SPACE GROUP
 ITT Aerospace/Optical Division
 ITT Avionics Division
 ITT Defense Communications Division
KAISER AEROSPACE & ELECTRONICS CORPORATION
LEAR SIEGLER, INC.
LOCKHEED AIRCRAFT CORPORATION
LTV AEROSPACE CORPORATION
MARTIN MARIETTA CORPORATION
McDONNELL DOUGLAS CORPORATION
MENASCO MANUFACTURING COMPANY
NORTHROP CORPORATION
PHILCO-FORD CORPORATION
PNEUMO DYNAMICS CORPORATION
RAYTHEON COMPANY
RCA CORPORATION
ROCKWELL INTERNATIONAL CORPORATION
ROHR INDUSTRIES, INC.

THE SINGER COMPANY
 Aerospace and Marine Systems Group
SPERRY RAND CORPORATION
SUNDSTRAND CORPORATION
TELEDYNE CAE
TELEDYNE RYAN AERONAUTICAL
TEXTRON, INC.
 Bell Aerospace Company
 Bell Helicopter Company
 Dalmo Victor Company
 Hydraulic Research and Engineering Corporation
THIokol CORPORATION
TOOL RESEARCH AND ENGINEERING CORPORATION
TRW INC.
UNITED AIRCRAFT CORPORATION
WESTINGHOUSE ELECTRIC CORPORATION
 Defense & Public Systems

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CONDON, CYRIL HYDE
DE SEVERSKY, A. P.
FALES, HERBERT G.

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LOENING, ALBERT P.
LOENING, GROVER

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