



**Aerospace
Industries
Association
Annual
Report
1970**

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CONTENTS

2	Message to the Membership
3	Aerospace Operations Service
8	Aerospace Procurement Service
12	Aerospace Technical Council
19	International Service
21	Office of Public Affairs
23	Traffic Service
25	Transport Aircraft Council
26	Independent Research and Development
28	Organization and Functions



MR. HARR

MESSAGE TO THE MEMBERSHIP

Reflecting the general softness of the national economy and constraints on the federal budget, the aerospace industry, as anticipated, showed a significant and continuing decline in both sales and employment in 1970.

Nevertheless, sales volume for the year was the fourth best on record, the industry remained the top manufacturing employer, and it maintained the basic strengths and capabilities needed to provide for the requirements of national security, the space program, and commercial aviation. In addition, intensive efforts were under way to diversify and to apply the industry's over-all technological capability to the solution of environmental and other major domestic concerns.

Defense procurement had fallen off as a result of the winding down in the Indochina war. Funding for the space program was sharply curtailed as part of the general effort to reduce the budget. And while deliveries of the first model of the new wide-bodied jets pushed commercial transport sales up substantially, there was a falloff in the level of this activity by year's end.

Substantial progress was made in the development of two prototypes of the U.S. supersonic transport; however, mounting political opposition by year's end seriously jeopardized completion of the program as a joint government-industry venture.

Yet there are several signs pointing to potential improvement in the picture within the next few years:

- There is growing concern in the government that we must halt and reverse the erosion of the nation's research and development efforts;
- National security policy is placing greater emphasis on modernization of weapons.
- Work on the space shuttle and Earth resources survey programs should revitalize the space program.
- An upturn in the economy should ease the financial problems of the airlines.
- Exports of aerospace products should continue at a strong rate;
- And—of great long-range importance—the government has begun to develop a marketplace in which aerospace experience and capabilities can be employed to help solve the many societal and environmental problems that are of growing concern to Americans.

For the present time, however, the downward curve shows plainly in most of the statistical comparisons between 1969 and 1970. These include:

- Sales continued their anticipated decline from \$26.1 billion to \$24.9 billion.

- Employment fell from an average of 1,347,000 persons in December, 1969, to 1,069,000 a year later.
- Total aerospace sales to the Department of Defense were \$14.4 billion compared with \$15.8 billion in 1969, mainly because of a billion-dollar drop in military aircraft sales.
- Aerospace industry profits (as a percentage of sales after taxes) dropped, preliminary figures indicate, from 2.5 percent in 1969 to 2.0 percent in 1970.
- Space sales, reflecting both the virtual completion of hardware production for the Apollo program and a falloff in military space expenditures, declined from \$4.27 billion to \$3.6 billion.
- Commercial aerospace sales, largely of jet transports, showed a 13.7 percent increase—from \$4.34 billion to \$4.91 billion. This was caused primarily by initial deliveries of the 747.
- Backlog at the end of the year was \$24.8 billion compared with \$28.3 billion at the end of 1969.
- Non-aerospace sales were virtually the same—\$2.66 billion in 1970 compared with \$2.67 billion in 1969. They represent work done by aerospace firms in such fields as urban transportation, pollution control, marine sciences and water desalination.
- For the seventh consecutive year, aerospace exports increased, from \$3.14 billion to \$3.40 billion, an 8 percent rise. Major factor in the increase was transport aircraft, which gained from \$947 million in 1969 to \$1.295 billion in 1970. Military aerospace exports declined from \$1.111 billion to \$892 million.

Imports of aerospace products in 1970 were valued at \$308 million, nearly identical with the \$306 million figure for the previous year.

Aerospace exports, which again led all other manufacturing products in shipments to foreign countries, continued to be a bulwark in the generally favorable U.S. balance of trade.

Within the Association, there were two significant organizational changes during the year. An Aerospace Research Center was established to carry out in-depth studies of fundamental government/industry relationships. A small professional staff, located within AIA's headquarters office, has undertaken this effort, which it is hoped will bring about better understanding of such matters as the economics of the industry, critical procurement problems, research and development, and national transportation policies.

During the year, the Vertical Lift Aircraft Council was disbanded. Most of its functions were transferred to other Association components, and a vigorous effort was continued to further the needs and goals of VTOL aircraft.

A wide variety of activities were conducted by the Association during 1970; the most significant are described in this *Annual Report*.

Respectfully submitted,

KARL G. HARR, JR.
President

AEROSPACE OPERATIONS SERVICE

The Aerospace Operations Service supports top level cooperative studies and coordination in the areas of manufacturing, materiel management, product support, quality assurance, service publications, and spare parts. Six committees supervise numerous task groups in initiating studies and responding to the industry's customer requests for assistance on mutual problems and interests.

The Aerospace Operations Service during 1970 was engaged in widely diversified activities pertaining to the production, subcontracting, purchasing, and quality assurance of aerospace end articles, systems and parts, and the broad field of product support to the industry's government and commercial customers in the operation and maintenance of the equipment. Alert to economic, ecological, and customer policy changes, the committees of the Aerospace Operations Service moved forward on many self-initiated projects and responded to opportunities to comment and to make recommendations on a wide variety of requests from government agencies, commercial airlines, and the public. Among the areas studied are many projects designed to accomplish the following goals:

- Reduce costs, particularly under the changing economic conditions affecting the industry and its customers.
- Advance the states of the arts and broaden this knowledge through cooperative projects and exchanges of information.
- Evaluate trends, organizational set-ups, and production equipment requirements through surveys and analyses.
- Standardize aerospace requirements which will reduce the costs for equipment and machinery for this industry.
- Be responsive to the many Federal, state, and local environmental pollution control developments involving aerospace manufacturing processes.
- Design and adopt systems for data exchange between U.S. and European airlines and aircraft manufacturers on parts and product performance.
- Broaden the use of computers in all areas of operations management.

Production Scrap Control

A proposed military regulation on production scrap control was reviewed, and recommendations were made to remove excessive requirements for time-consuming and costly reports, administration, and controls. It now appears that the burdensome requirements will be eliminated, and the expected regulation should be workable within the constraints of the normal buyer-seller relationship.

Atomic Energy Commission Quality Requirements

A preliminary draft of a very extensive proposed AEC Standard on Quality Assurance was reviewed and discussed with the AEC Drafting Committee. Various approaches to reduce the size of the document were suggested so that the portions most applicable to contractors' quality operations would be in better focus. Improvements were suggested to correlate examples to the text to avoid unintended implications as to format requirements. Other uses, such as training, could be handled through a companion document of more limited distribution. AEC contractors will avoid unnecessary expense if the specific and significant improvements which the Task Group recommended are accepted.



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On-Line Inspection

The continued development of automatically controlled machine tools has demonstrated a need for inspection equipment which can be used "on-line" in the production cycle. The AIA study group is working to develop a methodology which can be applied by the machine tool industry as part of the original machine design criteria. Substantial savings in production flow time and a reduction in inspection costs are the principal benefits expected to be derived from this effort.

Government/Industry Workshop

A very successful quality assurance workshop meeting, heavily attended by both government and industry personnel, was held to discuss "Change in the Quality Function Dictated by the Reduction in Aerospace Business." Industry and government participants exchanged ideas and positions. A direct outgrowth of the session has been the establishment of an AIA project to consider methods of improving relationships between prime contractors and their suppliers with respect to the quality of purchased supplies and materials.

Computer-Aided Manufacturing

Work continued in 1970 on Phase II of a three-phase program on Computer-Aided Manufacturing (CAM). This project will provide guidelines for a modular CAM system to support advancements in direct computer operation of manufacturing equipment and will increase control and effectiveness in carrying out manufacturing functions and quality assurance

activities. Computer-Aided Manufacturing combined with the technology of Computer-Aided Design (CAD), will provide the means of rapid movement in this decade into integrated real-time computer-aided design and manufacturing systems. The Phase II report and recommendations on the continuation of the effort will be available in mid-1971.

Manufacturing Labor Planning

As a partial answer to ever-increasing costs, another project was undertaken this year aimed at increasing productivity. The study compiled information from member companies on aerospace manufacturing labor planning and control from a time standard base. No attempt was made to convert company standards to industry standards. The report established a norm against which each member company could compare its organizational set-up.

Manufacturing Symposia

Two AIA manufacturing symposia were held in 1970. They were:

- Advanced Concepts for Numerical Control and Computer-Aided Manufacturing.
- Joint Government/Industry Packaging and Materials Handling Management.

More than 100 people attended these symposia. The discussions identified topics requiring industry study and resulted in the initiation of three new projects. Two concern manufacturing technology of composite materials and the other has as an objective the reduction of packaging waste.

Industrial Environmental Quality

In 1970 a group was established to focus AIA attention on Industrial Environmental Quality developments affecting manufacturing within the aerospace industry. The group receives information through AIA, exchanges information through AIA mailings and newsletters, and provides a technically experienced Manpower Pool for specific environmental projects. Its members may hold local meetings to discuss local problems and may hold pollution symposia as required. Most AIA member companies have appointed members to the Industrial Environmental Quality group. This group currently has underway a complete survey, for the Environmental Protection Agency (EPA), of the industrial wastewater from the plants of this industry.

Materiel Management Symposium

The First Annual Materiel Management Symposium was held in 1970 with the objectives of outlining the scope, importance and contribution to the company inherent in the systems management approach to materiel, and highlighting the possibilities of more cost effective and flexible applications within the total company operations in the uses of the materials/inventory/procurement management concepts.

The symposium was involved in the current practice, concern, and essential interest for aerospace industry materiel personnel. The variety of its content was further enhanced by a "faculty" of 30 highly qualified and experienced materiel managers. There were in attendance approximately 150 middle management operating people from 36 aerospace companies.

Commission on Government Procurement

AIA position papers were prepared for presentation to the Commission on Government Procurement in late 1970 on:

- Small Business Contracting
- Flow Down Requirements
- Subcontract Terminations

These position papers will be submitted to the Commission on Government Procurement in 1971.

Standard Integrated Support Management System (SISMS)

AIA was selected as the industry association of primary interest by the Joint Commanders of the Army and Navy Material Commands and the Air Force Logistics and Systems Commands to join them in co-sponsoring and assisting in the development of presentation information for the SISMS Educational Briefings.

SISMS was developed by a multiservice panel in continuous session for 18 months to satisfy Congressional interest in integrated weapons support management, and to eliminate unnecessary duplication in and among the services by the development and use of common logistics procedures and data elements. Upon completion of its chartered effort, the panel concluded that the SISMS Joint Operating Agreements, standard Contract Exhibits and standard Data Item Descriptions directly support the findings of the DoD/CODSIA study aimed at reducing the proliferation of management systems imposed on contractors.

Follow-on action included the need to communicate SISMS to industry through the medium of educational briefings. With the advice and assistance of AIA participants, two co-sponsored briefings were successfully completed in 1970. AIA is monitoring the continuing development and implementation of the system, which has already been applied by certain individual services to single service procurements.

Air Transport Association Liaison

A continuing review effort in both the service publications and spare parts areas is being carried on by AIA member company representatives with their counterparts in the Air Transport Association. An AIA study of wiring diagram requirements prescribed by a proposed revision to the ATA specification for manufacturers' technical data publications applicable to commercial aircraft manufacturers and suppliers was completed.

The study indicated that implementation of these requirements would result in excessive costs to the manufacturer in his development of prototype and early production aircraft when the wiring is constantly being changed to reflect configuration developments. The study noted that a similar cost impact would also be felt by the airlines in their maintenance and modification operations of these aircraft.

AIA recommendations calling for the elimination of these requirements have now prompted an invitation from ATA for the proposal of specific changes to the specification which would supersede the presently proposed wiring requirements. An AIA task group has been established to develop these specification changes, which will be submitted to ATA during 1971.

Another continuing AIA task group effort with ATA which has been underway during the latter half of 1970 with participation from British and French manufacturers' trade groups as well as foreign airlines concerns a complete rewrite of the provisioning portion of the ATA supply information and data processing specification.

The objectives of this rewrite, the first draft of which has been completed and is being reviewed, include the elimination of problems now being encountered with the specification as it is now written, the more effective use of current machine technology with emphasis on the utilization of a catalog sequence/card oriented system and establishment of a basic specification version which would remain relatively stable for the next five year period for implementation with future new aircraft types beyond the 747, DC-10 and L-1011. The application of this proposed rewrite probably will be implemented initially on the British-French SST, the Concorde.

Spare Parts Provisioning

Working through the Council of Defense and Space Industry Associations, AIA furnished recommendations for a proposed revision to the Armed Services Procurement Regulation which prescribes contractual requirements and procedural guidance for contracting officers with regard to the provisioning process. The recommendations presented to the ASPR Committee are designed to clarify and to preserve the intent of

the ASPR language in consonance with existing provisioning procedures that are currently being implemented.

In a separate effort, AIA provided other recommendations direct to the ASPR Committee to clarify a requirement dealing with the obligation of funds in connection with the issuance of Provisioned Items Orders. Incorporation of this clarification will eliminate a possible misinterpretation that each Provisioned Items Order under a contract line item is to be considered a separate and inviolate contractual entity with its own administrative and accompanying documentation.

The combined impact of this documentation would impair the ordering process and would impose additional administrative burdens and costs upon both industry and the government if favorable consideration of this clarification is not reached by the ASPR Committee.

At the request of the Air Force, AIA conducted an evaluation study of a proposed method for using aperture cards in place of engineering drawings at provisioning conferences as a means of reducing costs and increasing the effectiveness of spare parts selection and ordering procedures. The results of this study, which have been presented to the Air Force, indicate that these cards have limited applicability to provisioning procedures and are not practical for repair analysis.

However, this aperture card approach could be useful in follow-on programs where only changed items require review, and industry could achieve savings in providing aperture cards in lieu of paper drawings.

Spare Parts Depot Repair, Overhaul and Modification

Significant cost savings by the government leading to expanded work programs by industry is the anticipated finding of an AIA study initiated to determine the extra costs incurred by the government to duplicate contractors' capabilities to perform repair, overhaul and modification of systems, subsystems and component parts for new weapon systems.

With the introduction of new and more sophisticated weapon systems, government depots, to perform such work, must expand their facilities, procure new equipment, retrain personnel and acquire new technical manuals and other documentation. Another expensive necessity is the provisioning, procuring, receiving and controlling of an adequate inventory of supporting spare/repair parts. However, all of these requirements are already developed, acquired and readily available at the contractor's facility as a direct result of developing, testing and supporting a new weapon system during its transition to a finished production article.

This AIA study is expected to show that the Government should take advantage of the facilities available at the contractor's plant rather than developing its own duplicative support capability.

Improved Spares Funding Techniques

In support of an overall AIA project concerning improved funding techniques, a study has been completed which identifies the desirable aspects which can result from a multi-year funding (MYF) concept as opposed to a single-year

funding (SYF) concept in the procurement of spare parts and associated services.

MYF eliminates the annual necessity for the development of separate contracts, separate purchase orders, separate negotiations, separate shop or manufacturing orders at the contractor's plant and other similar processes normally required for the implementation of a contract. MYF will also result in considerable savings in the production of spare parts by eliminating costly, individual machine set-ups each time an order is received. Furthermore, raw materials and equipment can be bought in larger quantities to cover multi-year rather than annual requirements, thereby realizing substantial savings through lesser quantity needs.

The findings of this study substantiate previous industry claims that appreciable savings in money and time and qualitative gains in the item itself can result through the use of multi-year funding policies. The information developed from this study has been made available for an overall AIA report on funding policies which is being prepared for submittal in 1971 to the Commission on Government Procurement.

Technical Manuals Specification Standardization

Five draft specifications proposed for the DoD's continuing Technical Manual Specification Standardization (TMSS) program were reviewed during the past year and AIA recommendations were submitted concerning their improvement. These specifications pertain to the preparation of manuals and instruction for the maintenance of aircraft on the flight line and for the maintenance of engines and avionics equipment at depot and intermediate field levels.

One of the AIA proposals would substitute readability requirements expressed only in general terms and definitions for the previously proposed readability standards that would utilize mechanical analysis of text and require an unwarranted increase in cost to both the government and the contractor.

General acceptance of these AIA recommendations has been received from TMSS officials and this acceptance will result in the clarification of the specification style and format requirements and the reduction of redundancy and cost of documentation preparation.

Unification of Technical Manual Procurement

An AIA study initiated during 1970 has been directed to the potential unification of technical manual procurement and preparation. With the ever increasing complexity of weapon systems, technical manuals have become a major cost factor. Although some standardization has been accomplished, each military service has developed its own large organization and special ways to handle all phases of technical manuals preparation from procurement through publication. This AIA study, which is scheduled for completion early in 1971, is expected to spotlight current redundancies and achieve significant cost savings for the government as well as industry through a unified approach.

Performance Data Directory and Glossary

Joint efforts of AIA, the Association Internationale des Constructeurs de Materiel Aerospatial (AICMA), the Air

Transport Association and the International Air Transport Association have resulted in the production of the "World Airlines Technical Operations Glossary" and the "World Airlines Technical Data Directory." Copies of both publications were distributed worldwide to both the airlines and their manufacturing suppliers during 1970.

The intent of this glossary is to foster improved inter-industry communications through the use of common terms and definitions which are relevant to airlines' technical operations. Its companion volume, the directory, provides

preferred definitions of data elements to be used in reporting technical performance of aircraft and their components between the world's airlines and their manufacturing suppliers.

Although the directory was only distributed a short time ago, an acceptance factor of 85 percent for its definitions has already been indicated from the 45 airlines participating in this standardization program. To assist in facilitating more effective equipment performance, AIA member companies as suppliers to the airlines have been urged to make use of this directory.

AEROSPACE PROCUREMENT SERVICE

The Aerospace Procurement Service supports the functions of finance, accounting, and contract administration activities pertaining to procurement, patents, industrial relations, industrial security, government reports and manpower utilization. One Council and three principal committees provide a medium for conducting evaluations and resolving problems of mutual concern to government and industry.

The principal efforts of the Aerospace Procurement Service during 1970 were in areas concerned with the proposed changes and additions to government policies, procedures and practices relating to the business activities of aerospace companies.

Contract Risk Analysis

A study of "Risk Elements in Government Contracting" was provided to the Commission on Government Procurement, and given wide dissemination to the communications media, academic institutions, government agencies and other interested organizations. The study represented a compendium of the many changes in government procurement which have increased the risk assumed by contractors, particularly in the last decade. The document should serve to assist the Commission in placing its detailed studies of each facet of procurement in context and hopefully lead to recommendations which will reverse recent trends toward placing inequitable burdens of risk on contractors. (The many requests for copies received from a great variety of institutions throughout the country attest to the interest created by the publication of this study.)

Warranties and Consequential Damages

AIA made recommendations to DoD in 1969 asking that it clarify its policy as to consequential damages arising from non-compliance with warranty type clauses in contracts. While assuring DoD that the industry was not looking for relief from the requirement to correct defects or otherwise make equitable adjustments under the contract terms, AIA advocated that the government assume the risk of consequential damages as the most cost effective approach.

The ASPR Committee tended to agree with the recommendations but desired more data, particularly as to the insurance aspects. A comprehensive study was made and presented through CODSIA. It appears that an ASPR revision will be published shortly which will resolve the major problems involved. However, there are many detailed matters yet to be resolved, and work will continue in 1971 to develop recommendations in these regards.

Indemnification

For many years industry has sought an appropriate solution to the problem of adequately protecting the public and government contractors against damages or catastrophic losses which might result from the performance of government contracts, particularly because present statutes and regulations are deficient. AIA presented testimony before a House subcommittee which formed the basis to propose legislation for the solution of this problem. The project is progressing and during 1971 a presentation will be made to the Commission on Government Procurement on this topic.



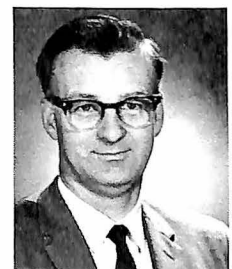
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CHARLES S. HAUGHEY
*Hughes Aircraft Company
Chairman, Patent Committee*

Product Liability

AIA efforts toward the solution of the problem of potential liabilities of aircraft manufacturers and their suppliers to passengers in both national and international air transportation are continuing. AIA is actively working with other industries concerned with these problems and cognizant government agencies.

A diplomatic conference will be held in 1971 to consider proposed revisions to the Warsaw Convention. The results of the conference may provide an appropriate means for the AIA to advance the solution of problems in both the domestic and international fields.

More particularly, the position of our government at the conference will be to seek a reservation for national governments to provide a supplemental system permitting recovery over and above the limitations of the Convention. This will afford AIA the opportunity to place before Congress views as to the necessity for providing legislation to adequately protect both the public and the aircraft manufacturers and their suppliers.

Cost Accounting Standards

The extension of the Defense Production Act included a provision that the Comptroller General appoint a Cost Accounting Standards Board to promulgate cost accounting standards to be used in pricing and costing defense contracts and subcontracts over \$100,000. AIA is participating through CODSIA to maintain a continuing liaison with the Government Accounting Office and with the Cost Accounting Standards Board when it is established.

Contract Cost Principles

AIA prepared and transmitted to the DoD in 1969 a "white paper" on cost principles, the main thrust of which was to indicate the constant and multiple revisions of the cost principles and the trend of using them as guides for cost disallowance. However, proposed changes to the ASPR Cost Principles continued to issue in an unabated fashion during 1970.

In addition to the ASPR Cost Principles for Independent Research and Development and Bid and Proposal (discussed elsewhere in this report), AIA received and commented on fourteen proposed revisions to the ASPR Cost Principles in 1970. These proposals evidenced a continuing trend by the

government to convert the cost principles to rigid rules for cost disallowance. However, this matter will be considered by the Commission on Government Procurement.

Accordingly, AIA has initiated a study concerning the ever-continuing problem of cost recovery, the results of which will be furnished to the Commission during 1971. The objective of the study is to develop equitable cost principles to assure that contractors will recover reasonable and necessary costs allocable to government contracts. The AIA "white paper" of 1969 will be updated as a part of the study.

Cost Sharing

The Independent Offices and Department of Housing and Urban Development Appropriation Act for Fiscal Year 1970 required cost sharing on both grants and contracts for research resulting from proposals for projects not specifically solicited by the Government. This requirement was retained for Fiscal Year 1971.

In the consideration of this legislation, the committee report expressed a desire for the issuance of regulations designed to establish equitable and uniform policies among the various government agencies.

The Office of Management and Budget proposed implementation went far beyond the intent of the legislation in connoting that cost sharing should be considered for all research contracting and not confined to cost sharing resulting from unsolicited proposals. It was objectionable in many other respects and would have the effect of concentrating federally supported research in government laboratories. It would be contrary to the national objective of strengthening the technological capability of the U.S. by stimulating initiative in private industry to advance the state-of-the-art in areas of potential benefit.

The circular was issued in December, 1970. Many of the suggestions submitted through CODSIA to OMB were considered and accepted in the final circular, and the circular represented a substantial improvement over previous drafts reviewed by industry. Nevertheless, both the legislation and the circular are inequitable and otherwise objectionable and AIA plans further activity on this subject in 1971.

Financial Factors

DoD continued its study of methods to give greater consideration to return on investment as a factor in negotiat-

ing going-in contract profit rates. An ASPR subcommittee has developed a proposed questionnaire to be used in obtaining working and fixed capital data on a stratified random sample of contracts.

AIA participated with CODSIA in reviewing the questionnaire and was instrumental in convincing the subcommittee of the need for revisions. DoD appears committed to some action along these lines. AIA will continued to study the subject and provide recommendations to DoD on the basic concept, the methodology and reporting, and possible alternatives.

Advance Payments

The Internal Revenue Service has for some time been planning to publish a regulation on the treatment of advance payments. AIA participated and made the recommendation that it be permissible to continue to treat such payments as taxable income in the year the goods are delivered. A proposed regulation on the subject was published in 1970 which accepted this recommendation. However, at year's end it had not yet become final.

Commission on Government Procurement

Based on recommendations received from AIA member companies, a number of study projects were identified and assigned to the Procurement and Finance Council. It is intended that results of the studies will be furnished to the Commission on Government Procurement and to its study groups and will clearly identify industry problems in government procurement and suggest the corrective actions required. Study topics which are the primary responsibility of the Aerospace Procurement Service are:

- Contract Risk Analysis
- Indemnification
- Renegotiation
- Cost or Pricing Data
- Government Performance vs. Contracting Out
- Organizational Conflicts of Interest
- Contract Terminations
- Cost Recovery
- Federal Reports Act
- Government Furnished Property
- Role of Contracting Officer
- Types of Contract
- Subcontractor Relationships
- Impact of Federal Financial Management

Contracting Sanctions—Clear Air Act

Several bills in Congress proposed sanctions on a government contractor who violates federal, state or local laws and regulations involving environmental pollution. Some would have required impracticable and burdensome administrative requirements and others would not provide for due process of law in penalizing alleged violators. AIA developed an analysis of all such pending bills together with recommendations and provided it to the Senate subcommittee having jurisdiction. The final bill amending the Clear Air Act as reported out and which is now law takes a reasonable approach. It provides for suspension of a government contractor who has been found by

a court to be knowingly in violation of the act. Due process of law is thereby preserved.

Patents and Proprietary Information

The proposed legislation amending the act contained provisions under which the government would have taken title to inventions made in the performance of government contracts let under other provisions of the act (i.e., a "title policy"). Additionally, the bill contained sections providing for the compulsory licensing of privately developed and owned proprietary information and patents necessary to the effectuation of the act.

AIA took strong exception to both provisions and filed a statement with the appropriate Congressional committee. As enacted, the proposed "title policy" was deleted, thereby permitting the President's Policy Statement on Patents to become effective; and the compulsory licensing provision was substantially modified to eliminate the compulsory licensing of proprietary information and to erect appropriate safeguards under which compulsory licensing of patents will be required only under the most extenuating circumstances.

Management Systems Control

DoD published in 1970 the first Authorized Management Systems Control List. This list identifies those systems authorized for inclusion in contracts. The publication of the list was the culmination of many years of efforts initiated by AIA urging DoD to stop the proliferation of management systems.

Unfortunately, the DoD Comptroller continued his moratorium on enforcing the control feature of DoD's own directives. Also, DoD elected not to continue the DoD/CODSIA Advisory Committee for Management Systems Control. As a result, restrictions on the imposition of new and duplicating requirements continue to be less effective than industry considers necessary. AIA will continue efforts to have DoD reinstate effective control procedures.

One of the principal management systems that the Military Services have been requiring of contractors is the "Cost/Schedule Control System." AIA reviewed DoD drafted "interpretation" and "implementation" guides and suggested changes which have helped reduce the amount of detailed requirements placed on contractors. Efforts will be continued to change some of the aspects of the system which contractors believe to be impractical or unduly burdensome.

During the year DoD continued work on implementing the Military Standard Contract Administration Procedures (MILSCAP), which is essentially a DoD internal system but which could impact on contractors by increasing overhead costs, complicating production surveillance, and slowing down payments. AIA continued to review developments. The system was to be fully implemented on February 1, 1971 but this date will not be met and a new date has not been established.

Reports and Records Requirements

Efforts continued in 1970 to counteract the propensity of government agencies to levy additional requirements upon contractors to submit reports and respond to questionnaires.

A number of presentations were made to DoD regarding development of reporting requirements which resulted in the elimination or simplification of data requested in such areas as contract funds status, cost performance and procurement information reports. At year's end, a review was being made of a proposed DoD initiated questionnaire on incentive contracting.

Government-Furnished Facilities and Property

DoD announced during 1970 its expected policy requiring contractors to submit plans to phase-out their possession of government-owned facilities and property.

In exchanges of views, AIA continued to draw attention to the difficulties of implementing this policy and the need for legislative authority for DoD to negotiate the sale of equipment to possessing contractors. Moreover, the DoD insistence that contractors acquire or replace the government property in their possession came at a time when a number of contractors were financially ill-prepared to do so.

At year's end there were strong indications that DoD was going to take a new look at their government-furnished facilities policies and the effect of these policies on maintaining an adequate mobilization base. AIA is contributing to this study.

DoD has adopted a policy to which the AIA voiced strong exceptions that a contractor will be conclusively presumed negligently liable for loss or damage to government property in its possession if the loss or damage occurs while the contractor's property accounting and control system is in an unapproved status. AIA plans to follow the implementation of this policy and make further representation to DoD when the impact on insurance and other costs is evaluated.

Comments were also made regarding a DoD policy requiring contractors to retroactively identify general purpose components of special test equipment, pointing out the costs involved and nebulous benefit. There are indications that DoD will rescind the requirement.

Technical Data

Proposed revisions to the Armed Services Procurement Regulation (ASPR) dealing with contractual requirements to furnish technical data to the government as well as the rights acquired by the government, were proposed in 1970 by the Department of Defense. The proposed revisions would bring about significant changes in basic policies established in 1964 and which since that time had appeared to be satisfactory.

Through CODSIA, AIA expressed its concern over the proposed revisions which would tend to revitalize many of the problems which had been solved by the 1964 policy statement and which also appeared to condone policy misimplementation and a trend toward the government's reaching for unlimited rights in more and more data.

CODSIA filed lengthy comments, including suggested changes to make the proposed revisions equitable and practicable. Informal follow-up with DoD indicates that CODSIA comments were well received. Because of the complexity of

the issues no immediate action is anticipated as to the issuance of the proposed revision.

There was continued action during 1970 with respect to a proposed ASPR revision which would require contractors to grant royalty-free licenses under their proprietary information and data to subcontractors and the government to the end that the government could procure replenishment spares directly from such subcontractors. AIA participated with CODSIA in the development of a paper strongly opposing the proposed ASPR revision. At the end of 1970, the proposed revision had not been issued. This matter is presently before the DoD and the military services for decision.

Patents

Several changes were proposed to the presidential statement on patent policy issued by President Kennedy in 1963 which governs the allocation of rights to inventions made under a government contract, not otherwise governed by specific statutes. Among other changes, one would have enlarged the government's rights to deprive a contractor of rights retained in such inventions and which the contractor had not commercially utilized. The government would thus be in the position to issue an exclusive license under such an invention. AIA registered exception to the proposed revisions and at year's end no specific action had been taken.

Patent applications filed with the U.S. Patent Office are retained in confidence, but may be reviewed by cognizant federal agencies to determine whether or not a secrecy order should be issued in the national interest. The Commissioner of Patents proposed a procedure under which micro-fiche copies of patent applications, which were candidates for the secrecy order, would be distributed to the federal agencies to make such a determination.

Certain safeguards proposed by AIA in the procedure, principally that records be maintained in the Patent Office indicating both the transmittal and return of the micro-fiche copies, were adopted.

Security Manual Changes

AIA through CODSIA presented extensive comments to the Office of Industrial Security on proposed revisions to the Industrial Security Manual. The proposed changes covered concurrent clearances, uniform 2-year record retention, restrictions on release of restricted data, classified candidate material, guidelines for the security of ADP systems, mail delivery to consultants and an appeal route when retention of classified material is denied. Comments were directed to effective security consistent with good industrial practices.

AIA representatives continued to exchange views on the industrial security program with the Office of the Deputy Assistant Secretary for Security Policy and the Office of Industrial Security. The security directors of AIA companies met with government administrators of the program including the security chiefs of the ten Defense Contract Administration Service Regions. The exchange of information is valuable in developing sound security practices and the across-the-table explanation of security regulations develops a uniform interpretation of the Industrial Security Manual.

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 sought.

Effective channels of communication continued to be maintained between the Council and senior technical management officials in the government during 1970 to exchange views on problem areas which have significant impact on the aerospace industry. Productive dialogue covered such subjects as use of contractor test facilities, risk assessment, and balance of performance and cost in program evaluation.

The Council, in addition to managing the activities of its three divisions and thirteen committees, focused attention on two significant problem areas through Council *ad hoc* groups on weapon systems development and aircraft noise and emissions.

Weapon Systems Development Study

The Weapon Systems Development Phase IV Study, a continuing industry effort to improve the systems acquisition process and reduce mutual government/industry problems, made recommendations to improve the source selection process. The problem addressed in Phase IV was that procurement procedures create the illusion that total technology is known, competition on major high technical content programs encourages industry minimization of technical problems, the selection process is ineffective in encouraging realistic technical evaluation, and when technical problems occur corrections are not planned for in the program cost or schedule. With this perspective of the problem, the objectives were to increase the availability and impact of "most probable cost" data on government funding, planning and source selection, and to increase consideration given to technical uncertainty during source selection.

In the course of the study, the laws, policies, regulations and procedures affecting source selection were analyzed, the source selection process was modeled, and detailed studies in specific areas were conducted. Based on this, the following conclusions were reached and recommendations were made:

Independent Program Estimates. The first conclusion was that the government capability to develop initial program estimates is not adequately utilized in establishing the program plan. To correct this it was recommended that top DoD management and competing companies should give added recognition to independent program estimates. They should also develop a capability to prepare parametric and comparative analysis and locate this capability at the appropriate organization level to enhance objectivity.

Evaluation and Selection Criteria. The second conclusion was that there is no clear distinction between proposal evaluation criteria and source selection criteria and the basis for source selection is really unknown to industry. It was recommended to revise DoD policy for a clear distinction between proposal evaluation criteria and source selection criteria and the RFP should be required to have separate criteria and relative weightings for proposal criteria and source selection criteria.



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Assessment of Technical Uncertainty. The third conclusion was that current selection policy fails to give adequate emphasis to provide proper weighting of known and unknown technical uncertainty. A third recommendation to correct this was to amend DoD directives to provide for consideration of known unknown technical uncertainties as a discrete element of the source selection process. It should be recognized that known unknowns still represent a smaller portion of the uncertainties and that the unknown unknowns, which cannot be discussed because they are truly unknown, are still a major uncertainty item.

Most Probable Cost Versus Bid Cost. The fourth conclusion was that the source selection process appears to evaluate contractors more on bid cost than on probable cost. The fourth recommendation was to adopt DoD policy changes to require evaluation of proposals based on most probable cost and penalize unrealistically low bid proposals.

Technical Transfusion and Leveling. The fifth conclusion was that merged selection and negotiation results in continual competitive negotiation and cost dominance, and improper application of technical transfusion and leveling results in most proposals being rated technically adequate. A fifth recommendation was to adopt DoD policy changes to assure that selection and notification are specific events before negotiation and eliminate transfusion and leveling prior to source selection.

The Armed Services Procurement Act is another study area that was considered important. Some features of this federal law and implementing DoD policy contribute to inhibiting the use of all pertinent factors in the source selection process. It was concluded that this problem can be minimized by:

- Reforming the Armed Services Procurement Act to overcome the bias against procurement by negotiation.
- Reforming the Act to overcome the difficulties of interpreting the requirement for "discussions with those bidders whose proposals are within a competitive range, price, and other factors considered."
- Consolidating DoD policies on the source selection process, now promulgated by ASPR and various DoD directives, memoranda, and instructions.
- Eliminating inconsistent implementation by the military departments of DoD policy on the source selection process.

As emphasized in the third recommendation, the unknown unknowns, now coined Unk-Unk's, cannot be planned for in development. However, this phase of the study offers recommendations which, if properly implemented, could give additional recognition to uncertainties and reduce effort necessary to initiate, develop, and operationally deploy major weapon systems having high technical content, by providing a more realistic acquisition process.

Aircraft Noise and Emission Control

The Council has been involved in the numerous activities by regulatory agencies to limit or control aircraft noise and exhaust emissions.

An intensive noise abatement activity has been related to domestic proposals to regulate aircraft noise, and the first steps have been taken towards international regulation. While

standards have been published for the noise certification of new transport aircraft in the United States, it is considered that these regulations are not entirely appropriate for future generations of aircraft, and, therefore, efforts will continue towards modification of the existing regulations.

AIA is participating on an advisory committee to the U.S. representative to the Committee on Aircraft Noise, of the International Civil Aircraft Organization (ICAO), and has furnished technical representation to the Committee on Aircraft Noise at its meetings in Montreal. In addition, there has been extensive AIA participation in the Interagency Noise Abatement program. This program is the focal point for all government activities related to noise abatement.

AIA has submitted to the Federal Aviation Administration completely developed criteria proposed for use in the noise certification of Short Take-Off and Landing (STOL) aircraft. FAA is now in the process of preparing an advance notice of proposed rule making to provide for the noise certification of these aircraft. An industry position on a FAA advance notice of proposed rule making to regulate the noise of supersonic transport (SST) aircraft has been prepared.

AIA prepared an in-depth technical and economic analysis of the impact of any regulation which would require the modification of existing jet transport aircraft for the purpose of noise abatement. The presentation prepared by AIA members has been very well received by the airlines, the airport operators and the Department of Transportation.

During 1971 AIA expects to continue at a high level of activity in the negotiation of regulations applicable to STOL aircraft, the SST, and Vertical Take-Off and Landing (VTOL) aircraft. In addition, the efforts to obtain modification of existing regulation will continue. It is to be expected that there will be increased activity in the international forum.

Following the activity of the Department of Health, Education and Welfare in 1968 and 1969 related to the reduction of aircraft engine exhaust emissions, the FAA issued an advance notice to determine the practicality of establishing regulatory control of exhaust emissions. AIA developed an industry position in response to the FAA which indicated that while it might be practical to establish reasonable limits for visible exhaust emission it did not appear within the current state of the art of engine design technology to establish criteria for the gaseous components of the engine exhaust.

Civil Aviation Research and Development (CARD)

AIA, at the invitation of the Department of Transportation and National Aeronautics and Space Administration, provided review on the requirements of emerging and new generation aircraft systems. The total study being conducted by the Civil Aeronautical Research and Development Policy Study Group, includes the airways, airports, aircraft and intermodal aspects and will establish a basis for national aeronautical policy. Seven aircraft R&D sub-studies, consisting of STOL, Vertical/Short Take-Off and Landing (V/STOL), Helicopter, Subsonic Transport, Supersonic Transport, Hypersonic Transport, General Aviation and a general R&D category, were initially prepared by the CARD Study Group and then reviewed by

industry. The study was designed to determine overall aeronautical R&D needs without distinguishing whether this work would be done by the government, industry or university. Mutual government and industry benefits were derived from this review by providing interested participants the basis upon which aeronautical R&D policy will be made, and insuring that the R&D coverage is complete.

Airworthiness Standards

AIA representatives continued their close working relationship with the FAA on the development of new airworthiness standards and the application of existing standards. Many Federal Aviation Administration proposed changes to the airworthiness rules were reviewed and positions were developed by AIA throughout the year, and formally submitted to the FAA. A major review completed during the year was a comprehensive analysis of the FAA's Tentative Airworthiness Standards for Powered Lift Transport Aircraft. AIA recommended more than 100 changes at the Federal Aviation Administration sponsored government/industry Vertical/Short Take-Off and Landing (V/STOL) standards conference in April 1970. Another major review was made of government's Tentative Airworthiness Standards for Supersonic Transports and recommended changes were submitted to the FAA at the government/industry supersonic transport conference.

AIA has been actively working with the FAA and other organizations since 1960 with the objective of developing economically practical and technologically achievable airworthiness standards for the supersonic transport aircraft while providing the proper level of safety.

The FAA is planning formal rule making action on airworthiness standards for the SST aircraft early in 1971, but such action on standards for V/STOL aircraft is not expected for several years.

Safety Measures for Aircraft Fuel Systems

Since mid-1968, Council representatives have been actively supporting the FAA's Advisory Committee on Fuel Systems Fire Safety, composed of representatives of the FAA, AIA, airline operators, flight engineer and pilot associations and the U.S. Air Force. The objective of the advisory committee is to foster and encourage the development and testing of means for achieving protection against fuel system fires and explosions, promote trial applications of qualified operational systems, document information on weight, cost and reliability of protective systems and provide advice on amending the airworthiness requirements.

The Advisory Committee has reviewed all turbojet air-carrier accidents and incidents involving fire and explosion and considered all known protective systems and devices as well as those under development. Studies of protective systems and designs will continue during 1971.

Throughout the advisory committee's tenure, the AIA has supported the objective of reducing fuel fire hazards on aircraft by all practical means including aircraft design features, operational procedures and fuel selection, processing and handling.

International Airworthiness Requirements

Coordination of U.S. and foreign aircraft manufacturers on airworthiness standards reached a high level in 1970. AIA representatives met with the representatives of the British Aircraft Corporation and Société Nationale Industrielle Aerospatiale in preparation for the government/industry conference on fuel systems fire safety sponsored by the FAA. General concurrence was reached on positions to be presented at the conference.

Representatives of the AIA and manufacturers of the Concorde met and discussed agenda items for the June 1970 government/industry conference to advance the SST and other transport aircraft airworthiness standards. The highlight of international coordination of aircraft manufacturers on proposed airworthiness standards came in August 1970 when the AIA submitted to the FAA a confirmation of positions which were concurred in by both manufacturers of the Concorde.

Flight Testing Regulations

There has been an intensive AIA effort to improve government regulations which affect the establishment of a suitable environment for safe, effective, and economical flight test programs. A continuing major effort was devoted to elimination of the ineffective and unnecessary restrictive regulations which are associated with contractor operation of government-owned aircraft.

Efforts with the Air Force to develop practical regulations and requirements related to the qualification of flight crews and to the conduct of flight operations with bailed aircraft are continuing. In response to Air Force concern regarding the safety of contractor aircraft operations, AIA has established a program to develop operating safety statistics for all AIA member operations, including both government-owned aircraft and contractor-owned aircraft.

This program will provide recommendations for improvement of contractor operations where problem areas are located. In conjunction with the statistical program, an effort will be made to develop more appropriate means of reporting accident rates in test programs where the exposure to risk is high and the total hours of flying are low. A Department of Defense proposed regulation is now in internal coordination. Prior to publication, this proposed regulation will be coordinated with AIA.

A new effort was initiated by AIA to investigate the cause and possible correction of the difficulties experienced during contractor operations at government-owned test facilities, sites, and ranges. The objective is to make it possible for contractors to schedule their testing at advantageous times and to eliminate unnecessary obstacles to achieving test schedules.

Computer-Aided Design

There has been a continuing effort with the DoD as policies affecting requirements for use of computer techniques in the design and development of new defense systems and equipment are evolving. In recognition of the danger of stifling competition in this highly innovative and proprietary area, the DoD has been urged to avoid premature standardization and to

limit access to proprietary design processes in the development and application of computer techniques. There have been good indications that DoD is receptive to the AIA position.

Configuration Management

The implementation of the DoD Tri-Service requirements for configuration management by the services has been watched closely. A major project effort was devoted to the review and critique of a proposed Air Force implementing standard. It was criticized for containing much material which should be in the Tri-Service standards for equal application by all services, for containing too much "how to" detail, and for deviation from the Tri-Service system. Most of the AIA comments were accepted.

Systems Engineering Management

There has been a continuing effort to seek acceptable requirements for and validation of the contractor's systems engineering management process. Suggestions have been made for improving the Air Force systems engineering management standard which is under test applications on three major Air Force programs for suitability as a Tri-Service requirements standard. There have been many discussions with the Office of the Secretary of Defense and the services on this subject. There has also been a formal review of the Army's systems engineering manual for internal use within the services. The objective of this effort is to assure that Tri-Service contractual requirements for future programs allow for initiative and preserve the prerogatives of the contractor in the engineering of the systems design, while providing adequate visibility of technical performance for government management of the contract and the program.

Technical Data Management

Continuing discussions were held with DoD and the services toward the improvement of requirements for technical data. The objective has been to reduce the proliferation and volume of data and to improve the quality and utility of data produced and delivered. With the recent publishing of the Tri-Service authorized data list, which replaces the individual Service's data requirements manuals, standardization of Data Item Descriptions among the three Services is resulting in consolidation and reduction in data requirements. The AIA has strongly opposed a proposed DoD specification which would place unnecessary and costly controls over the quality of technical data.

Reliability Prediction

In a major effort with the Navy on proposed new Tri-Service requirements for reliability prediction, it was urged that the new techniques proposed be "qualified" on a limited trial basis before being specified for general use. In another significant project with the Air Force on proposed new Tri-Service requirements for Maintainability Verification/Demonstration/Evaluation, it was suggested that changes be made to avoid the stipulation of overly rigid procedures which

might stifle improvement. The Navy and Air Force have been reasonably receptive to AIA comments.

Environmental Testing

AIA has conducted a program to coordinate and review proposed regulations and specifications which influence the effectiveness of environmental test procedures, facilities, and methodology. Current activity is concerned with combined environment testing developments and facilities in various government agencies, gunfire vibration test requirements and shock and vibration test procedures. The government has been receptive to industry comments which have been designed to assure cost effective contractual requirements.

Metric System

The AIA Metric System Study continues to develop, coordinate and establish industry positions in support of the U.S. National Bureau of Standards (NBS) Study, and to assess the impact on the aerospace industry of the increased use of the metric system in the U.S.

The operating policy of the AIA Metric Study has been to maintain objectivity regarding an aerospace position on the use of the metric system, and to provide information, guidance and assistance to member companies in their own analyses of the question. To this end, AIA has closely coordinated with other associations to minimize duplicative efforts, has closely followed NBS and DoD activities, reviewed their planned programs, and provided inputs prior to finalization of their plans and programs.

Standardization Management

An industry review was conducted to separate contractually applicable specifications proposed by the Navy, the Air Force, and the Office of the Secretary of Defense staff covering requirements for a standardization management program to be conducted by the contractor during the design and development of new equipment and systems. The AIA position urged that common requirements be developed, and commented that the OSD proposed Tri-Service standard was the preferred approach.

AIA is assisting OSD in developing this Tri-Service standard in a form acceptable to the individual services in place of their separate specifications.

AIA has identified the steps and actions necessary to develop and maintain an active military/industry standardization program to provide overall visibility and management function for development and maintenance of parts standards, utilizing all available government and industry standardization resources without duplication of effort. These AIA recommendations have been endorsed by Electronic Industries Association, National Security Industrial Association, American Ordnance Association, and the Society of Automotive Engineers, and are being studied by DoD for possible implementation.

AIA has designated a representative to United States National Committee to ISO/TC-20 (International Hardware Standards).

Microelectronics

The military, assisted by AIA and EIA, implemented the DoD policy allowing issuance of general specifications for microcircuits by release of MIL-M-38510 general specification. Military standard test methods and procedures (MIL-STD-883) have been implemented and are proving beneficial.

The military is currently preparing, with assistance from both Associations, detailed specifications for widely used microcircuits. The first three of these are targeted for release in 1971.

Military criteria have been established for selecting candidate microcircuits for detailed specification coverage. AIA and EIA have been requested to survey users to identify candidate microcircuit specification items.

A NASA report on an extensive study of the state of technology and testing of Large Scale Integrated (LSI) circuits is soon to be released, and may lead the way to improved uniformity of test methods and parameter definitions among the users and manufacturers of LSI. Complete functional and parametric evaluation of LSI microcircuits requires sophisticated fully automated test equipment. Such test equipment and testing is expensive, and its cost effectiveness can be increased by producer-user agreement on test methods and parameter definitions.

Electronic Systems Requirements

Phase I of a DoD/Industry program, which was completed in 1968, developed 63 Electronic Design Practice Standards in lieu of over 500 separate service requirements. A two-year Phase II program (completed in 1970) developed four new standards and provided orderly revision of the standards developed in Phase I. Plans have been developed for a two-year Phase III to assist the military in development of twelve new design practices and orderly revision of previously published standards. Keeping these standards current broadens their use and thus increases the dollar savings from their repetitive use. Implementation of these tri-service standards to date has accumulated a cost saving of over \$35 million and continues to accrue savings estimated at over \$15 million per year.

AIA assisted the Air Force, Navy and Army in the 1970 revision of three basic general specifications of electronic systems requirements for aircraft, missiles and spacecraft. Maintaining these requirements by annual revision reduces the cost of new contract proposals by eliminating the need for deviations necessitated by outdated specifications. These specifications are unique in their usability with a minimum of deviations, due to the excellent teamwork of AIA and the military services in updating them each year.

Close interface has been maintained with the Tri-Service Electromagnetic Compatibility Committee on its 15 major projects. Three of these projects, grounding and bonding, requirements for electromagnetic interference characteristics and related test procedures, are in final coordination. Extensive AIA comments were favorably received by DoD to incorporate improvements resulting from three years' use of these documents by industry in design and test of military electronic systems.

Material and Process Specifications

Considerable industry effort is expended in the review of military documents covering material and process specifications. The review has a two-fold purpose: It provides the services with current user experience and advice, and it alerts industry to the latest requirements of the services. The benefits that accrue to both government and industry are a common understanding of the requirements expressed in the document, and a minimum cost.

Equally important as the initial review and comment is a determination from the final published document of the acceptance of industry recommendations. When the occasion demands, coordination meetings are arranged with representatives of the government, suppliers and users to resolve controversial points and facilitate agreement on the document requirements.

Approximately 70 specification documents were reviewed in 1970. Audit of the published documents indicates a high degree of acceptance of the industry recommendations.

Structural Design Criteria

Design criteria specifications form a base line on which engineering design and development proceeds. Industry groups have long advocated that the military services pursue programs to maintain criteria specifications current with the state-of-the-art. Specialists have worked directly with the services in developing new criteria documents and revising existing ones. Projects completed or in progress cover the areas of airplane strength and rigidity, internal sound levels, aircraft gust criteria, rotorcraft design and structural integrity, airplane and V/STOL flying qualities, and missile design criteria.

It is expected that these efforts will result in more current and workable requirements that lead to reduced costs and improved structural integrity.

National Aerospace Standards

National Aerospace Standards are industry specifications and standards covering a wide variety of special industry requirements, from airport planning and large numerical controlled machine tools, to close tolerance, high strength fasteners and environment resistant electrical hardware. Nearly 1,200 NAS documents have been published with approximately 20 new standards, and 75 revisions completed in 1970. Current projects cover development of standards on such items as: threaded inserts, electrical connectors, threaded fasteners, rivets, chip capacitors and remote control circuit breakers.

Turbine Engine Requirements

As a result of AIA efforts to provide the military services with a single document containing all turbojet and turbofan engine requirements, the services have prepared a draft specification which will be released for industry coordination early in 1971. Efforts thus far have resulted in reduced cost to the government of engine development programs without the sacrifice of any quality or reliability. It is expected that the forthcoming round of negotiation will result in even greater improvement.

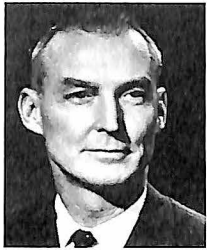
AIA has participated in the initial review of the FAA engine certification requirements to modernize and simplify this part of the FAA Regulations. In addition, industry has participated in the updating of the engine certification handbook.

Rocket Propulsion Systems

AIA has continued to maintain good communications with the policy level personnel in NASA, OSD and its military components on the technology requirements in the near future for rocket propulsion. As a result of a recent discussion with

representatives of the Director of Defense Research and Engineering (DDR&E), AIA will undertake development of a low-cost rocket propulsion specification. During the next several fiscal years, it is evident that DoD funds for technology development in propulsion will be at an extremely low level. Thus, it becomes most important that the AIA maintain government design specifications up to date, and continue good communications to insure that DoD economy measures do not result in seriously compromising industry's capability to respond to government requirements.

INTERNATIONAL SERVICE



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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 the development of a platform 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.

U.S. aerospace exports in 1970 reached their highest level—\$3.4 billion—as deliveries of the wide bodied jets to foreign carriers began in quantity and commercial jet aircraft manufacturers placed additional emphasis on foreign markets. Military aerospace exports played a lesser role with sales of \$730 million in 1970.

The Administration placed greater emphasis on international trade through the reactivation of the office of the National Export Expansion Coordinator by Commerce Secretary Maurice H. Stans and the appointment of a commission to study and make recommendations for U.S. foreign trade and investment policies for the 1970's.

Trade Policy

The inclusion of import quota provisions in trade legislation during the year, and the acceptance of modest proposals concerning international tariff reductions and elimination of the Domestic International Sales Corporation (DISC) from the President's Trade Bill were indications to trading nations that American policy had shifted. DISC, a proposal developed by the Treasury Department to provide a modest tax deferral for U.S. firms conducting business abroad, was supported by AIA.

No trade legislation was enacted during 1970; however, the aerospace industry position was well established. The industry's views were outlined before the House Ways and Means Committee in support of the Trade Bill. Specific recommendations, supplementing the presentation to the Congress, were submitted to the Presidential Commission on International Trade and Investment Policy.

The Trade Policy Task Force made a study and presented factual and detailed information to the International Committee on major factors affecting trade, present and projected.

International Finance

Critical export credit restrictions, resulting from an extremely tight money market in 1970, did not seriously curtail commercial aerospace exports because of the programs of the Export-Import Bank. Since the Private Export Funding Corporation (PEFCO) was not activated on schedule, the burden for export financing of commercial jet aircraft was principally on the Eximbank, with substantial support from commercial banks on a participating basis.

AIA wrote President Nixon supporting legislation to remove the Export-Import Bank from the restrictions of the Unified Budget. Legislation was introduced into Congress, passed by the Senate, reported favorably by the House Banking and Currency Committee, but defeated on floor of House in final days of the 91st Congress.

International finance programs with commercial bankers and U.S. financial institutions, sponsored by AIA, now include several foreign financial institutions. Participation by foreign

banks in large loans for the export financing of U.S. aircraft to third countries is a relatively new development which has been urged by the Federal Reserve.

The Commercial Jet Aircraft Finance Task Force initiated a program to analyze and provide facts and figures on the economic impact of Export-Import Bank financing of aircraft exported during the last twelve years.

The 91st Congress passed a Foreign Military Sales Act, providing a fund of \$200 million for credit export financing of military products with the participation of private sector capital. The Military Export Finance Task Force conducted seminars with commercial bankers in an effort to locate new sources of export financing for military products.

Export Controls

In 1970, the liberalization of export controls governing commercial aerospace products under the provisions of the Export Administration Act of 1969 was modest. The AIA International Committee has urged the Commerce Department, Office of Export Control, to improve the procedures and regulations. AIA recommendations to Congress and the Williams Commission also stressed liberalization. The Export Administration Act provides ample authority for the Commerce Department, in cooperation with other government agencies, to initiate administrative improvements in the regulations and procedures which would be extremely helpful to industry in time and cost, without jeopardizing national security.

International Traffic in Arms Regulations, administered by the Office of Munitions Control, Department of State, were improved during 1970. At the request of OMC, several recommendations submitted by AIA were accepted and have proved to be helpful to aerospace exporters.

The Department of Defense, Office of Strategic Trade, has adopted a more reasonable policy toward aerospace export programs; however, there still exists an overall national requirement for better understanding of international trade and international security. The AIA International Committee has sponsored a continuing dialogue with DoD and the military services to improve the relationship and complementary effects of international trade and international security.

NIAG (NATO Industrial Advisory Group)

AIA continued to support the programs of NIAG by selecting qualified aerospace representatives to serve in various NATO programs, and to disseminate information and to provide briefings on the NIAG projects.

New Trends

As the industry adjusted in 1970 to the drastic changes in the nation's major domestic aerospace programs even greater emphasis was placed on international markets. The AIA International Committee activated a new task force to explore with U.S. Government assistance the export products and international markets for diversified aerospace-developed products not having an aerospace application.

By exploring new concepts of international cooperative R&D, the AIA International Committee presented programs for industry planners and international executives to better understand both the military and commercial foreign cooperative ventures made more significant by tightening of the technology gap and the high costs of specialized products.

In 1970, AIA began a more extensive analysis of foreign competitive developments in the industrial nations, including Russia, which joined ICAO during the year.

OFFICE OF PUBLIC AFFAIRS



WILLIAM R. WILSON
*Lockheed Aircraft
Corporation
Chairman, Public Affairs
Council*

The Office of Public Affairs seeks to inform the public about the aerospace industry's goals and accomplishments in support of national security and in the fields of space exploration, civil aviation, commerce, international trade and its efforts to achieve national goals in areas other than aerospace.

Responsive to the increased public attention being given to matters related to the aerospace industry, the Office of Public Affairs was strengthened during 1970, and it embarked upon a broadened program of communications within the association and to outside publics.

The relationship with the Public Affairs Council, composed of member company public relations and public affairs executives, was strengthened and the amount of useful information flowing both ways through the channel between AIA and the various corporate headquarters was increased significantly.

The close working relationship between the Office of Public Affairs and other AIA councils, services and committees also was strengthened with the result that more AIA efforts in various fields were turned into information materials and released.

Publications

During the year there was some realignment in the field of AIA publications.

Aerospace. The Association magazine was increased from a quarterly to a bi-monthly publication and more effort was made to build each issue around a theme of interest and importance to the industry. More recognized leaders from within the industry and from outside of it contributed material. Reprints of the July supersonic transport feature by Senator Mike Gravel proved to be one of the most popular items published by AIA.

Aerospace Facts and Figures. This authoritative annual volume, published since 1945, was reviewed thoroughly and work on the 1971 edition began late in 1970. Commercial distribution for the 1970 edition was made by *Aviation Week & Space Technology*, a McGraw-Hill publication. This agreement has been extended to the 1971 edition.

Annual Report. This report was given distribution outside of AIA to government agencies, private organizations and news media.

Reports and Summaries. A direct and planned result of the closer working relationship between the Office of Public Affairs and other councils, services and committees was the publication and distribution of detailed AIA studies. A complete Information Plan governed the preparation and distribution of material resulting from the Procurement and Finance Council study of "Cost Risks in Government Contracting." In addition to the complete report a pocket summary was published and distributed. The summary was given unusually wide distribution to educators (including commandants of military academies and colleges), other associations, the Congress, sectors of the business community and news media. A news release and an editorial were given wide media distribution. Response from all sectors was extremely gratifying, pointing up the fact that the study efforts undertaken by AIA councils, services and committees are useful to others in many areas.

In December a second information plan was prepared to support the preparation and distribution, in 1971, of material resulting from Phase IV of the AIA study of "Essential Technical Steps and Related Uncertainties in Department of Defense Weapon Systems Development."

Heliports and Helistops in the U.S., Canada and Puerto Rico. This annual publication, which is in increasing demand as the industry grows, was published again late in 1970, and the Directory of Helicopter Operators was in preparation at year's end. Following the disestablishment of the Vertical Lift Aircraft Council late in 1969, the Office of Public Affairs focused increasing emphasis on the important capabilities of V/STOL aircraft, particularly in their transportation, law enforcement, search and rescue, and medical applications. However, the plan to produce a public service type film on helicopters was shelved for economy reasons.

New Activities

The Office of Public Affairs has worked closely with the Aerospace Research Center, which was established during the latter half of 1970. Plans have been prepared to give wide distribution to material resulting from Center studies. Properly prepared and distributed, the material coming from the Center and from Councils, Services and Committees should gain recognition of AIA as an organization that is trying to help solve problems.

Beginning in mid-1970 the AIA Office of Public Affairs increased the use of all media and channels available to it to distribute factual information about the program to build and test two prototypes of a U.S. supersonic transport. The effort included articles, fact sheets, written editorials, graphic editorials, a pamphlet, quotes, filler facts and testimony and speeches by President Karl G. Harr, Jr.

The first issue of an AIA Speakers Kit was made during 1970. The kit was not intended to provide canned speeches, but rather to furnish information material covering many facets of the aerospace industry of potential use to speakers, speech writers, editors of company publications and public relations personnel who deal with local news media. The kit, and a later issue of additional material, concentrated on outlines, fact sheets, filler facts and quotes. Speeches by senior industry executives also were given added distribution on several occasions. Many of the best quotes were drawn from major speeches delivered by member company senior executives. The Office of Public Affairs intends to continue to moni-

tor such speeches and to issue additional speakers kit material from time to time.

Statistical Service

Another AIA Public Affairs effort that met with wide acceptance was the expanded preparation and increasingly wider distribution of industry statistics. With the aid of member companies in such periodic AIA surveys as the semi-annual employment survey and the backlog reports, and with cooperation of Government Departments and Agencies AIA now generally is regarded as *the* source of the most accurate and timely statistical information about the aerospace industry.

Activities of the President

Karl G. Harr, Jr., president of AIA, made or submitted a number of statements in support of industry objectives and legislative matters of direct interest to the industry.

He appeared before subcommittees of both the House and Senate Armed Services Committees on independent research and development; the Production and Stabilization Subcommittee of the Senate Banking and Currency Committee; the full House Committee on Banking and Currency on uniform cost accounting standards; and the House Ways and Means Committee on the trade bill.

Mr. Harr also submitted industry position statements to the Senate Public Works Subcommittee on Air and Water Pollution, the full Senate Public Works Committee, and the House-Senate conferees on various aspects of the Clear Air Act; to the members of the House and Senate Banking and Currency Committees in support of removing the Export-Import Bank from the unified federal budget; to several key members of the House and Senate requesting that the Airport/Airway Trust Fund be spent for its intended purposes; and to the Senate Finance Committee on the Domestic International Sales Corporation (DISC).

Other presentations were made to the "Miracles of America" conference in New York City, the Exeter Intern Program participants, the Comstock Club of Sacramento on the subject of "Space and Tomorrow's Society," the U.S. International Aerospace Exposition at Milwaukee on the subject of "Net Benefit to Man: The Test for Technology," the Aerospace and Air Transportation Industries in Florida on "Where Are We Headed?" and the Aviation/Space Writers Association in Washington, D.C. in the form of a year-end review and forecast.

TRAFFIC SERVICE



WILLIAM J. SMITH
*North American Rockwell
Corporation
Chairman, Traffic Committee*

The Traffic Service is responsible for obtaining adequate, economical and efficient transportation facilities for the aerospace industry.

The railroads and motor carriers obtained general freight rate increases of 11 percent and 6 percent respectively, in 1970. At year's end both were once again asking the Interstate Commerce Commission for additional across-the-board increases. Although significant, general freight rate increases do not tell the entire story. Throughout the year individual carriers or groups of carriers filed numerous additional rate proposals on a selective basis directed at specific segments of traffic. Many of these proposed increases were aimed at aerospace commodities. If permitted to become effective, these spiralling increases would have increased the transportation costs of aerospace companies to unreasonably high levels.

During the same period, several attempts were made by carriers to obtain ICC approval to limit their liability for negligent damage to aerospace shipments, thereby forcing the aerospace industry to shoulder the financial burden of losses which are beyond its control to prevent.

Common Carrier Rates and Practices

Traffic Service provides a monitoring service over the foregoing types of developments. When carrier proposals considered inimical to the best interests of member companies are revealed, the AIA Traffic Committee is alerted and develops factual data which is required to protest the proposals. During the past year Traffic Service has represented AIA before the Interstate Commerce Commission in fourteen such proceedings. On twenty occasions within the same period Traffic Service has appeared before various carrier rate bureaus in connection with docket proposals affecting the aerospace industry. Additionally, in coordinated actions with the National Industrial Traffic League, Traffic Service has represented the interests of AIA members before the Civil Aeronautics Board in three proceedings.

The following actions are representative:

- In a complaint case before the ICC obtained a favorable ruling requiring household goods carriers to cancel a long-standing 75 cents per shipment surcharge. Annual reduction to transportation charges of AIA members: \$60,220.
- In two ICC actions protested and obtained cancellation of increased charges applicable to extreme dimension aerospace components. Annual savings: \$54,840.
- Obtained favorable ICC ruling requiring rail carriers to cancel a rule limiting their liability for negligent damage to high-value aerospace shipments. Annual savings: \$100,000.
- In an ICC action secured cancellation of a motor carrier limitation of liability to \$2.50 per pound for damages to aerospace shipments. Representative savings on two specific losses: \$74,753.
- Successfully protested publication of increased minimum charges applicable to light and bulky aerospace commodities. Annual savings: \$173,000.

- Obtained rejection of various tariff rules applicable to specific accessorial charges in connection with packing and freight handling services. Annual savings: \$55,983.

Several regulatory proceedings in which AIA is a party were still pending at year's end in various stages of pleading. Included are:

- CAB Docket 19923 with respect to the liability of air carriers and their claims rules and practices.
- ICC Ex Parte No. MC-1 concerned with the extension of credit by household goods carriers.
- ICC Ex Parte No. 272, an investigation of the practices of motor carriers in handling prepaid and C.O.D. shipments.
- CAB Docket 22388, an investigation of air express service.
- ICC Docket 35347, a joint complaint of the Department of Defense and AIA concerning the unreasonably high minimum weight requirements of all motor common carriers.

Overall savings in the amount of nearly \$800,000 were reported by AIA member company traffic managers resulting from the successful completion of such cases in 1970.

Other Traffic Committee Actions

Many of the cases litigated by Traffic Service or handled by the Traffic Committee cannot be related to firm dollar savings. Nevertheless, the benefits of such actions to the aerospace industry and its customers are considerable. Illustrative of such actions taken during 1970 are the following:

- The Department of Defense determined that existing carriers were not qualified to provide secure transportation for classified shipments. The result was a serious shortage of service, and a Traffic Committee task force was formed to develop and support the granting of a nationwide ICC operating authority to a carrier qualified to transport classified shipments in specially-designed transporter equipment.

An initial decision of the ICC supported the position of the task force. Although a final decision was still pending at year's end, all indications point to the successful completion of this project.

- For several years a Traffic Committee task force has devoted considerable effort to development of a coordinated highway motor van/air carrier service for the door-to-door transportation of containerized household goods. Numerous

planning meetings have been held with carriers of both modes to devise a practical method for handling this type of traffic. Much of the effort of the task force has been directed to stimulating the interest of the modes of transportation.

In the fall of 1970 the CAB granted authority to several motor van carriers of household goods permitting them to provide service as air freight forwarders, thus paving the way for the successful completion of this project. The task force believes that within the near future the major portion of long-haul household goods service will be provided by air carriers.

- Another active task force project was concerned with the development and publication of revised ICC regulations to govern the practices, procedures and services of household goods van carriers. After reviewing and coordinating the requirements of Association members vis-à-vis this service, the industry position was presented to the ICC, which adopted the AIA position without exception. The primary result of the successful completion of this project is improved service and more efficient procedures for accomplishing the movement of employee-owned personal effects and sensitive aerospace components.

- A continuing task force project is concerned with the promotion and development of a viable and efficient air freight service. Throughout the past year the efforts of the task force were directed primarily to conducting joint question-and-answer seminars of shippers and carriers. The channels of communication thus established will contribute to the effective development of an efficient and competitive air freight service capable of meeting the requirements of shippers.

Cost Savings

Traffic Service during 1970 continued its program of gathering and exchanging ideas and information relating to improved techniques used by member companies to support government cost savings efforts. Successful actions by individual aerospace traffic managers resulted in savings of approximately \$11 million. The results of coordinated actions taken under the aegis of the AIA Traffic Committee are reflected in this amount.

TRANSPORT AIRCRAFT COUNCIL



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

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

The Transport Aircraft Council during 1970 maintained its close association with the other segments of the civil air transport industry, the government regulatory agencies, and the Congress to promote the exchange of technical information designed to contribute to the reduction of constraints on the growth of air commerce. New areas were explored to develop programs which would provide added emphasis to solution of the problems of the commercial air transport industry. Participation was sought from all elements of the industry—the air carrier manufacturers, operators, and commercial airport management interests.

Publications

Actions completed or undertaken in 1970 included a complete revision and publication of "Transport Aircraft Characteristics, Trends and Growth Projections." This document, originally issued in 1969, identifies growth parameters of probable future aircraft. In the short period of its existence, this publication has become an important source document for airport planners concerned with the trends in conventional takeoff and landing (CTOL) aircraft design characteristics which might influence the design and operation of airports of the future. This publication has been widely distributed.

A characteristics, trends and growth projections document for short takeoff and landing (STOL) aircraft was developed that will synthesize the parameters of such future aircraft for use by operators, airport planners and communities. This document is scheduled for final review and publication in 1971.

Other major activities include:

- A test distribution of the standard data format for the collection and assembly of airport physical, operating and economic data which was designed in 1969. This data format was distributed to 31 hub airports. The data received from the airports in response to this test distribution is now being reviewed to determine the validity of the format and the most useful means of reducing the data to a volume which can be easily managed. There is every indication that this will prove to be a useful source of information, and distribution to other domestic airports is planned.
- Participation with the Department of Transportation in all activities related to the Airport and Airways Development Act of 1970 with special emphasis on the development of R&D programs and the development of criteria for qualification for planning grants.
- Continuation of the joint effort to develop a systematic indexing procedure for federal advisory standards for airport construction. A format has been developed which is amenable to the use of data processing machines and the first trial machine runs are being inspected.
- Receipt of approval of the Board of Governors to proceed in an attempt to organize an international association of aerospace manufacturers with the goal of obtaining observer status at proceedings of the International Civil Aviation Organization. This international organization will have as its members other national associations of manufacturers. Discussions have been held with representatives of these manufacturers and a draft of a proposed charter has been circulated for preliminary review.

INDEPENDENT RESEARCH AND DEVELOPMENT

Problems arising in 1970 concerning independent research and development costs (IR&D), bid and proposal costs (B&P), and other technical effort costs (OTE), required sustained efforts from AIA and member company managements.

The Defense Authorization Act of 1970 sharply restricted IR&D, B&P, and OTE activities. Section 403 of the Act prohibited the payment, from Fiscal Year 1970 funds for production and RDT&E, of IR&D, B&P and OTE costs in excess of 93 percent of those contemplated for such purposes. DoD implemented the Act late in 1970 and NASA voluntarily adopted DoD's implementation.

As a result of questions raised concerning interpretation of the DoD and NASA implementations of the Act, meetings with DoD and NASA officials were arranged and the problems were outlined by the AIA representatives. Both agencies recognized the difficulty, if not impossibility, of administering this Act, and accordingly, its implementation had been deliberately left flexible to accommodate specific cases. From these meetings it was concluded that implementation had been effected as equitably as possible, and that individual member companies were in the best position to reach understandings with their respective contracting officers.

In February 1970, the General Accounting Office submitted its long-expected report entitled, "Allowances for Independent Research and Development Costs in Negotiated Contracts—Issues and Alternatives." In 1968, AIA, in conjunction with the Council of Defense and Space Industry Associations, had commented to the GAO on a draft of the report, taking strong exceptions to many of the conclusions. Following issuance of the final report, AIA, Electronic Industries Association and National Security Industrial Association sent letters to the Chairman of the Ad Hoc Subcommittee on Research and Development, Senate Armed Services Committee, and to the Chairman, Special Subcommittee of the House Armed Services Committee. The two letters explained in detail industry's exceptions to the conclusions and recommendations found by the GAO.

Association views strongly opposing proposed legislation which would place Congressional controls, including a specific dollar ceiling on IR&D, B&P and OTE were presented by AIA President Karl G. Harr, Jr., to a Special Subcommittee of the House Armed Services Committee and to the Ad Hoc Subcommittee on Research and Development of the Senate Armed Services Committee. The House adopted the recommendation of its subcommittee that no legislative controls be enacted but the Senate supported its subcommittee recommendation for specific legislation, including a ceiling of \$625 million.

Public Law 91-441, Section 203, which finally resulted from a House-Senate Conference, provided substantially as follows:

- Funds authorized for appropriation to the DoD shall not be available, after December 31, 1970, for payment of IR&D or B&P costs unless the work for which payment is made has, in the opinion of the Secretary of Defense, a potential relationship to a military function or operation.

The Secretary will negotiate advance agreements establishing a dollar ceiling for such costs with all companies which, during their last fiscal year, received more than \$2 million of IR&D or B&P payments from DoD;

The IR&D advance agreement is based on company submitted plans of which a technical evaluation is made by the DoD and;

No payment for IR&D or B&P shall be made by the DoD to any company with which an advance agreement was required except pursuant to the terms of that agreement.

- If negotiations are held but no agreement is reached, no payments for IR&D or B&P shall be made except in an amount substantially less than that which, in the opinion of the DoD, such company would have been entitled to receive; but this determination can be appealed.
- The Secretary of Defense shall submit an annual report as to:

All companies with which negotiations were held and the results of such negotiations;

DCAA statistics on IR&D and B&P payments made to major defense contractors; and

Any major policy changes in the DoD administration of IR&D or B&P programs.

- The new law applies only to contracts coming within Public Law 87-653.
- Section 403 of Public Law 91-121 (93 percent restriction) was repealed.

AIA obtained agreement from DoD to afford CODSIA the opportunity to review a proposed Defense Procurement Circular intended as an interim implementation of Section 203, Public Law 91-441, pending subsequent issuance of revised ASPR cost principles.

As a result, CODSIA was furnished a copy of a draft DPC by the Chairman of the ASPR Committee with the request that comments be submitted to the ASPR Committee within seven days. The short time permitted for review and comment was due to the need for DoD to issue an interim implementation of the legislation at the earliest possible date.

The CODSIA Task Group, AIA representation from the Procurement and Finance and Aerospace Technical Councils, reviewed the proposed DPC, held two meetings with the ASPR Committee and suggested some substantive changes to the ASPR Committee. Many were adopted. The following three areas of concern expressed by CODSIA Task Group were not adopted in the DPC:

- The DPC required inclusion of “all DoD prime contracts or subcontracts . . . regardless of contract type or method of procurement” in the determination of whether the contractor has received \$2 million in IR&D costs during the prior year. It was the position of the Task Group that the DoD was going well beyond the statutory provisions in providing such coverage. For example, Section 203(d) provides that: “The provisions of this section shall apply only to contracts for which the submission and certification of cost or pricing data are required in accordance with Section 2306(f) of Title 10, United States Code.”

If implemented in accordance with the above, this section would exempt from the act all contracts awarded after adequate price competition, contracts for catalog items or where prices are set by the market places, contracts for less than \$100,000, or where prices are set by law or regulations.

- The DPC provides that advance agreements must be negotiated with companies receiving \$2 million in IR&D and B&P payments per year where the act provides \$2 million in IR&D or B&P payments in the prior year. It was the contention of the CODSIA Task Group that this change as made in the DPC would include far more contractors than was the statutory intent.

- It was the position of the CODSIA Task Group that in light of the legislative constraints of advance negotiated ceilings

and the further constraint of “potential relationships” criteria there was no justifiable reason to continue the practice of first dollar cost sharing. DoD was advised that the consequences of continuing this policy could only further inhibit necessary technological progress, and discourage the application of contractor resources to an already inadequate defense-related research and development base. However, the DPC as issued remained silent in respect to cost sharing. AIA in conjunction with other CODSIA member associations later reiterated to Secretary Packard industry’s views concerning cost sharing from the first dollar and recommending that this practice be stopped. At the end of 1970, this aspect was still under consideration by the DoD and it is hoped that the revised cost principles when issued will clarify the matter.

- The importance of clearly defining IR&D and B&P in the revised cost principles was also brought to the attention of DoD. Unless properly defined these cost elements could bring about overlapping areas between IR&D and B&P and other cost principles such as Engineering and Manufacturing and Economic and Technical Planning.

At year’s end AIA was assured by the Chairman of the ASPR Committee that industry would be given the opportunity to review and submit comments concerning the proposed revisions of the ASPR cost principles.

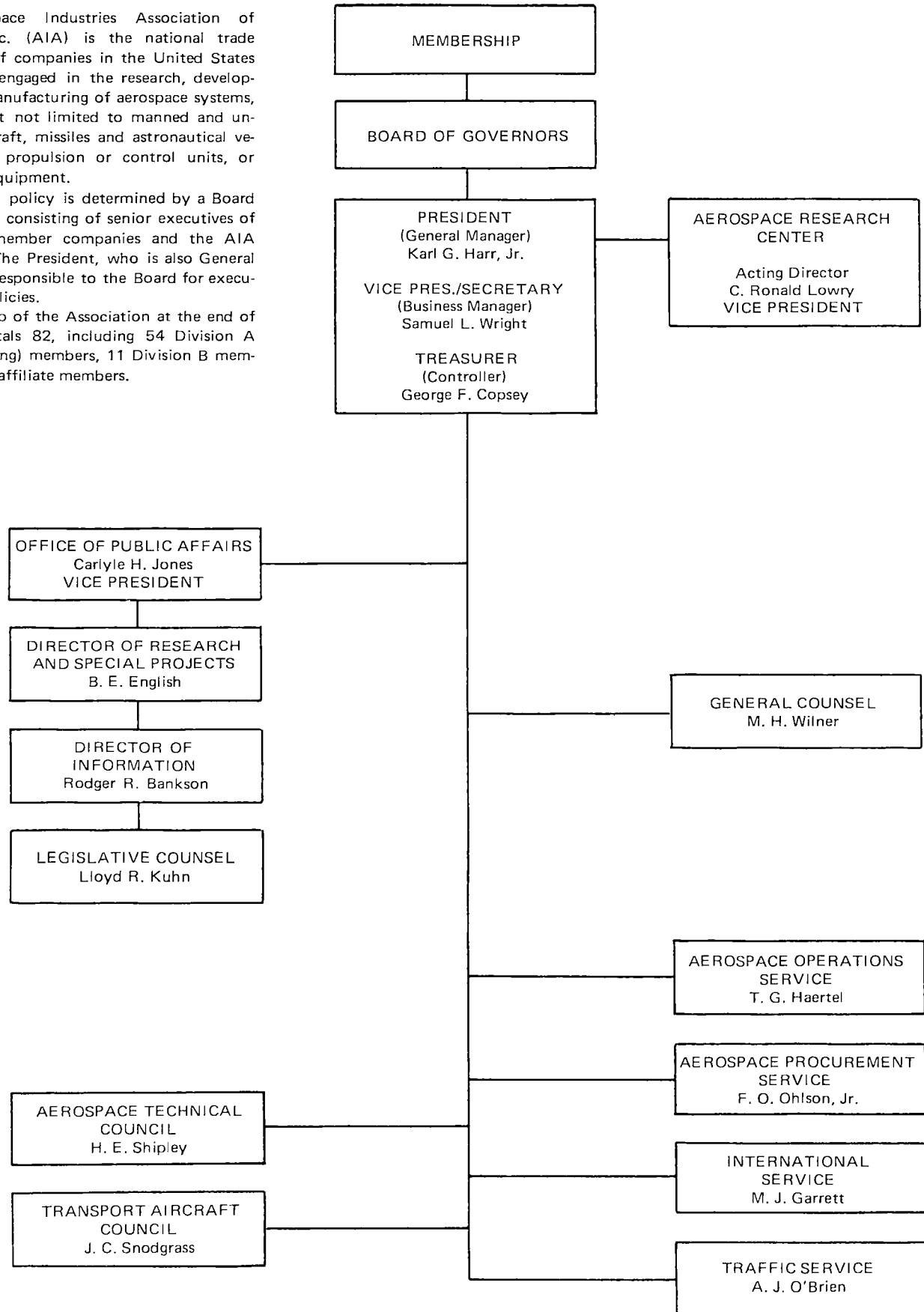
ORGANIZATIONAL CHART

(January 1, 1971)

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 astronomical 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 82, including 54 Division A (manufacturing) members, 11 Division B members, and 17 affiliate members.



AIA MEMBERSHIP

MANUFACTURING MEMBERS

ABEX CORPORATION
AERODEX, INC.
AEROJET-GENERAL CORPORATION
AERONCA, INC.
AMPHENOL SPACE & MISSILE SYSTEMS DIVISION
The Bunker-Ramo Corp.
AVCO CORPORATION
THE BENDIX CORPORATION
THE BOEING COMPANY
CGI CORPORATION
CHANDLER EVANS INC
Control Systems Division of Colt Industries
CURTISS-WRIGHT CORPORATION
FAIRCHILD HILLER CORPORATION
THE GARRETT CORPORATION
GATES LEARJET CORPORATION
GENERAL DYNAMICS CORPORATION
GENERAL ELECTRIC COMPANY
Aerospace Group
Aircraft Engine Group
GENERAL MOTORS CORPORATION
Detroit Diesel Allison Division
THE B. F. GOODRICH COMPANY
Aerospace & Defense Products
GOODYEAR AEROSPACE CORPORATION
GRUMMAN AEROSPACE CORPORATION
A Subsidiary of Grumman Corporation
GYRODYNE COMPANY OF AMERICA, INC.
HERCULES INCORPORATED
HONEYWELL INC.
HUGHES AIRCRAFT COMPANY
IBM CORPORATION
Federal Systems Division
INTERNATIONAL TELEPHONE & TELEGRAPH CORPORATION
Defense-Space Group
ITT Aerospace/Optical Division
ITT Avionics Division
ITT Defense Communications Division
KAISER AEROSPACE & ELECTRONICS CORPORATION
KAMAN AEROSPACE CORPORATION
KOLLSMAN INSTRUMENT CORPORATION
LEAR SIEGLER, INC.
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MARTIN MARIETTA CORPORATION
MC DONNELL DOUGLAS CORPORATION
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NORTH AMERICAN ROCKWELL CORPORATION
NORTHROP CORPORATION
PHILCO-FORD CORPORATION
Aerospace & Defense Systems Operations
PNEUMO DYNAMICS CORPORATION
RCA
Defense Electronic Products
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TEXTRON, INC.
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Aerospace Electrical Division
Aerospace and Electronic Systems Division
Astronuclear Laboratory

DIVISION B MEMBERS

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DE SEVERSKY, A. P.
FALES, HERBERT G.
HANKS, COL. STEDMAN SHUMWAY
SIKORSKY, I. I.

HONORARY LIFE MEMBERS

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LOENING, GROVER

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