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CIVIL AVIATION

A STUDY OF GOVERNMENT POLICIES AND PROCEDURES IN SELECTED FOREIGN COUNTRIES

CENTRAL INTELLIGENCE AGENCY

F O R E W O R D

The studies contained in this volume were prepared at the request of the President's Air Policy Commission. The Commission desired to ascertain the salient features of civil air policy as they obtain in a selected group of eleven countries, presenting the widest possible range of political, economic and geographic backgrounds.

In order to maintain uniformity in preparation, the information was collected on the basis of a questionnaire, of which a copy is bound at the end of the volume. The questionnaire may be opened at the side of the volume and used concurrently in examining the individual reports. It has been accordingly unnecessary to repeat the individual questions in the body of the reports. Omission in any report of an item included in the questionnaire indicates that the question was inapplicable to the respective country or that satisfactory information is unavailable.

Other agencies have assisted Central Intelligence Agency in the collection of this data. The Department of State obtained reports from the Air Attaches and other US representatives in the respective foreign capitals. The Office of the Director of Intelligence, USAF, assumed primary responsibility for the collection of data on civil aviation in the USSR. The Library of Congress prepared a thorough report on civil aviation in pre-war Germany.

Central Intelligence Agency has supplemented this data with additional information available from other sources. The opinions expressed in this study therefore do not necessarily reflect the views of agencies other than Central Intelligence Agency.

A general analysis of the survey has been prepared by Central Intelligence Agency and placed as the first document in this volume. It gives an estimate of the significance of civil aviation outside the US from political, economic and strategic points of view.

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10 November 1947

F.2

SECRET

CIVIL AVIATION

GOVERNMENT POLICIES AND PROCEDURES IN

UNITED KINGDOM

FRANCE

NETHERLANDS

U S S R

SWEDEN

GERMANY (PRE-WAR)

CANADA

BRAZIL

ARGENTINA

PERU

CHINA

SECRET

A WORLD SURVEY OF CIVIL AVIATION POLICY

The documents comprising this report analyse a cross-section of the world's civil air establishment from the standpoint of Government policies and procedures. The studies were prepared at the request of the President's Air Policy Commission, for the purpose of ascertaining the salient aspects of civil aviation abroad as related to national policy under the widest possible range of conditions.

The survey, as expected, has encountered civil air operations under extremely varying conditions. The countries covered include great powers (UK and USSR), as well as small nations (Netherlands) and primitive economies (China, Peru). The survey has observed the development of civil aviation under totalitarian governments (USSR, pre-war Germany) and under governments which have maintained an unblemished democratic tradition (Sweden). Some of the countries are enjoying prosperity (Canada), while others (UK, France) struggle for their very existence to overcome the enormous dislocations of the war. Many of the countries are situated advantageously across the natural arteries of world air traffic, while others (Argentina, Brazil) must attune their civil air policy to a more regional primary interest.

These conditions, as the survey confirms, exert a profound influence on the varied objectives being pursued throughout the world in the development of civil aviation. Civil air policy in a given country is dictated by a combination of political and economic factors, and by the country's geographical position, and therefore advantages of innate aptitude and enterprise can only begin to operate after these basic conditions have set the stage.

Regardless of the limitations or handicaps under which every country operates, almost universal recognition of the significance of civil aviation prevails. There is scarcely a country which would not immediately expand its civil air activities if this were possible. Policy-makers everywhere appear to recognize that civil aviation is the most dynamic force in drawing the countries of the world physically closer for better or for worse, and that the total potential of civil aviation, including its ultimate military application, far transcends its strictly peace-time importance. As early as 1930, an official League of Nations report contained the statement that state participation in European civil aviation was an act of politics rather than of economics. By 1938, the British had clearly understood the military significance of civil aviation, as evidenced in the Cadmon report, which stated that the problem of the air is like "two sides of a single coin," that is to say, "the military aspect of aviation cannot fundamentally be separated from the civil aspect". In 1940, the Germans were employing civil aviation as a geopolitical instrument. A German geopolitician stated that "the airplane's speed and radius of action makes thinking possible in terms of continents."

There is full realization by countries fearful of invasion, as well as by those which know that they may one day be forced to engage in large-scale military operations, that the men who are organizing civil air transport today are establishing the means of carrying the armies of tomorrow. The keen interest displayed by military authorities of many countries in the progress of civil aviation in their own and other countries, appears to be explained by such considerations. The eleven studies in this survey indicate that civil air policy is almost directly controlled by the military in five of the countries, and strongly affected by military considerations in four others, while only in two countries is no control by the military exercised. In this connection it is noteworthy that all of the countries having powerful military establishments permit them a measure of control over civil aviation.

It might be assumed, by an observer acquainted only with civil air transport in the US, that this advance in transportation is being developed primarily for the benefit and convenience of the private citizen who wishes to travel fast on errands of his own choosing. The fact remains, however, that a considerable part of the world's travelling population is unable to make use of existing air transport for a variety of reasons. In the Soviet Union, for example, which operates, or at least owns several thousand transport aircraft, few "average citizens" travel by air, except on government business. Civil aviation is used as an important instrument of the state to further its extensive development plans. The USSR, however, sometimes chooses to move groups of workers ostentatiously by air to recreational centers, and occasionally transports a special mercy case on humanitarian grounds, with appropriate propaganda treatment. Circumstances of a quite different nature (small geographic area) prevent the general population in the UK from benefiting by personal use of the airplane, and it does not occur to the average Englishman that this facility will ever be open to him.

Surprisingly little private flying is being done in any country, and what little there is results primarily from government aid to flying clubs and training programs.

Civil aviation in most cases is not what a country would like to have, but what it can afford to support. The principal limitations are: (a) inability to support unprofitable air transport operations, (b) inadequate resources for civil air development, such as lack of tradition in air transport operations, inability to develop a manufacturing industry, and absence of Empire interests or pretige requirements, (c) limitations created by the sovereign right of other countries to control their own air space.

There are certain countries, Sweden, The Netherlands and Belgium, which have succeeded in maintaining substantial positions in the field of international civil air transport, because their efficiency, coupled with a tradition in this activity, has enabled them to achieve profitable operations in spite of their obviously limited resources.

The USSR occupies a peculiar position in civil aviation. While it has vast and varied resources to support long-range international operations and political objectives far beyond its borders, it has seen fit to adopt a policy which has resulted in the containment of its large civil air establishment within the USSR. There may be military

significance in the fact that the USSR has been unwilling to assign more than a negligible number of its large fleet of air transports to its badly equipped satellite airlines. While the rapid expansion of civil aviation within the USSR may be considered certain, its emergence into the field of international air transport will depend upon developments in the future which cannot now be predicted.

The survey does not confirm any superiority for particular methods of establishing and implementing civil air policy. While there is a wide range of efficiency and a corresponding diversity in organizational methods is disclosed, a comparison of methods as they affect efficiency would be almost meaningless. It is evident, for example, that the most ideal organizational charts could not produce efficiency in a country like China which has existed for years on the verge of collapse; whereas, the resources of the US might permit a pre-eminence in civil aviation in spite of a certain degree of inefficiency of governmental organization.

The survey discloses a wide difference in the degree of subsidization by governments of their civil aviation programs. The general conclusion to be drawn is that most countries recognize that financial support of civil aviation is justified to the extent required by (a) the unwillingness of private capital to underwrite national-interest air developments, or (b) the inability of the country's airlines to pay their own way. Some countries are unable, however, to finance extensive subsidization, and therefore the degree of support in a given instance may indicate no more than the liquidity of a country's treasury.

UNITED KINGDOM

CIVIL AVIATION - UNITED KINGDOM

A. CIVIL AIR POLICIES

1. Civil aviation is largely an instrument of national policy. The state determines the policy directly for the companies, although the carriers are allowed freedom of action in management and operational matters. Briefly, civil aviation is looked upon by the British Government as (1) a means of tying the Empire together; (2) a means of showing the flag and spreading British prestige around the world; (3) an adjunct to the national defense in keeping communications open and providing trained men and available aircraft for transportation purposes in the event of war; (4) to a small degree, as a means of obtaining intelligence, and finally, (5) a means of carrying British mail and British businessmen to further British trade. While lip service is given to the use of the airplane as a means of enabling the common man to have a better life, this scarcely figures in the basic policy. The present Government does not look upon civil aviation as an indispensable, or even highly desirable servant or convenience of the ordinary Englishman.

2. (a) The Government promotes, or more accurately, supplies air transport for the reasons mentioned under (1) above. Since air transportation is nationalized, the Government supports and directs the three Government-owned carriers and prevents, restricts or discourages other forms of commercial air transport. Except for the charter companies which are discussed below, commercial civil aviation is a part of the Government. At the close of World War II, British overseas air transport commenced a period of rapid expansion, re-establishing pre-war routes and inaugurating many new services. The current economic crisis, however, has caused drastic restrictions on foreign travel and it has been necessary to curtail the services of British European Airways and to withdraw from other contemplated overseas air operations.

(b) The basic law governing the operation of commercial civil aviation provides that services not assigned to one of the three corporations may be undertaken by private enterprise, provided they are of a non-scheduled character. These operators are numerous, but few are prosperous. The attitude of the Government toward them at first was somewhat hostile, but because the three corporations were slow in getting started, it was forced to let charter companies expand. The Government believed that there would soon be little or no place for the charter companies as soon as the scheduled operators were able to take over. The charter companies are still operating, however, and even have an association, but certainly are not encouraged by the Government.

(c) Little encouragement is given to private flying. In spite of numerous committees to promote private flying, and in spite of the avowed sympathy of the Ministry of Civil Aviation, what private flying there is in the United Kingdom today exists through the determination and enthusiasm of a small group who look upon it mainly as a sport, rather than a means of getting somewhere. Most private flying is done through clubs, the members chartering the aircraft and instruction by the hour. These clubs are no longer subsidized, although they are allowed reasonable amounts of gasoline for training flights. The ration for private flying for pure pleasure, however, has just been abolished altogether, in line with the stringent economies required by national policy. Reasons advanced for the limited encouragement of private flying are, nevertheless, that it helps to make the country airminded, gives an outlet to the manufacturers of small airplanes, and trains people in the rudiments of aviation for wartime purposes.

(d) It is the basic policy of the British Government to aid substantially the manufacturers of aircraft. On both the military and civil side, the manufacturers are supported through direct orders from the Ministry of Supply, which does all procurement for the RAF and the airlines, and contributes large sums to research. The most important Government contribution to the aeronautical industry undoubtedly is the financing of new aircraft designs and prototypes, and the aid given in the form of expensive experimental equipment. It is difficult to determine, however, whether Government support of the industry through orders for operational aircraft to be used by its airlines exceed those which might be expected if all commercial air activities were in the hands of private operators. Nor can a comparison of unit costs easily be made. Thus, the total amount of actual Governmental subsidization remains obscure. The reasons for the heavy support given the aircraft manufacturing industry are: (1) national defense; (2) prestige, and (3) encouragement of the industry to design and develop new aircraft, the expense of which would not be justified by the small home market. In a sense, the companies are nationalized since, with a few exceptions, their sole customer is the Government, on which they also depend for priorities, power, material and labor. They are therefore to all intents and purposes a part of the Ministry of Supply, and the question of subsidization is somewhat academic.

(e) The Government directly supports aeronautical research, both purely scientific and practical, for reasons of national defense and prestige. Although some manufacturers engage in limited research on their own account, most of it is done directly by the Government at its establishments, such as Farnborough and Boscombe Downs.

(f) There is no evidence of any direct Governmental aid in training aeronautical engineers, but opportunities for employment in research are provided at the Royal Aeronautical Institute at Farnborough. Indirect promotion of aeronautical engineering education is provided to a limited extent through the government-aided aircraft manufacturers, and by the program explained in 8.

(g) The RAF trains its own pilots and undertakes the training of foreigners from many countries in the operation and care of British aircraft and equipment. The Air Forces of many European, Near Eastern and Eastern countries and the Dominions receive all or part of their training in the United Kingdom, and the close collaboration of the Air Forces of these British allies in the last war continues. British-trained foreign pilots and technicians are operating civil aircraft throughout the world. This policy has promoted the sale of British aircraft and air equipment. The adoption of British equipment and training methods by many friendly foreign countries will make possible the coordination of aviation resources in time of war. The British Government, through its nationalized airlines, occasionally undertakes to give advanced training to foreign commercial pilots. British pilots in commercial aviation have usually had prior training in the services, and receive advanced training with the airline corporations.

(h) The policy of the Government is to encourage the export of aeronautical equipment. This is accomplished by special inducements to further the sale of aircraft and engines, such as training courses, competitive prices, terms of payment, currency accepted, etc. The importation of aeronautical equipment is discouraged, and it is almost impossible to obtain an import license for a foreign-built airplane or component. The use of foreign-built aircraft, however, is currently the most controversial issue between the aircraft industry and the Government airlines. The airlines insist that present British aircraft are inefficient and unsuitable, and the industry claims that its hands have been tied by unrealistic Government specifications. (The British airlines, however, still use a great number of C-47's purchased at the time of the Lend-Lease settlement. British Overseas Airways Corporation has six Corstellations and has ordered six Stratocruisers.)

(i) The Government promotes the construction of airports for defense purposes. A few, such as London Airport, have also been constructed for civil purposes, but the large number of war-built airfields are sufficient for present civil needs, and no new civil construction is being undertaken at this time. The construction and operation of civil airports is nationalized under the control of the Ministry of Civil Aviation (the RAF and the Royal Navy operate and control their own airfields). There are very few private airports.

(j) The Government, through the Ministry of Civil Aviation and the Air Ministry, controls all air navigational facilities. These are maintained and operated by the RAF and the Ministry of Civil Aviation for British and foreign civil users. Due to air traffic congestion over the UK, the Government has adopted a policy of country-wide air traffic control and has announced the establishment of five geographical zones to be placed in operation shortly. In addition, the Government will operate special control zones over the major airports.

3. (a) The present British Government, elected on a platform of socialism, has proceeded to nationalize various industries, including civil aviation. Consequently, all scheduled air carriers are completely owned and operated by the Government. No private capital is permitted to invest in British scheduled commercial aviation.

(b) With one exception, the aircraft manufacturing industry is nominally in private hands. All factory production, exclusive of export orders, is in effect controlled by the Ministry of Supply through its being the sole customer. In addition, the Government also controls the source of most essential materials and labor. As an example of the degree to which manufacturing is controlled by the Government, a private firm, acting entirely on its own initiative recently succeeded in building a small 100 hp. airplane, and in a booklet announcing this airplane boasted of the fact that it was able to construct it without Government help.

(c) The Government has repeatedly announced that British civil aviation could not survive the evils of monopoly and has emphasized the competitive features of the three airline corporations. Actually, however, there is no real competition for traffic between the carriers since they generally cover different air routes. There is, therefore, opportunity only for competition in operating efficiency, such as in passenger comfort, reduced operating costs, or in the choice of air transport types to be used. BSAA has acclaimed the new British Tudor IV which has been rejected by BOAC (both would use American aircraft if permitted to do so). The Government believes that the principle of dividing civil aviation among three corporations, rather than concentrating operations in one, has proved beneficial in practice. It is significant that all of the carriers are controlled by one Ministry of Civil Aviation and must compete among themselves for the equipment they receive from the Ministry of Supply. The Government has been very careful to encourage, as far as possible, the rivalry between the three corporations. This has been borne out in the Tudor aircraft controversy.

(d) Until the Bermuda Civil Aviation Agreement with the United States, the firm policy of the British Government was to protect its relatively weak carriers against foreign competition. It was a restrictive policy and resulted in

restrictive agreements with other countries of like mind. British policy shifted at Bermuda and has since supported a degree of regulated international competition about the same as that supported by the United States. The relative power of the United States, and even of the Dutch and Swedish airlines, is now so great, compared to the British, that there are some misgivings as to whether British aviation can survive under the governmental policy now in force.

(e) Since the nationalized air carriers receive direct advances from the Treasury and return all receipts to the Treasury, the size of the subsidy received cannot be accurately computed, and the financial results of their operations are obscured. British Overseas Airways Corporation, however, is said to be losing money at the rate of some thirteen million pounds a year. British European Airways Corporation is losing three or four million. To date, the British Treasury has footed the bill for air services which the Foreign Office, Ministry of Civil Aviation, Colonial Office and other agencies of the Government have deemed to be in the national interest. It is now likely that Parliament will conclude that too great an expense is being incurred for the dubious advantage of world-wide air services. The recent curtailment of some of these services may be followed by even sharper cuts in schedules. As stated previously, subsidization of the aircraft manufacturing industry is carried out mainly through the Government's being the sole customer (except for export orders). The company directors are really managers of what might as well be Government-owned plants. The airports are, with very few exceptions, built, owned, operated and controlled by the Ministry of Civil Aviation, the Navy and the RAF. Therefore, there is no such thing as subsidization and aid to private or municipal airfields. The Air Training Corps of the RAF offers aviation education and training to boys of pre-draft age.

(f) The policy of the Government is to encourage in every way the development of transport aircraft. For example, several million pounds have already been spent on the controversial Tudor transports. The Ministry of Supply is determined, however, regardless of past failures and the cost involved, to continue to sponsor the development of successful transport aircraft. The Government subsidizes the manufacture of all of the eight types and sizes of transports recommended by the Brabazon Committee. The Brabazon I, which has yet to fly, and the enormous hanger especially constructed for it, will cost several million pounds.

(g) The stated policy of the Government is now firmly against the purchase of foreign air transports, although the unavailability of any adequate British types previously caused the Government to permit the purchase of six Constellations and six Stratocruisers, and large numbers of Douglas C-47's are still in service.

(h) With respect to the operation of foreign airlines within Great Britain, the British are fair and scrupulous in according them the same treatment as their own. While foreign operators frequently object to British rules and regulations, they seldom complain of unfair discrimination.

At the close of World War II, the British did not favor unrestricted expansion of international civil aviation. The UK emerged from six years of war without a single large air transport type capable of competing with US aircraft. (This was partly due to a US-UK wartime agreement that the British should continue to develop their successful fighter aircraft while the US should produce heavy bombers and transports.) The UK, consequently, promoted bilateral agreements with countries willing to reduce competition through the introduction of limitations on flight frequencies, rates and routes. In the US, several large and well-equipped airlines desired to institute trans-ocean, and even trans-world air routes at rates low enough to ensure a large volume of traffic. The Netherlands, France, Sweden, Canada and Australia also subscribed to this view.

In February 1946, the US and UK reconciled their differences at the Bermuda Conference, where a formula was devised which guaranteed to both parties fair and equal opportunity in the development of international air services and formulated fair trade practices, including procedure for the arbitration of disputes. Although British fundamental air interests are still not identical with those of the US, British policy in bilateral and multilateral civil air agreements now agrees with that of the US. For the past year or more, UK and US representatives have worked together in international aviation organizations without any important or continuing disagreements. The British are staunch advocates and supporters of all international organizations having to do with civil aviation, and through the skilled enterprise and knowledge of their negotiators, play a leading and influential role (second only to the United States) in these organizations.

4. Civil air policy is to some extent influenced by military air requirements, although the armed forces do not directly exercise any control over civil aviation. In the event of an emergency or war, however, the armed forces would immediately assume its control. The Ministry of Civil Aviation is staffed largely with active and former RAF officers; the three corporations are staffed almost entirely with former service crews, pilots, and technicians. Communication services are partly operated by the Air Ministry (military). Locations of and changes in airports and navigational aids, as well as Notices to Airmen (NOTAMS), etc., are approved or disapproved by the Air Ministry. The direction which research takes is largely, but not exclusively, influenced by military considerations.

(a) Civil air transport is not regarded primarily as a reinforcement of the military air potential. It is primarily regarded as a necessary activity which Britain needs to keep its prestige and influence throughout the world. Military considerations, of course, form a part of the foregoing.

(b) While the British appreciate the importance of civil air transport in creating a basis for the British aircraft manufacturing industry, this is not considered to be its primary significance.

(c) The commercial advantages of an active air transport establishment are only a contributing factor in determining British civil air policy. As stated, the British look upon their civil aviation, not necessarily as assisting any one element, such as the Army, Navy, manufacturers, Board of Trade, or Foreign Office, but as one of many devices on which their ability to maintain a strong position throughout the world depends. All of the reasons mentioned under 4. exist, and all of them add up to supporting the world position of the British. Their civil aviation will stand or fall with the strength of their general world position. It will not be, like KLM, a business which helps support the Netherlands, but will involve an expenditure like that of maintaining the Army or the Navy.

5. The British restrictive civil aviation policy has, during the last three years, been changed and dominated by the more liberal United States policy. Some concessions, however, have also been made by the US to British policy. Thus, the two policies, once poles apart, are now practically parallel. While the United States, for domestic reasons, moved away from marked liberalism, the British became less restrictive because their extreme restrictionism was unacceptable to many other countries with which they wished to do business.

6. It is not possible to answer this question satisfactorily, completely, or accurately. Even if detailed figures could be obtained, they would probably be misleading.

7. Since the nationalization of British air transport, no private ownership in this industry can exercise the influence of a vested interest on civil air policy. Furthermore, the Ministry of Civil Aviation is certainly not dominated by the managers it installs in the airlines. It is so sure of its ultimate power that it can and does allow the airline corporations a great deal of managerial freedom. On the other hand, the Ministry of Supply is, to some extent, dominated or intimidated by the Society of British Aircraft Constructors, and particularly by some of the leading figures among the aircraft manufacturers. This is partly because these individuals constantly threaten to make a scandal over the very large amounts of money which have been spent for airplanes which have never flown. Thus, in the manufacturer, the Ministry of Supply has a bear by the tail. The forthcoming inquiry into the suitability of the Tudor aircraft

may force a change of policy in the Ministry of Supply, and establish a new balance of power between the airlines, the manufacturers and the Ministry of Supply.

8. The Government subsidizes aeronautical engineering education through many leading schools and emphasizes design and production of aircraft and engines, including propulsion systems. The Government also directly sponsors the College of Aeronautics at Cranfield, Bucks. This is a post-graduate college having at present 100 students pursuing a two-year course. The Governing Body of the College is appointed by the Minister of Education, and the College is financed by a "grant in aid" from this Department. The fees charged produce an income which is a very small fraction of the total cost of the College. The following Universities also provide aeronautical courses:

Imperial College and Queen Mary College of the University of London
Cambridge University
Bristol University
Glasgow University
Southampton University College

In common with all universities in the United Kingdom, the above institutions are financially supported by the University Grants Committee, the money coming directly from the Treasury. The Treasury itself, however, has no direct responsibility in this field. The following technical colleges have full-time or part-time aeronautical courses (principally the latter):

Northampton Polytechnic, London
Manchester College of Technology
Loughborough College
Merchant Venturers College, Bristol
Kingston Technical College
Hull Technical College
Farnborough Royal Aeronautical Establishment
Cheltenham Technical College
Cowes Technical College
Guildford Technical College
Portsmouth Technical College
Coventry Technical College
Gillingham Technical College
Derby Technical College
Southall Technical College
Bradford Technical College
Birmingham Central Technical College
Wolverhampton Technical College
Glasgow Royal Technical College
Belfast College of Technology

These courses are of Higher National Certificate standard or beyond. The Higher National Certificate approximates University standards, but is narrower in scope. The fees charged in Technical Colleges are more or less nominal,

the remaining costs being met by the Local Education Authority which recovers an average of 55% of its expenditure by means of a grant from the Ministry of Education. A very large proportion of students, both in universities and in full-time courses at technical colleges, are aided either by Local Education Authorities through their system of "Major Awards", or by the state under the state scholarship scheme. Universities, of course, also have their own scholarships, but these are much fewer in number than the Local Education Authorities or State Scholarships. Generally speaking, it can be assumed that no individuals who are deemed capable of taking such advanced courses will be prevented from so doing by lack of means. The number of students is not determined by the Government except in the case of the College of Aeronautics. This is really a post-graduate school. It will have a student body of two hundred when it is organized and in full operation. The British Government has found by experience that the educational institutions satisfactorily gauge their instruction to meet the requirements of the aviation industry. It is accordingly unnecessary for the Government to interfere with the organization of this work, or to specify the amount of instruction to be given in the various specialized fields. In addition to this scholastic instruction, certain aircraft firms have apprentice systems and factory schools of their own in which elementary courses are given in aircraft design and production.

9. The Government subsidizes almost all aeronautical research in Great Britain - either through its own establishments, such as the National Gas Turbine Establishment, Aeronautical Research Establishment, etc., or through contracts with the various aircraft companies. As certain phases of aeronautical research demand specialized and expensive equipment, this is generally allocated by the Government to its own establishments. Airframe development and general tests, on the other hand, are carried out by the industry under Government contract. The UK has, and continues to carry out, extensive research in respect to gas turbine and propellor turbine propulsion for use in commercial aircraft. There is also a fairly extensive research program in the fields of nuclear fission and controlled missiles. While priority is given to nuclear physics, the research on airframes probably has a larger budget. The budgetary grants for research contained in the Civil Estimates for 1947-1948 are as follows:

Ministry of Civil Aviation

1946-1947	1947-1948
£ 15,086,010	£ 9,000,000*

* This figure does not include research being carried out by the Ministry of Supply for aircraft that will not be delivered in 1947-1948.

Ministry of Supply

1946-1947	1947-1948
£ 35,049,000	£ 48,780,000

These figures include buildings, equipment, salaries, material and other capital expenditures by the Government, as well as Governmental support of research by industry and colleges.

College of Aeronautics

1946-1947	1947-1948
£ 290,000	£ 370,000

Very little research is carried on by private enterprise, except by Vickers, which is the largest concern in the UK.

10. The Government subsidizes the development of most, though not all, new types of aircraft and equipment. The eight types of aircraft recommended by the Brabazon Committee, for example, have been ordered by the Government and funds have been advanced to the manufacturers concerned. The method used by the Government in developing new types of aircraft is to produce the specifications and to collaborate with the manufacturer during the stages of design and construction, suggesting and insisting on changes or modifications as they become necessary. A company, however, which is unable to get advance orders and support from the Government, is free to develop its own aircraft if it has the necessary money and can get the materials. An example of a privately-produced aircraft is the Cunliffe Owen "Concordia", a ten-place, twin engine airplane. While most of the cost of development is in one way or another borne by the Government, the manufacturers undertake on their own initiative a certain amount of development and experimentation. The cost of such activity is not necessarily a drain on a company's finances to the full extent of the costs involved, because the greater part of the expenditures would otherwise be paid to the Government in the form of taxes on profits. Under the prevailing system the manufacturers are able to show a great deal of individuality in design, despite virtual Government control. They have been hampered, on the other hand, by the more or less rigid and sometimes ill-considered specifications and requirements laid down by the Government's airlines and the Ministry of Supply.

B. CIVIL AIR ORGANIZATIONS

1. The following agencies of the Government are concerned with civil aviation:

Ministry of Civil Aviation - formed in 1945 and raised to full

Cabinet status in April 1946. Under the Civil Aviation Act, 1946, the Ministry became responsible not only for British aviation policy, but also for the operation of the three corporations, the airports in the United Kingdom and communication systems. It will eventually be responsible for all meteorological information;

Ministry of Supply - took over the duties of the Ministry of Aircraft Production in 1946 and became responsible for the purchase of aircraft for the Ministry of Civil Aviation and for aeronautical research;

Air Ministry - controls the RAF and is responsible for all research on military type aircraft;

Ministry of Education - has charge of the Government-sponsored College of Aeronautics and supervises courses in technical colleges;

Board of Trade - in conjunction with the Ministry of Supply handles imports of aviation equipment and trade matters pertaining to aviation;

Air Transport Advisory Council - established under the Civil Aviation Act of 1946, studies the problems of air transportation and makes recommendations to the Minister of Civil Aviation;

Air Registration Board - formed in 1937, is an autonomous body which recommends the issuance of certificates of airworthiness for aircraft, and

Air Safety Board - appointed by the Minister of Civil Aviation in 1946 to recommend safety regulations for commercial services and to investigate and report on accidents involving aircraft in the United Kingdom.

2. (a) and (b) are covered in 1. above.

(c) Civil aviation is now controlled by the Ministry of Civil Aviation and to some extent, in the matter of aircraft procurement, by the Ministry of Supply. The Ministry of Civil Aviation came into being as the result of vigorous and continued criticism in Parliament, particularly the House of Lords, of the manner in which civil aviation was handled during the latter part of the war. Prior to the establishment of the Ministry of Civil Aviation, civil aviation had been handled as a section or department of the Air Ministry, although in 1943 Lord Beaverbrook, who held the Cabinet position of Lord of the Privy Seal, was charged with formulating British civil aviation policy and represented the Government on this subject in the House of Lords.

The proponents of a separate Ministry of Civil Aviation argued that by the very action of creating a separate

Ministry away from the numbing and unsympathetic influence of the Air Marshals, progress would somehow follow. When established, the Ministry of Civil Aviation found itself not only in control of civil aviation policy, but also charged with operating all scheduled British air services. It was further obligated to take over, maintain and operate all civil airports, and to organize and maintain necessary communications and navigational facilities. Procurement of personnel for all of these functions likewise became the Ministry's responsibility. Thus, the Ministry of Civil Aviation assumed complete control and responsibility for all aspects of civil aviation, except for (a) the Ministry of Supply's functions in procuring aircraft for the BCA's airlines, and (b) joint responsibility shared with the Air Ministry for some of the communications and traffic control facilities.

During the war, BOAC was taken over by the Government and operated by the Air Ministry, so that there was a long period of virtual nationalization before the subsequent bill nationalizing civil aviation came into effect. Under the Coalition Government, a compromise plan was worked out with the air transport industry which established partly private and partly governmental ownership and control of the airlines. When the Labor Government came into power, this plan was modified to effect 100% Government ownership. No change was made in the division of air transport operations among three corporations.

The present organization of British civil aviation reflects the ideology of the Labor Government. Civil aviation was not nationalized in the UK through any conviction that it was peculiarly or inherently suitable for nationalization or government operation. It was nationalized for the same reason that coal mining, banks, etc., are nationalized, because the Government believes that nationalization is a prerequisite to maximum efficiency in the operation of important utilities serving the public interest. The Government had been elected on this platform.

3. The opinion of even informed and normally unbiased people is colored so greatly by politics that it is difficult to obtain in the UK objective opinions on the efficiency of civil aviation as presently organized. Certainly, British civil aviation is in a very precarious state, but whether it would have been equally so without direct Government control, under private enterprise, or under a single company rather than several, is debatable. The operating losses of BOAC and BEAC are alarmingly high. The principal causes of this are (a) the employment of unsuitable aircraft, (b) overstaffing of the operating companies, and (c) confusion created by frequent interference on the part of the Ministry of Supply, the Ministry of Civil Aviation and even of the Foreign Office in operational matters. These agencies appear to expect the transport corporations to make profits, or at least to keep their losses within reasonable limits, while performing uneconomic services with uneconomic equipment.

(a) There are few private aviation interests in the UK, but they criticize bitterly the Ministry of Supply, the Ministry of Civil Aviation, and the Government corporations for rank inefficiency. While their criticism is largely justified, it undoubtedly reflects somewhat the natural resentment of private industry against Government controls.

(b) The other forms of transportation pay little attention to aviation as they do not consider it seriously competitive. Members of the shipping companies engaged in the South American trade are on the Board of Directors of BSAA, but the North Atlantic shippers remain aloof from aviation. The railroads are nationalized and reflect Government views.

(c) Since civil aviation is a function of the Labor Government, the Labor Party does not criticize the management of civil aviation. When debates on the subject occur in the House of Lords or the House of Commons, the Conservative Party, on the other hand, usually attacks the Government. The attacks are directed primarily against Socialist economic theory and do not present any careful analysis of the Government's civil aviation administration.

(d) The armed forces, including the RAF, seem to give relatively slight consideration to civil aviation.

(e) The general public in the UK is relatively disinterested in civil aviation and appears to have formed no firm opinions on the efficiency of Government control. The number of people who use airlines in the UK is very small, and it probably never occurs to most Englishmen that they might some day use this form of transport. The usually fair attendance at air shows merely reflects the morbid appeal of dangerous exhibitions of acrobatics and low level flying.

4. Normally, conflicts between Ministries are decided by the Cabinet. In all matters of important international civil aviation policy, the Foreign Office always has the last word, and the Ministry of Civil Aviation accedes without argument if the Foreign Office objects seriously to anything being done in the foreign aviation field. Friction sometimes develops between the Ministry of Supply and the Ministry of Civil Aviation over aircraft specifications and procurement for the airline corporations operated by MCA. The outcome of these conflicts depends mainly on two factors; (a) the strength and personality of the Ministers and other top officials of the two Ministries, and (b) the political aspects of the controversies, which are decided at the level of the Party Council. In a recent controversy, when the airline corporations were opposing both the Ministry of Civil Aviation and the Ministry of Supply, the Ministries won round one by obtaining a Cabinet decision against further purchases of American aircraft, thus necessitating the use of obsolete British types; round two, however, was won by BOAC in refusing (so far successfully) to fly the aircraft assigned to them by the Ministry of Supply. This controversy has now been referred to a Special Board of Inquiry. There is a moderate amount of duplication in

the functions of the various agencies handling civil aviation. Coordination between the Air Ministry and the Ministry of Civil Aviation with respect to airports, communications and traffic control is now adequate. On airports where both RAF and civilian aircraft are permitted, confusion due to dual responsibilities is usually avoided. As a rule, the RAF operates such airfields with the exception of services to civil aircraft and civilian passengers.

5. No plans for major reallocation of responsibilities in civil aviation appear likely of adoption. There is, nevertheless, constant agitation to remove aircraft procurement from the Ministry of Supply and put it in the hands of the corporations, that is, the Ministry of Civil Aviation. There is also, from time to time, agitation to abolish the Ministry of Civil Aviation and put it back as a bureau of the Air Ministry or make it part of the Ministry of Transport. Since the Ministry of Civil Aviation is still growing rapidly and has acquired considerable prestige, it now seems unlikely that it will be reincorporated in the Air Ministry. Within the framework of the Ministry of Civil Aviation constant regrouping takes place in an effort to streamline the functions of the various departments. Large numbers of committees are appointed in an effort to improve intra-ministerial efficiency, but many of these merely draft reports and recommendations which appear to be given little or no consideration.

C. PROCEDURES AND REGULATIONS

1. (a) As provided in the Civil Aviation Act of 1946, the Government assigns to the statutory carriers, through the ministry of Civil Aviation, the exclusive responsibility for large areas of the world. The carriers, as a managerial responsibility, are free to determine stops and routes within the broad geographic framework assigned to them. They are required in any case to operate routes considered by the Government to be in the national interest.

(b) Geography is the main consideration controlling the granting of a route to a particular carrier. Thus, BSAA, as its name implies, is operating routes to South and Central America and the West Indies; BOAC the North Atlantic routes and the long routes to the Dominions; and BEAC the routes to Europe, North Africa and within the UK. MCA is extremely anxious to avoid the position of having only one string to its bow: the Government has, therefore, retained the right to grant to one of the other companies routes to "out of area" points if it believes that the designated carrier for that area is not operating effectively. It could also establish an additional company.

(c) & (d) When a carrier is assigned an area, it may operate the number of scheduled services it thinks economical with the aircraft and equipment at its disposal. If the Government wants

more schedules to be operated for reasons of national interest, it merely asks the carrier to add schedules. If the carrier deems the routes unsafe, or the equipment unsafe for the routes, the management has the right to suspend operations without prejudice. While the policy of the Ministry of Civil Aviation is to allow the corporations the maximum amount of managerial freedom in conducting their business, the officers of the corporations are in a sense servants of the Ministry and are thus essentially subservient to the wishes of the Government.

(e) New routes are established on the initiative of both the Government and the carriers. Generally speaking, the Ministry of Civil Aviation encourages the carriers to expand to the maximum practical extent in their respective areas.

(f) Carriers are entitled to institute new routes only within their respective areas.

(g) Competition is not permitted over identical routes. There are a very few cases in which the nearby stops of BOAC on routes to Africa or Australia compete to some extent with the European routes of BEAC.

(h) The carriers do not have certificates: the question of revoking or revision of certificates is therefore not applicable.

2. Rates

(a) Rates are fixed in the first instance by the three corporations but are subject to the approval of the Ministry of Civil Aviation. International rates are usually arrived at through the International Air Transport Association machinery, while internal rates are submitted to the MCA by BEAC.

(b) The Ministry of Civil Aviation has laid down the policy that minimum rates arrived at through the I.A.T.A. machinery should be based upon economic factors of the type detailed in the rates section of the Bermuda Agreement between the United Kingdom and the United States. On international services actual rates charged are in most instances higher than the I.A.T.A. minimum fares. These higher rates are based partly upon cost considerations but also reflect a tendency to charge what the traffic will bear. Internal rates are based primarily upon economic considerations and are geared to costs of surface transportation. On certain routes it may be suspected that political considerations enter into the rate structure.

(c) New rates filed by the corporations are processed in the Traffic and Tariffs Branch of the Directorate of Finance and Accounts in the Ministry of Civil Aviation. The filing is accomplished by a letter from the corporation to the Directorate and, after analysis, is either approved or disapproved by letter from the Ministry of Civil Aviation to the Corporation.

(d) The three British corporations do not compete directly over the same routes. Differences of rates between the three corporations, for comparable services, reflect differences in I.A.T.A. rates established for various areas. Rates are identical for different classes of travellers or freight except to the extent that I.A.T.A. regulations permit special fares for children, etc., and special discounts for special classes of freight.

3. Safety

(a) Safety rules and regulations are issued by the Ministry of Civil Aviation. They are published in Notices to Airmen.

(b) With the exception of air traffic control around major airports, the rules are adequate and competently enforced, if judged by any reasonable standards. In matters involving traffic control under instrument flight conditions, the British have neither the system nor the enforcement to insure safety fully up to the United States' standards. (The opinion has been expressed that "they still go somewhat on the principle that there is a lot of air compared to airplanes and that collisions are acts of God.")

(c) Safety regulations are undoubtedly enforced with impartiality. There is no substantiated record of any safety regulation being enforced to favor an individual carrier. It is generally recognized that at the international meetings at which safety regulations are established under ICAO or otherwise, British delegates are skillful, persistent and flexible in trying to have the rules conform to British conditions. Once the rules are set, however, they are enforced equitably.

4. Inspection

(a) The Ministry of Civil Aviation is charged with the investigation of equipment, personnel and accidents. The Air Registration Board, composed of representatives of manufacturers, insurance companies, and the public, as well as the Ministry of Civil Aviation, establishes the rules (except where international standards apply) for airworthiness. The actual work is done by a department in the Ministry of Civil Aviation. There are sub-sections for the examination of ground and flight personnel, for the annual and other inspection of aircraft and for accident investigation. Accident investigations are now held in public hearings unless the aircraft is carrying secret equipment.

(b) These regulations are considered to be adequate. They are competently and efficiently enforced.

(c) Penalties apparently are not often necessary. Warnings are given and frequent violators lose their licenses.

5. Airports and Communications

(a) Regulations governing the use of Civil Airports are covered in Notices to Airmen. Some civil airports are open only to charter flights; others are open for daylight operations; others are restricted to scheduled airlines; a few are restricted to exclude aircraft over a certain weight. Any civil aircraft can use at any time those that are unrestricted, and special permission can usually be secured to use any civil field.

(b) The Ministry of Civil Aviation is taking over the operation of all civil airports. There are a few which are still in private hands. The RAF operates and maintains its own fields as does the Fleet Air Arm.

(c) & (d) The Ministry of Civil Aviation, in collaboration with the Air Ministry and the General Post Office, operates ground-air communications, navigational facilities, and point-to-point communications. The civil airports are being linked together with the control center in London and with each other on teletype circuits.

D. GENERAL EVALUATION

1. There are sharp differences of opinion as to whether the British Government's policy for aviation and its control of civil air operations have achieved the best civil air establishment of which the straitened British economy is now capable. The most controversial question is whether outright government operation of the air transport industry can possibly (a) satisfy the requirements of an aggressive British world trade policy and (b) adequately sustain Empire prestige. It is actually difficult to say whether British civil aviation would be any stronger under entirely private or mixed private and governmental control. Certainly British airlines would be in a much stronger position now if they had been permitted to purchase modern aircraft from the US, but it is debatable whether the advantages of this course would have outweighed the consequent drain on the British dollar position and the blow to British pride which the increased use of foreign aircraft would have caused.

In any case, largely because of the requirement that British airlines shall use inferior British aircraft, the British civil air establishment has lost ground heavily in comparison with its stronger international competitors. Conceivably the use of inefficient and unsuitable British aircraft during the present period may later prove to have been warranted, provided this action keeps the aircraft industry alive and the industry rapidly perfects a satisfactory jet-propelled transport aircraft. It appears, however, that the latter possibility is too remote to justify the severe continuing difficulties which British policy has imposed on its air transport carriers. As a result of its deterioration, the British air transport establishment reveals itself to the world as inferior to those

of other far smaller countries, such as the Netherlands and Sweden, which operate better equipped and more economically operated lines than do the British.

2. British aviation suffers from the same problems which beset the entire economy of the country. If the British economy were sound, the industry would undoubtedly produce suitable aircraft sooner or later, and the interim purchase of US types would be no problem. In the specialized field of transport design the British aircraft industry is still suffering from a traditional weakness: the pre-war British aircraft industry was never able to develop a successful large conventional transport. This may have been possibly due to the lack of a broad domestic market for such equipment.

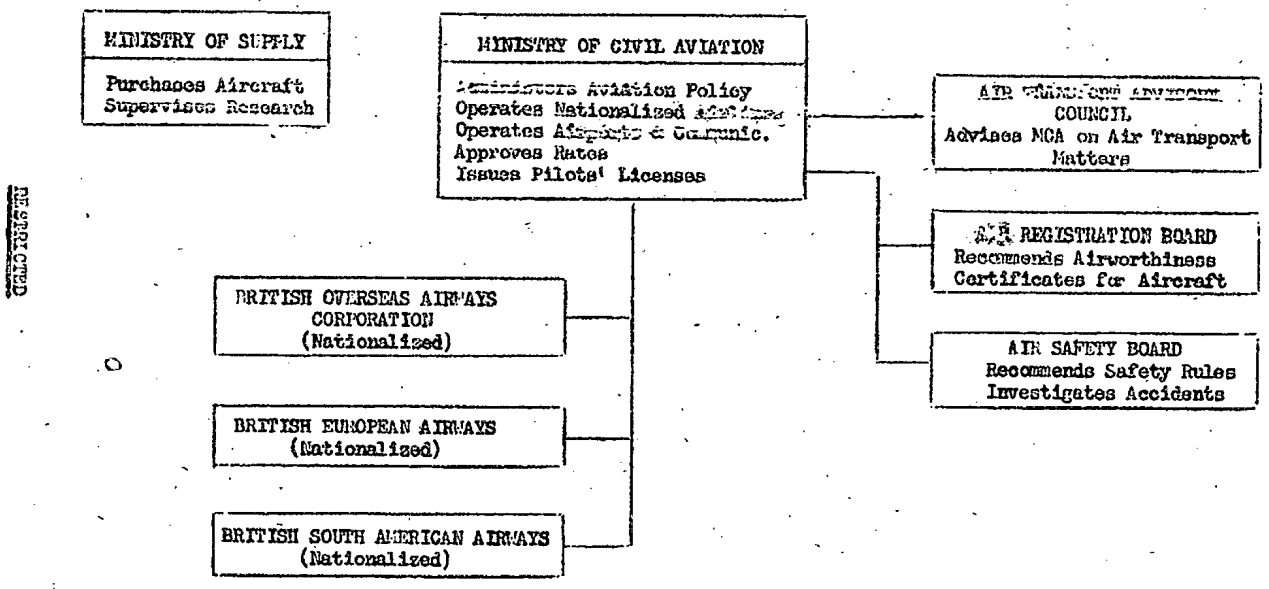
The output of labor in the British aviation industry is far lower per man hour than is the case in the US. No solution of Britian's present civil air difficulties is to be expected until the current shortage of man power is overcome and the productivity of available labor is increased.

Several factors tend to mitigate the weakness of British Civil aviation. The excellence of British military aircraft has deservedly gained wide recognition throughout the world. The names Lancaster, Meteor, Vampire, Spitfire, Hurricane, Tempest and Mosquito are universally known. Outside of informed circles, the world as well as the British public have accepted it as a matter of course that builders of these military aircraft can likewise produce a jet transport in short order, and that the nation which manned the RAF will be able to master the operation of tomorrow's aircraft. As a result, the British have had some success in persuading other countries not to buy American reciprocating engine civil aircraft with the argument that British jet types, which would make all others obsolete, were just around the corner.

An additional advantage to British civil aviation lies in the network of colonial possessions throughout the world with which no bilateral agreements are necessary. This was of some importance before the United States obtained a series of bilateral agreements, and would again be important if the current multilateral air transport negotiations fail and the United States has difficulty in perpetuating its bilaterals on a favorable basis. Another element of British strength is found in the small group of skilled British negotiators who can effectively pursue the precisely organized British objectives at bilateral or international air conferences. They are trained to act solely in the national interest rather than as exponents of special interests or pressure groups.

Finally, BOAC has demonstrated in the only British operation using modern American aircraft (the North Atlantic route), that the British are able to provide a service which appeals to the travelling public, and which compares favorably with other outstanding air services.

CIVIL AIR POLICY
UNITED KINGDOM



FRANCE

CIVIL AVIATION - FRANCE

THE SUPREME TRANSPORTATION ADVISORY BOARD

NOTE: The following information was not available during the preparation of this study.

1. The most important development in French transportation since the war is the establishment by the National Assembly in August 1947 of a Supreme Transportation Advisory Board. The Board will advise the Minister of Public Works and Transport on all transportation matters submitted to it, but may also formulate recommendations on its own initiative. The Advisory Board's immediate mission is to present, within one year, plans for the coordination of rail, highway, inland waterway, air and ocean transportation. It will include in its plans coordination of domestic transport with colonial and international transportation. The Board will study all social, technical, financial and economic matters relative to the organization and functioning of the various modes of transportation; it will also study matters concerning stock and equipment, technical and commercial development and the social, economic and administrative problems arising therefrom.

2. The Supreme Transportation Advisory Board is established under the Minister of Public Works and Transport and consists of 69 members, including representatives from various government agencies, members of Parliament, specialists from the large transport organizations, employee representatives from the operating companies and public organizations such as tourist travel agencies. Seven permanent commissions are established under the Board, charged with examining questions of transport coordination. These are as follows:

Rail - highway
Rail - inland waterway
Rail - air
Rail - sea
Highway - air
Highway - inland waterway
Sea - air

3. The Supreme Transportation Advisory Board is financed through a special fund provided by the Minister of Public Works and Transport. The sum expended shall be reimbursed to the state by the various transportation operators under conditions to be set forth by decree of the Minister of Public Works and Transport and the Minister of Finance.

CIVIL AVIATION - FRANCE

A. CIVIL AIR POLICIES

1. The basic French policy toward civil aviation is reflected in nationalization of the principal French air carrier and the major manufacturers of aeronautical equipment. French external air policy has been comparable to that of the US in that bilateral air agreements have been patterned on the principles established between the US and the UK at Bermuda in February 1946. Civil aviation is regarded as an instrument of national policy. Since the major French airline is nationalized, as well as the principal aeronautical equipment manufacturers, the Government may be said to exercise complete control in the shaping of aviation policies.

2. (a) Scheduled air transport except for secondary lines is performed by the government-owned corporation, Air France. Development of this company's service is promoted to the extent required by Empire considerations, national prestige, and on self-sustaining routes to the extent indicated by traffic demands. In this connection, it should be pointed out, however, that the Minister of Transport has on occasion restrained expansionist tendencies on the part of Air France until convinced that the organization has gained sufficient experience to assume the increased service in a safe and satisfactory manner. The Government promotes the development of Air France's services through the granting of subsidies when necessary to meet deficits.

(b) Non-scheduled air transport services are not financially supported in any way by the Government. These private operators must secure permits from the Secretary General for Civil Aviation and are permitted to operate as long as their services are not in conflict with the best interests of Air France. In most cases the permits are subject to cancellation on short notice.

(c) Private flying is virtually non-existent. Private owner type aircraft produced in limited quantity, are very expensive and do not compare favorably with American types. The Aero Club de France, active before the war in promoting amateur flying, has had difficulty in reviving its activities. This has been due largely to lack of dollars to purchase light American Aircraft such as the Piper Cub.

(d) Virtually the entire French aircraft industry has been nationalized since the war (except for a few privately owned concerns). The extent of government promotion of aircraft manufacture depends on existing budgetary limitations. Under the Communist Air Minister, formerly in control of the industry, the impression was created that the industry was more an instrument of party politics than a producer of aircraft. Since the elimination of Communist control of the Air Ministry early in 1947, an attempt has been made to stimulate production and remove the political influences that have dogged the industry in the past. These

plans for increased production, however, probably will be seriously handicapped by the current campaign to reduce expenditures throughout the government in the face of the existing financial crisis.

(e) It is the policy of the French Government to promote aeronautical research through government controlled and financed institutions. The Service Technique de l'Aeronautique of the Air Ministry and the recently created Office National d'Etudes et de Recherches Aeronautiques (which enjoy a certain restricted autonomy) are the principal organizations engaged in aeronautical research. The extent of their activities depends on Government appropriations. Much importance is attached to the development of aircraft prototypes, propulsion units, guided missiles and helicopters.

(f) The government promotes aeronautical education to the extent possible under budgetary limitations. The Ecole Polytechnique, the Ecole Nationale Superieure d'Aeronautique and the Ecole Centrale are state-supported and are the principal institutions giving instruction in aeronautical engineering.

(g) The government undertakes the training of civilian pilots, navigators and other technical personnel at flight and ground schools, but only in sufficient numbers to satisfy the needs of the chosen instrument (Air France). The French Air Force has a large training establishment which provides a reservoir of personnel available for civilian employment upon conclusion of the period of military conscription. The government in the past has furthered advanced training through the employment of American and Canadian flight crews who have indoctrinated French crews in operating methods as well as in the use and maintenance of modern equipment. The government also recently authorized the training of French personnel by US technicians in airport management and traffic control techniques in order to provide qualified operators to take over airports and installations built by US military forces during the war and acquired under a US-French Air Service agreement.

(h) The government, through its representatives abroad, actively promotes the export of French aeronautical equipment produced by its nationalized factories. In some cases it is believed that provisions for export sales of aviation equipment are included in trade treaties. The recent sale of four Languedoc French commercial transports to the Polish Lot Airline may be an example of this policy. In addition, the Government maintains and finances the Office Francais d'Exportation de Materiaux Aeronautiques (OFEMA). The import of aeronautical equipment is at a standstill except for spares for equipment already purchased. This is due to a lack of foreign exchange.

(i) Civil airport development is the joint responsibility of the Direction des Bases of the Secretariat General for

Civil Aviation and the Bureau des Ponts et Chaussees of the Ministry of Public Works and Transport. The extent of Airport development is limited to such provisions as are made in the Government budget for this purpose.

(j) Navigation facilities are installed and operated by the Direction de la Navigation Aerienne of the Secretariat General for Civil Aviation. These activities depend on budgetary considerations and the availability of foreign exchange. (Most navigational aids and radio communication equipment must be purchased abroad).

3. (a) French air transportation was nationalized as of September 1944 by an ordinance which legalized the transfer of Air France stock ownership to the State. Approximately 4% of the stock is still held by foreign interests and approximately 36% by French private interests. Thus, Air France is in effect a government-controlled enterprise. Privately owned air carriers are permitted as long as their service offers no competition to Air France, but no government subsidy is available. Foreigners may own a minor interest in such concerns. Although no notable additions have been made to the list of the nationalized companies under the Socialist Government, there has been no indication of a reversal in the nationalization policy.

(b) The government nationalized the greater part of the aircraft manufacturing industry after the liberation of Paris in World War II. There remain but two outstanding exceptions: the previously owned Hispano-Suiza and Breguet Corporations.

(c) There is only one national carrier.

(d) Air transport agreements have been concluded with several countries. These have followed the general pattern established in the US-UK agreement at Bermuda which provides a code of trade practices to allow a fair and equal opportunity for both parties to develop their services, but also provides certain conditions to safeguard their respective interests. The French, however, are fearful of competition from the Dutch and Swedes whom they regard as "the world's principal transporters of other people's traffic". In consequence, the French have not yet concluded air transport arrangements with either country for through services beyond Paris.

(e) See 2.

(f) See 2 (d).

(g) Before the shortage of foreign exchange became so acute, Air France was permitted to order 25 DC-3-type aircraft, 15 DC-4's and 13 Constellations because no comparable French types were available and it was desired that the company not be placed at a competitive disadvantage.

(h) See 3 (d). At a tripartite meeting of French, British and

Americans in London September 1947, the French and US positions with respect to the multilateral air transport conference now in progress at Geneva were apparently reconciled. France is a member of the International Civil Aviation Organization (ICAO) and Air France is a member of the International Air Transport Association (IATA).

4. The armed forces do not influence civil air policy, although civil air transport is regarded as a reinforcement of the military air potential. Civil air transport is considered primarily as a commercial, economic and political asset. While it is intended that eventually the manufacturing industry will supply all the needs of civil air transports, its present inability to do so is not impeding the domestic or international operations of Air France which has gone into the foreign market (principally US) to acquire the most modern aircraft and facilities. Air France is, nevertheless, utilizing French aircraft production to the fulless extent possible. It has already taken delivery of ten twin-engine Languedoc Transports and has placed an order for thirty more.

5. Though not dominated by the views of any foreign power in the matter of air transportation, France has nevertheless shown considerable willingness to cooperate with the US. As a member of ICAO, France is committed to adhere to decisions of that organization.

6. Published figures concerning the combined French military and civil aviation budget (fr. 447,871,415,000), while indicating that a large percentage of the total amount has been allocated to civil aviation (commercial air operations, maintainance of airports and facilities, communications, civil aviation schools and a small sum for the encouragement of private flying clubs), represent the extent of legal authorization for contemplated programs rather than the actual funds appropriated for expenditure. Funds for certain activities, furthermore, appear in the report to be dispersed in such a way that it makes difficult a realistic analysis. In short, the budget probably exceeds the maximum financial expenditures possible under the prevailing economic crisis.

7. While there is no vested interest capable of exerting influence on the government's air policy, officials of the government-owned Air France naturally endeavor to prevail upon the Government to accept their views. These views carry considerable weight.

8. See 2 (f) and (g).

9. See 2 (e) and 6.

10. Most aircraft manufacturing is nationalized and subject to direct Government control and financing through the Budget. Private companies such as Breguet are working on new development. This company, for example, has long been interested in helicopters and at the moment is receiving Government assistance in the development of a large cargo prototype.

B. CIVIL AIR ORGANIZATIONS

1. National Assembly (Supreme Transport Council);

Ministry of Public Works and Transports (Secretary General for Civil Aviation);

Ministry of Foreign Affairs;

Ministry of National Education;

Office Francais d'Exportation de Materiaux Aeronautiques (OFEMA);

Air Ministry.

2. (a) National Assembly -- shapes aviation policy through legislation, and implements that policy through appoprations.

Supreme Transport Council -- under legislative action of the National Assembly, in August 1947 the Supreme Transport Council was created with the requirement that within the following 12 months it present a plan for the rehabilitation of France's transportation, with a view to reorganizing and co-ordinating these services.

Ministry of Public Works and Transports -- is responsible through the Secretary General for Civil Aviation for policy-making, the economic and safety control of civil air transport, both scheduled and non-scheduled private flying, and in cooperation with the Air Ministry, is responsible for aircraft procurement for Air France. The Ministry of Transport is also responsible for the construction of airports and the installation and operation of communication facilities.

The Ministry of Foreign Affairs -- deals with all civil aviation questions involving relations with foreign countries.

The Ministry of National Education -- controls the State schools offering aeronautical training.

The Air Ministry -- is responsible for the aircraft manufacturing industry and directs research activities and aeronautical education. (See also 2 (e) and (f).

The OFEMA -- is responsible for promotion of export sales of aeronautical equipment.

3. (a) The statute on civil aviation has not yet been passed by the Assembly. Hence, some observers question whether or not current government decisions will endure. These, however, are in the minority. Former private manufacturers are prone to criticize the activities of nationalized factories and the theory of nationalization itself.

(b) As all forms of public transportation are nationalized, there is no competition between them.

(c) The principal political criticism comes from the Communist Party, which is apt to criticize almost any policy in the formation of which they play no part. Some segments of the more conservative public, which are opposed to nationalization, have likewise criticized government policies with respect to the aircraft manufacturing industry.

4. There is little duplication between these agencies. The principal overlapping of functions has occured on the question of transport aircraft procurement, where both the Secretariat General for Civil Aviation and the Air Ministry are concerned. Any conflicts are resolved between the Ministries concerned, or failing that, the question may be submitted to the Council of Ministers for final decision.

5. Due to the present delicate political situation in France, it is impossible to predict whether a reorganization of Government agencies concerned with civil aviation is to be expected.

C. PROCEDURES AND REGULATIONS

1. Air Routes

(a) The Secretariat General for Civil Aviation awards air routes.

(b) All major air routes are awarded to Air France. Secondary air routes are awarded to private operators on much the same basis as the Civil Aeronautics Board determines route allocations in the United States.

(c) Carriers are required to conform to safety regulations which in the main are patterned on ICAO recommendations. With respect to Air France, a certain quality of service is expected and on its major routes the government's policy has been to restrict volume of operations until it is satisfied that the company's organization is equipped to render a satisfactory and safe service. Private operators are not authorized for service which would give any appreciable competition to Air France.

(d) Air France is required to operate certain Empire and national prestige routes which are uneconomic and which the management of the company might well prefer to discontinue. This company operates all of the scheduled international services and has certain latitude in deciding the priorities to be assigned to new routes. Last August, for example, Air France inaugurated an air service Paris-Frankfurt at the suggestion of American services in Europe, although this service would not normally be included in a list of high priority services. New services may be inaugurated by Air France only with the approval of the Ministry of Transport. Since non-scheduled operators are entirely private in character, the government has no compelling interest in authorizing these services.

(e) See (d) above.

(f) All carriers may apply for any new route, but the well-known policy of the government deters private operators from applying for routes which would clearly be allocated to Air France.

(g) In general, competition is not permitted over identical routes although due to the current shortage of trained ground personnel and facilities temporary authorizations have been granted to private operators to parallel Air France services, particularly between continental France and North Africa.

(h) Air France is the national instrument, hence the revocation of this authorization would require a fundamental change in policy and legislation. The authorization for private carriers is normally of short duration--in many instances subject to revocation on one month's notice.

2. Rates

(a) Most services being international, rates are fixed by the government with due regard for minima established by the International Air Transport Association.

(b) Rates are based largely on economic and competitive considerations.

3. Safety

(a) Safety rules and regulations are promulgated by a Secretariat General for Civil Aviation. In the main, these are patterned after ICAO recommendations, although specific regulations may be promulgated as required to cover exceptional situations.

(b) In general, regulations appear adequate. Some criticism has been voiced on the question of enforcement. This has not been due to any lack of good will on the part of the French, but more to a lack of trained personnel and the lack of experience with regulations, based to a considerable extent on United States experience acquired in recent years when the French, due to the war, were virtually out of touch with modern air transport safety problems.

(c) Safety regulations are impartially enforced.

4. Inspection

(a) Standards for the inspection of equipment and personnel, formerly in accordance with Commission Internationale de Navigation Aerienne requirements, now conform to those of ICAO in all instances where the former have been replaced. Accident investigations are conducted under the direction of the Secretariat General and, although not so formal as those conducted by CAB in the United States, are approached with the same attitude of impartiality. The results, however, are not generally published. On occasion it has been suspected that

efforts were made to quiet further discussion when it was indicated that the pilot was clearly at fault and it was feared that too much public discussion might give rise to political difficulties. Nevertheless, it should be emphasized that even in these instances high officials have made no effort to place the blame elsewhere.

(b) Since most of these regulations are modeled on ICAO recommendations, they are presumed to be adequate. They are enforced by the Secretariat General with all the vigor which a reduced budget and small organization permit.

5. Airports and Communications

(a) Airport traffic control regulations are patterned on those recommended by ICAO. Large airports such as Orly and Le Bourget are restricted in so far as possible to transport aircraft.

(b) The Military service operates military airports and the Secretariat General to Civil Aviation operates all civilian airports (except small private fields).

(c) ICAO procedures are followed for communications.

(d) The Secretariat General operates the communication system.

6. Reports and Forms

Air France is required to submit all of the usual operating and financial statistics such as required by CAB in the United States. Other reports required are principally those prescribed by ICAO. French civil aviation ceased to exist during the war and the government organization had to be almost entirely reconstituted after the liberation of France. As yet, the formal statute on civil aviation has not been passed. Therefore, technical requirements have been limited largely to those prescribed by ICAO. All reports on civil aviation are submitted to the Secretariat General where they are coordinated and utilized in the shaping of new policies, the modification of existing regulations, or additions thereto.

D. GENERAL EVALUATION

1. French civil aviation has made a vigorous attempt to reestablish its pre-war international position. In the early post-war stages it was handicapped by the direction of a Communist Air Minister whose staff in the main was selected more for party allegiance than professional ability. Since its transfer to the Ministry of Public Works and Transport, Government civil aviation has made considerable progress toward achieving its immediate goal. To this end several missions and various important individuals have visited the United States and the United Kingdom. Active participation in ICAO is an established French policy and sincere efforts are made to follow the recommendations of that organization.

The Secretariat General is honestly administered but the handicaps of an insufficient budget and the lack of adequate trained personnel have made it difficult for the Secretariat to discharge all of its obligations in accordance with the high standards which the United States is accustomed to expect. In view of the shortage of equipment, funds and personnel, the government does a creditable job although on occasion American carriers, accustomed to CAA standards, have criticized the results. Even the critics of the Secretariat General have not, however, impeached the good intentions or sincerity of effort of that organization.

2. The greatest single factor impeding the development of French civil aviation at this time is the shortage of dollars, a circumstance over which the country has no control. Another important source of weakness is a shortage of skilled personnel adequately trained in current techniques. This latter is being overcome by sending groups abroad for training, improving the training techniques in France, and studying new developments, regulations, procedures, etc.

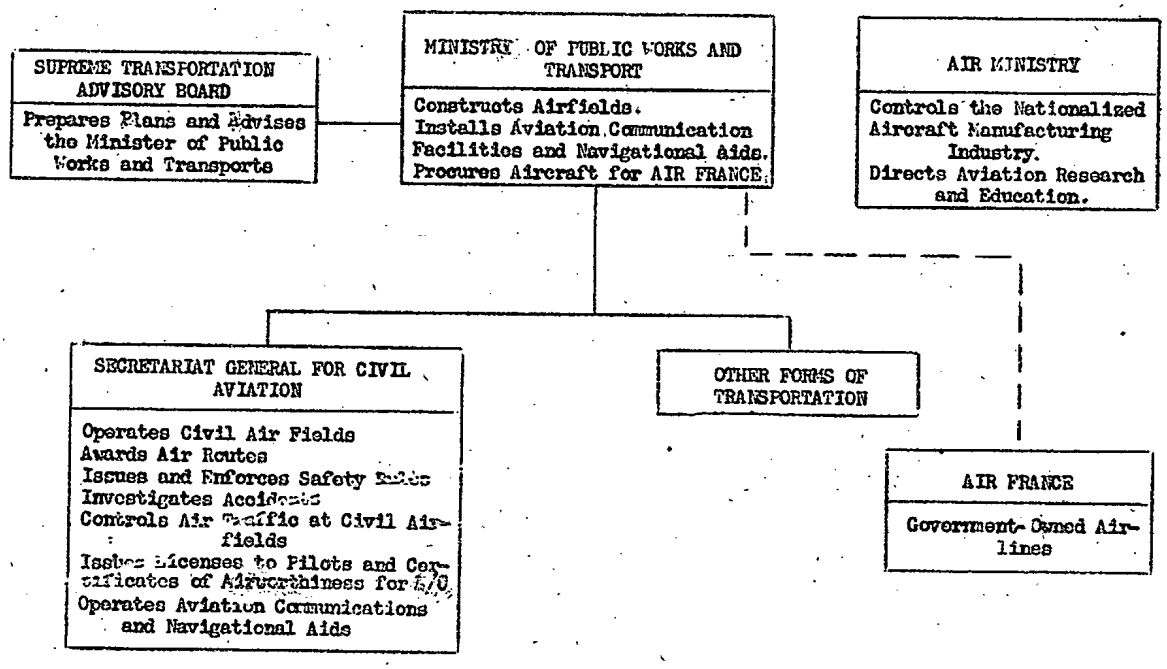
The manufacturing industry has long been known to be weak with respect to the production of aircraft engines. While France is attempting to remedy this deficiency, steps have been taken to purchase American engines and arrangements have been made to manufacture the British Rolls Royce "Nene" jet engine under license. General criticism of the industry has been on the basis of inadequacy of production and inadequate promotion of the development of new types. Most of these critics are inclined to take the position that all these ills could be cured by denationalization and the return of factories to private ownership.

Air France recommenced operations after the war, on January 1, 1946. Until comparatively recent months that company's aircraft maintenance left much to be desired. More recently, however, the introduction of new personnel into the organization and the tightening up of maintenance procedures in consultation with American factory representatives has brought about a substantial improvement to the point where it is believed to be entirely compatible with the requirements of safe airline operation. Financially, the company has made remarkable progress considering the recent increases in wages paid plus the fact that the company is required to operate many route miles of uneconomic services to the colonies and dependencies.

Factors favorable to French commercial aviation are: a long tradition as a pioneer in the field and as a leading air power prior to World War II; considerable pre-war experience in long range international aviation; an aircraft industry, which in the past has demonstrated its competency under conditions providing competitive incentive; a heavy investment in colonial and dependent areas, making the maintenance of rapid communications both politically and economically desirable; and lastly, France's geographical position. Within three hours flight of Paris are twenty-three European cities having a population exceeding 500,000. A large traffic potential is thus apparent.

CIVIL AIR POLICY

FRANCE



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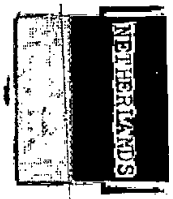


NETHERLANDS

CIVIL AVIATION - THE NETHERLANDS

A. CIVIL AIR POLICIES

1. The basic policy of the Netherlands is to foster civil aviation as a national industry important to the overall economy of the country. This is in keeping with the economic tradition of the Netherlands as a leader in world transportation. Being a country of small area, the Netherlands considers civil aviation as an important contributor to national prestige and the Government has shown willingness to underwrite any deficits which arise in operational costs and is prepared to relegate to a secondary position the question of profits. In the present European currency crisis, civil aviation acquires a greater importance through its production of foreign exchange. A basic policy for some time to come will be the limitation of commercial air operations to a single "chosen instrument" (KLM-Royal Dutch Airlines). In the field of international civil air policy the Dutch strongly support the most liberal international policy. Civil aviation is not used as an instrument of national policy to obtain other political objectives. The Government has the controlling stock interest in KLM and is in a position to determine long range policy; however, in practice, the present Managing Director of the KLM actually has a dominant voice in the determination of Netherlands civil air policy. In all other ways the company is operated as a private enterprise.

2. (a) The Government promotes scheduled air transport for purposes of national policy through the provision of capital investment funds which amount to more than 95% of the corporation's outstanding stock. (Pending legislation for a reorganization of the company allows for the Government's holding 51% of capital stock.) Because KLM is a source of foreign exchange, it is accorded a privileged position by the Government in questions of allocation of materials and foreign exchange.

   (b) All of important non-scheduled air transport is conducted by KLM. The Government has licensed one other carrier for non-scheduled operations, but this activity is presently limited to local air taxi service in one-engined aircraft.

   (c) Due to the limitations of local aircraft manufacture and currency for the purchase of foreign aircraft, the Government cannot give as much assistance as it would like to individuals interested in private flying. It does promote the manufacture of gliders for private flying.

   (d) The Government gives limited support to aircraft manufacture through subsidies and the allocation of raw materials and foreign exchange in an attempt to recreate a manufacturing industry; all attempts are limited because the greatest need -- transport aircraft -- are not likely to be produced locally for many years, consequently American aircraft will be relied upon to fulfill KLM needs.

   (e) The Government promotes research through subsidies and loans to Government-supported research laboratories with a view to benefiting the manufacturing industry.

   (f) The Government includes aeronautical engineering courses in its curriculum at the State University of Delft to develop engineers; approximately 100 students are pursuing these studies.

(g) The Government provides for the training of transport pilots through a Government-operated school with an enrollment of approximately 100 students. Aviation techniciens are trained in Government technical schools. No grants to foreign students are currently being made due to the expensiveness of this training. The above schools are separate from military aviation training and are supported to assure KLM a sufficient staff for expanding operations.

(h) The Government does not promote the export and import of aeronautical equipment except as is consistent with KLM needs and the needs for the development of necessary air ground facilities. The Government authorizes Fokkers (the sole air manufacturing concern) to convert military surplus Dakotas and Skymasters for foreign aviation companies.

(i) The Government promotes the development of airports as is consistent with KLM and foreign operators' needs through direct subsidies. Most airfields are still controlled and operated by the military.

(j) The Government attempts to maintain standards established by the International Civil Aviation Organization.

3. (a) Private ownership is favored by KLM, but it is believed that the majority participation of the present Government in the ownership of KLM is motivated not only by the avowed desire to provide KLM sufficient capital for its post-war reconstruction and expansion, but also to retain a guiding hand on long range policy. Foreigners are not permitted to own controlling or minority interests.

(b) Private ownership is favored for the aircraft manufacturing industry although the present Fokkers combine which comprises the existing manufacturing industry was formed under the recommendation of a of a Government commission and receives limited financial support. Combined industrial resources under centralized direction and with Government support is favored in order to recreate and help revive an industry that was destroyed by the war and has limited opportunities for development.

(c) There is only one national carrier, hence no competition. The Government avows that it does not believe in monopoly practices, but has been forced to establish a virtual monopoly in KLM in order to achieve the maximum development in operational efficiency.

(d) Inasmuch as the Netherlands has most to gain in the international field for its own flag carrier by a liberal policy, no restrictions are imposed on foreign airlines in competition with KLM other than the normal reservation of the rights of cabotage.

(e) As stated elsewhere, the Government's policy is to subsidize air carriers, manufacturing, airports, education and training to the extent necessary to support its flag carriers in achieving and maintaining a dominant position in world air transport.

(f) Government policy would favor development of transport aircraft if it were not presently rendered impossible by the limitations of the manufacturing industry.

(g) Foreign aircraft, predominantly American, are used.

(h) As stated elsewhere, the Netherlands has most to gain by a liberal

international civil aviation policy; therefore, it cooperates fully in granting facilities to foreign airlines, is a strong advocate of international organizations, and approves bilateral and multilateral agreements which are sufficiently liberal.

4. Armed forces exert no control over civil aviation. Civil air transport is regarded primarily as a commercial activity of economic and political value. Only slight consideration is given to the reinforcement of the military air potential.

5. The Netherlands pursues a policy of freedom of the air and as such is most closely related to the Scandinavian countries which are pursuing the same objectives. Government policy has been, in the past, influenced by and closely associated with that of the United States. There are currently, however, important differences of approach since the U. has found it desirable to adopt certain reservations and restrictions.

		Government	Private
6. (a)	Scheduled air transport	Government does not participate in direct expenditures of KLM but in capital investment (Fl. 51,000,000)*	KLM budget for 1947 Fl. 95,000,000
(b)	Non-scheduled air transport	See above	See KLM above Ypenburg air taxi service has budget for 1948 less than Fl. 100,000
(c)	Private flying	Fl. 100,000 to Dutch Glider Club	Estimate to be less than 100,000
(d)	Aircraft manufacture	Fl. 2,000,000 to Fokkers in 1948	Fokkers budget unobtainable
(e)	Research	Fl. 5,000,000 for investment, Fl. 800,000 for operation for 1948	Part of Fokkers budget above is for research
(f)	Aeronautical engineering education	Ministry of Education provides 6 year course at University Delft	Tuition from approximately 100
(g)	Training for pilots and technicians	Fl. 4,000,000 for new buildings and aircraft, Fl. 4,200,000 for operation in 1948	Fl. 100,000 in tuitions in 1948. Approximately Fl. 4,000,000 of KLM budget above is for training
(h)	Import of aeronautical equipment	Fl. 1,380,000 for all purchases of Air Traffic Control Division, a substantial amount will be imports	KLM authorized to spend 60,000,000 for equipment in 1947 and 1948

* Fl. 2.65 = $1.00

		Government	Private
(i)	Airports (not operated by military)	Fl. 5,000,000 for investment; Fl. 1,500,000 for operation in 1948. City of Amsterdam to invest Fl. 13,000,000 in Schiphol Airport	None
(j)	Air navigation facilities	Fl. 3,800,000	None
	Total budget of the Department of Civil Aviation (Rijksluchtvaardienst), sometimes called the Netherlands Aeronautical Service, hereinafter referred to as RLVD) for 1948		Fl. 16,963,000
	National Income (1946)		Fl. 8,400,000,000
	National Budget (1948)		Fl. 2,378,000,000
	Military Air Budget (1948)		Fl. 75,000,000

7. There are no vested interests exerting influence on civil air policy. KLM, however, which is principally Government owned, does as the single flag carrier, dominate the Government agencies and thus influence civil air policy.

8. The Government sponsors, controls and subsidizes aeronautical education. The RLVD in the Ministry of transport directly operates its own National Flying School for pilots, the Ministry of Education operates the technicians' schools, and the State University of Delft provides aeronautical engineering training. All schools are optional. Students are fully self-supporting and pay a small tuition. The total enrollment at Delft and the flying training school is approximately 100 each, with enrollment in technical schools approximately 500. The government lays greatest emphasis on educating sufficient technicians and pilots to eventually fulfill all KLM needs. KLM operates schools for advanced pilots, technician and administrative training.

9. The Government operates its own National Aeronautical Research Institute and subsidizes in full the Netherlands Institute for the Development of Aircraft, the board of which includes representatives from KLM, Fokkers, the above mentioned institute and various Government departments. The latter institute has no laboratory but directs and gives financial support to Fokkers for the development of prototype aircraft.

The research program is not very extensive because of a relatively small investment and a limited manufacturing industry. The National Aeronautical Research Institute has a laboratory consisting of material, stress, and aerodynamics section, and has two wind tunnels with speeds of approximately 90 mph and 180 mph respectively. Plans are underway to make enlargements on the present plant including a subsonic wind tunnel but these enlargements will require an investment of approximately Fl. 9,000,000 and a number of years for completion. This laboratory was scheduled to receive a loan of Fl. 2,700,000 from the Government's budget for 1947. The Netherlands Institute for the Development

of Aircraft received an appropriation of Fl. 2,000,000 for 1947.

For all research, the budget for 1948 includes an appropriation of Fl. 5,000,000 for improvements and Fl. 800,000 for expenses, hence the trend is to increase slightly such appropriations.

Greatest emphasis in aeronautical research is given to theoretical aerodynamics in the laboratory and the development of prototypes of transport aircraft and small training planes. There are no private institution capable of engaging in aeronautical research on their own initiative other than Fokkers, the manufacturing combine which is partially controlled and subsidised by the Government and The Philips Company at Eindhoven, which carries on intensive research primarily in electronics, some of which can be applied to aircraft operation. Philips may also be working on jet propulsion.

10. The development of new types of aircraft depends mainly upon the Fokker factory which is financed by Government loans, (Fl. 2,000,000 for 1948), and direct subsidies (Fl. 300,000 in 1947). The Government exerts a degree of control over the manufacture by offering subsidies and by having one member of the five man committee which supervises operations. Fokker engages in this development work under the supervision of the Netherlands Institute for Developmentfor aircraft, a semi-official agency.

B. CIVIL AIR ORGANIZATIONS

1. All Governmental agencies concerned with civil aviation are sections of the Rijkluchtvaartdienst, one of four departments of the Ministry of Transport and Power, which is headed by a Cabinet member. These sections are listed under (2) below. Civil airports are operated by municipalities under the supervision of the RLVD. The Ministry for Foreign Affairs has a transportation section which participates in civil aviation matters only to the extent of providing liaison with foreign Governments. KLM, while not an agency of the Government, is the monopoly air carrier and as such has its own judicial, procurement, training and communications section. The Ministry of War and of Marine operate their own air departments. Decisions of great importance to civil aviation are often taken to the Council of Ministers for approval or decision.

2. The organizations of the RLVD are listed below with a description of the functions of each division.

(a) Director General
  (1) Royal Netherlands Meteorological Institute section
  (2) Chief Inspector

(b) Technical Division
  (1) Section A - Airfield construction, maintenance, lighting and use
  (2) Section B - Examination of aviation personnel, aviation medical service, and licenses
  (3) Section C - Inspection aviation material, airworthiness certificates
  (4) Section D - Testing of aviation material
  (5) Under Sections C and D above comes the National Aeronautical Laboratory

(6) Civil Flying School

(c) Airways Control Division
(1) Section A - Organization (preparation for international conferences, general organizations)
(2) Section B - Plans
(3) Section C - Training
(4) Section D - Purchases and projects
(5) Section E - Communications
(6) Section F - Radio aid to navigation
(7) Section G - Production and development
(8) Internal Service - General traffic control for the Netherlands, head office at Schiphol

(d) Legal Affairs and Aviation Policy Division
(1) Section A - Political matters
(2) Section B - Economic and judicial

(e) Administrative Division
(1) Section A - Records
(2) Section B - Personnel
(3) Section C - Accountant

The RLVD was brought into existence by an administrative action (Royal Decree) upon a decision of the Council of Ministers and was placed under the Ministry of Transport. The Government problems in formulating, supervising, and administrating civil air policy and programs have continued to be simple enough to allow for one government agency to deal with all matters. The Netherlands Aeronautical Service (RLVD) underwent minor internal changes until 1945. At that time, the service was greatly expanded and reorganized (by an administrative Royal Decree) to cope with post-war developments in international aviation (particularly the Provisional International Civil Aviation organization after the Chicago conference of December 1944) and to keep step with KLM expansion as a world-wide air carrier. Since 1945 the only revisions in the organization of the service of any importance have been the addition of sections to deal with the National Aeronautical Laboratory, the National Flying School, and the Royal Meteorological Institute.

3. (a) Aviation interests, i.e. KLM, work very closely with the RLVD and consider the agency to be fulfilling a useful function in the public interest and with a degree of efficiency.

(b) These regulations are considered somewhat out of date and are in the process of revision, with the view of bringing them up to date and of making them conform to standards established by ICAO in the interests of international uniformity. The Netherlands Aeronautical Service relies on KLM's own inspections but makes occasional inspections to ensure enforcement.

(c) It is believed that regulations are enforced impartially.

4. (a) Regulations and procedures are published by RLVD, but specific regulations are not available.

(b) See 3 (b)

(c) There are no established penalties.

5. (a) Regulations issued by RLVD. Details are not known.

(b) The military operates most airports; others are operated by the municipality under supervision by the RLVD.

(c) Aviation communication procedures are designed to conform with standards established by ICAO.

(d) RLVD or military authorities.

6. (a) Airport clearance forms.

(b) KLM rate schedules and financial statements.

(c) Periodic reports from laboratories--no special forms at present but National Advisory Committee for Civil Aeronautics (NACA) forms are to be adopted.

(d) School certificates and air crew log books.

(e) Pilots and air crew members are examined physically once every six months for general health and fitness (similar to US Air Forces Medical Form 63, but not as exacting as Medical Form 64 for US pilots).

(f) The Government requires no special forms; KLM maintains extensive personnel files.

(g) The Netherlands Government requires:

(1) In accordance with ICAO standards and procedures, the filing of flight plans, the reporting of departures, arrivals, and positions and in certain circumstances of meteorological observations;
(2) The presence on board of the documents specified in Art. 29 of the Convention on International Civil Aviation (Chicago 1944).

(h) The Netherlands Government requires the testing and inspection of aircraft and aircraft equipment required for airworthiness certificates and radio station licenses.

(i) No special forms; accidents are investigated by RLVD according to ICAO procedures and requirements. Reports are submitted to RLVD, where they are studied by the interested sections of the agency.

C. PROCEDURES AND REGULATIONS

1. (a) RLVD.

(b) There is only one carrier.

(c) None other than those required by conformity to ICAO standards.

(d) KLM works very closely with the Government.

(e) Both, primarily KLM. The Government might require KLM to operate an uneconomic route for political purposes.

(f) There is only one carrier which may initiate new routes.

(g) No, as applies to Dutch carriers. Yes, as applies to foreign carriers where the Netherlands is in a position to grant such permission.

(h) Unknown.

2. (a) Proposed by carrier, approved by Government.

(b) Primarily competitive.

(d) It is believed that no discriminatory rates are permitted.

3. (a) RLVD issues rules and regulations concerning safety by Ministerial order, and enforces the rules and regulations by inspections.

(b) Competitive forms of transportation respect the work of the agency but certain shipping companies are inclined to disagree with the policy of a single commercial air carrier, chiefly, because they would like to enter the air transport business themselves.

(c) There is no information available to imply that the political parties have any complaint against the agency.

(d) The armed forces are believed to consider that it would be more efficient and more in the public interest to combine civil air administration with the military.

(e) Same as (c) above.

4. If there is any duplication or overlapping within the RLVD, it is of minor extent. As all phases of civil air administration are located in one agency with a Director General who in turn operates with all of the transport department heads under the Minister of Transport, conflicts can be resolved by a higher authority and coordination is achieved.

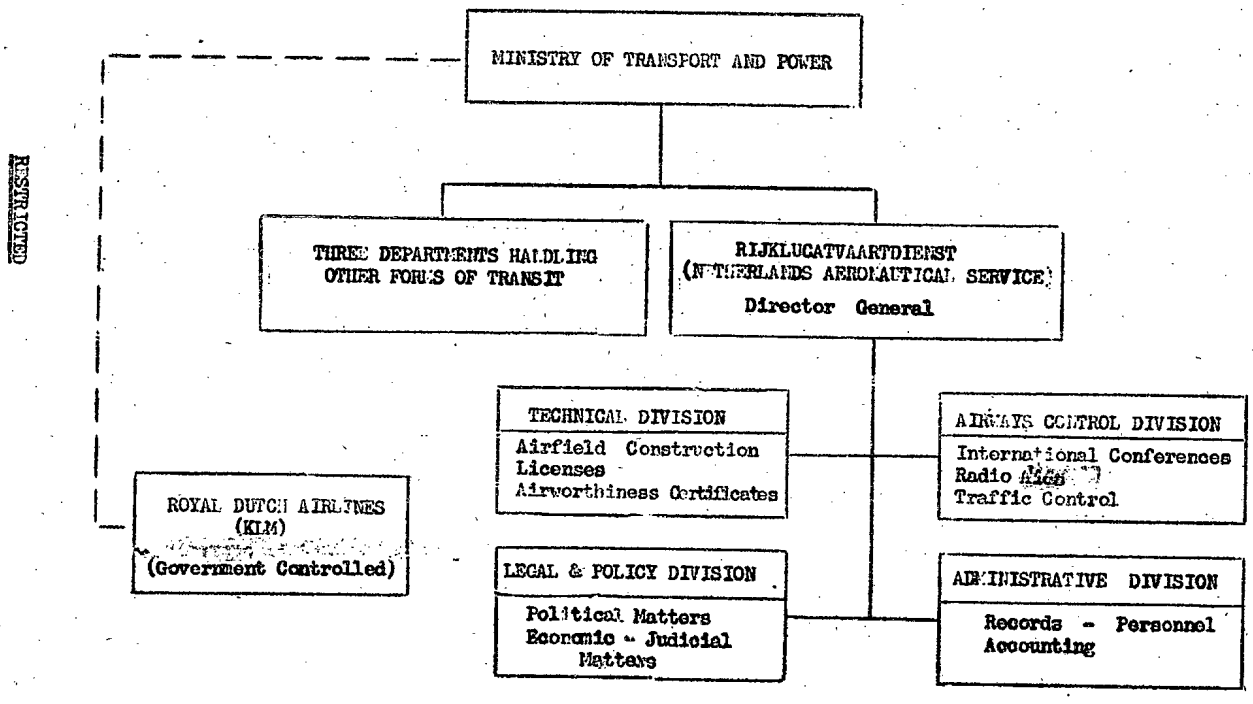
5. Efforts have been made to set up a separate Ministry for Air to coordinate all air matters, civil, naval, military and commercial, but there is no indication that this will be done. RLVD objects to such proposals partially for fear it would be subordinated to the military.

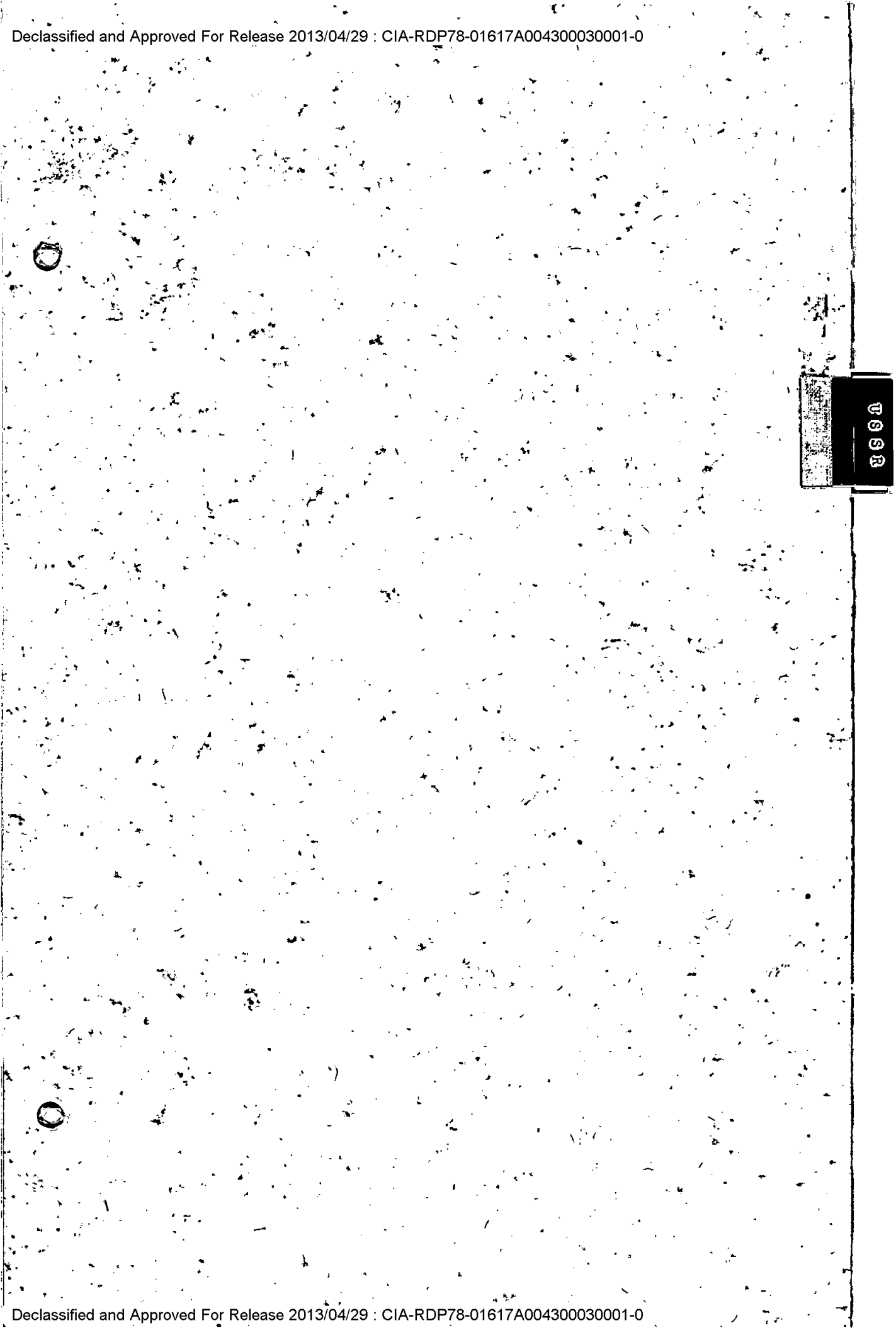
D. GENERAL EVALUATION

1. The Government's air organization, policies, rules and procedures are generally considered to be sound and well administered. The only marked differences of opinion concern the policy of using a single flag carrier which is objected to by shipping companies which would like to enter the air transport field. The majority opinion approves the present policy because of its success in the past and the economic and operational difficulties to be encountered in establishing new air carriers.

2. The strength of the Netherlands' civil aviation lies in the transportation and air-mindedness of the country, its excellent leadership and good operating record, its strong government backing, its liberal, progressive policies, and its possession of a good international airport (Schiphol) occupying a central location in Western Europe. The weakness of the Netherlands civil aviation program is due to lack of foreign exchange, aircraft manufacturing facilities and building materials; conditions for

CIVIL AIR POLICY
NETHERLANDS





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CIVIL AVIATION - USSR

A. CIVIL AIR POLICIES

1. Basic policy of the USSR as regards civil aviation is to create a large and efficient air transport system, which will not only enable radio communication among widely separated sections of the Soviet Union and with satellite countries, but will also act as a reserve organization ready to augment Soviet military air power. Soviet basic air policy, furthermore, sacrifices the development of world-wide air transport operations to the immediate military and civil needs within the USSR. Determination of policy and complete control of all civil aviation are vested in the government. Government control is effected through three independent organizations, each controlling some aspect of Soviet non-military aviation. These organizations are:

   Upravleniye Grazhdanskovo Vozdushnovo Flota (UGVF--Main Administration of the Civil Air Fleet) under the Minister of Armed Forces

   Central Soviet Council of the Osoaviakhim (Society for the Promotion of Aviation and Chemistry)

   Main Administration of the Glev Severnoput (Main Administration of the Northern Sea Route)

The use of Soviet civil aviation as an instrument of national policy is evident in many ways. One typical example is provided by the postwar civil air agreements between the USSR and the Soviet satellite countries. (A discussion of these agreements is contained in the reply to question A.3.(h) of this report.)

2. The Soviet government controls all aspects of civil aviation.

   (a) The government plans and controls the development and expansion of scheduled air transport. The Fourth Five-Year Plan calls for 175,000 kilometers (108,900 statute miles) of air routes by 1950 (an increase of approximately 25% over 1940). The most important lines are to be equipped for year-round and night flying. Sixteen airports will be reconstructed for use by heavy high-speed planes. Twenty air stations are to be built or rebuilt. The Chief of the Civil Air Fleet has announced that an attempt will be made to increase passenger and freight traffic within the next two or three years to eight to ten times the prewar figure. It is estimated that in 1940 civil aviation had a turnover performance of 34,000,000 ton-kilometers (21,180,000 ton miles), carried 49,000 metric tons of freight and baggage and 309,000 passengers. This would indicate an annual goal for the near future of more than 300,000,000 ton-kilometers (186,600,000 ton miles), nearly 500,000 tons of freight and baggage, and approximately 3,000,000 passengers.

(b) Control of non-scheduled air transport is maintained by the government through all three civil aviation organizations. The small aircraft units of the various ministries, which perform non-scheduled operations, are detailed to these various ministries from the USVF and the Osoaviakhim and are considered to be actually a part of their parent organizations. The majority of the air operations undertaken by the Northern Sea Route are probably non-scheduled in character.

(c) Private flying, as it is known in the United States, is non-existent in the USSR. There is however, a system of flying clubs controlled by the Osoaviakhim, which might be compared with the Civilian Pilot Training Program of the United States.

(c) All aircraft manufacturing in the Soviet Union is controlled by the Ministry of Aviation Industry. A certain amount of supervisory control of the aircraft industry is also maintained by the Ministry of Armed Forces, State Planning Commission, and Academy of Sciences, and the Main Administration of the Civil Air Fleet. The degree and scope of the control exerted by these agencies, however, is unknown. The industry, which had expanded to the maximum possible degree during World War II, has gone through a period of readjustment. This might be considered as government restraint on aircraft manufacturing. The industry has probably reduced its production quantitatively and is now operating at peacetime levels. The design and production of large and medium size air transports is progressing.

(e) An extensive research program is quite evidently in progress. Large numbers of German scientists and technicians, together with German research facilities, have been integrated in this program. The program is directed by the leading Soviet scientists. There is evidence of emphasis on jet and rocket propulsion. (Eight different postwar types of jet aircraft have been identified.) Principal control of all basic scientific research in the Soviet Union rests with the Academy of Sciences. This organization is responsible for formulating the Five-Year Plan as it affects scientific research. (In addition, the Main Administration of the Civil Air Fleet is specifically charged with the development of all non-military aircraft, and has its own aeronautical research institute.) The Academy of Sciences is also responsible for determining the relative priority of all scientific development. A considerable amount of this research actually is carried out by the research institutes of the Ministry of Aircraft Industry. Aeronautical research is also carried out by institutes subordinate to the Ministry of Armed Forces.

(f) Aeronautical engineering education is probably controlled by the Ministry of Higher Education.

(g) The training of pilots and technicians for the GVF is undertaken in schools of the Civil Air Fleet. The following list shows the location of Civil Air Fleet Schools in 1944. It is not known whether all those schools are now in operation; there has presumably been a reduction in the training program with a consequent elemination of some of these centres.

Location of Civil Air Fleet Schools in 1944.

Alma Ata	Kubino
Baku	Moscow
Khabarovsk	Moscow-Kuskino
Dzhizak	Novosibirsk
Frunze	Penza
Gorki	Sterlitamak
Issyk-Kul	Sverdlovsk
Syr-Darinskaya	Tashkent

Training of foreigners is limited to those of proven "political reliability" from the Soviet satellite countries.

(h) Control of all export and import trade is exercised by the Soviet government through the Ministry of Foreign Trade, which ordinates this activity with the State Planning Commission and the Ministry of Foreign Affairs. Imports are of two types: (1) standard electronic equipment for use in aerial navigation is required in quantity and obtained under trade treaties; and (2) advanced models of aircraft and power units are required in limited quantity for experimental purposes: they are obtained under individual contracts. (British jet propelled aircraft and power units have been purchased and US manufacturers have been approached though without success.) Export of aeronautical equipment is very limited. Transport aircraft and spare parts have been authorized for export only to the dependent satellite countries and only in negligible quantities.

(i) The government controls and promotes the development of all airports and air navigational facilities. An ambitious program
(j) of airport construction, including the installation of navigational aids, is contained in the current Soviet Five-Year Plan. (See sub-paragraph (a).) Most of the airports of the Soviet Union are controlled by the military forces; however, there are airfields of a purely non-military nature which are controlled by the Civil Air Fleet, Osoaviakhim, and the Northern Sea Route. Air navigation facilities are believed to be a primary responsibility of the Main Administration of the Civil Air Fleet. Some navigation facilities may be controlled by the Soviet Air Force and the Soviet Naval Air Force, but the extent of these holdings is not known. The Main Administration of the Northern Sea Route undoubtedly is responsible for the air navigation facilities in the Arctic regions.

3. (a) All aircraft in the Soviet Union are owned by the government. Primary air carrier in the Soviet Union is the Civil Air Fleet, which operates the majority of the scheduled airlines. In addition, there is the Main Administration of the Northern Sea Route which operates some scheduled, but for the most part non-scheduled, flights in the Arctic regions. There is no competition between these two organizations and the USSR can be considered to have one government-owned air carrier. No foreign capital is invested, except in airlines jointly owned by the USSR and certain foreign countries. These include the Soviet-Rumanian airline TARS, the Soviet-Hungarian airline Mazovlet, the Soviet-Yugoslav airline JUSTA and the Sino-Soviet Aviation Corporation. None of these joint airlines, however, operates within the USSR.

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(b) The aircraft industry of the Soviet Union is government-owned and directed. Control of this industry is maintained through the Ministry of the Aviation Industry.

(c) No competition exists between the UGVF and the administration of the Northern Sea Route.

(d) Complete protection of Soviet civil aviation is afforded by prohibiting entry of foreign airlines into the USSR. A Soviet Air policy in the satellite countries, however, involves relations with other countries. The joint Soviet-Satellite airlines, while not permitted to operate into the USSR, have been authorized to seek air agreements with airlines of certain western countries and to exchange services on a restricted or flight for flight basis with such countries.

(e) As Soviet civil aviation is government owned, operating expenses are provided and income is absorbed by the government. It is probably, however, that the airlines are not operated at a loss, since salaries paid employees are low and facilities provided are far below US (Western) standards. Flight frequencies are regulated to insure full loads and fares charged (twice as much as those for rail travel) are high enough to cover operating costs. Ordinary passengers are required to buy their transportation for cash and the cost of travel for officials travelling on government business is charged to the agency they represent. Soviet policy since the end of World War II has been to promote actively all phases of Civil Aviation. The current Soviet Five-Year plan includes objectives to be met in the production of new aircraft, construction and improvements of airports, and airport facilities, and the training of pilots, navigators and technicians in night and instrument flying. The plan also calls for an extension of the domestic air network to approximately 110,000 route miles (a 27% increase over prewar mileage). This ambitious program has been adopted in order to link remote areas of economic importance to the main traffic arteries and to further the realization of the Five-Year Plan as a whole.

(f) The Soviet objective is to replace its obsolete transport aircraft with modern types comparable to the post-war types produced by the US. A new twin-engine airplane (IL - 12) has appeared and is destined to replace the lend-lease and Soviet built LC-3s, while two four-engine transports (IL - 18) and (TV - 29) have been built which have characteristics of the DC-4 and the B-29. Those aircraft, which have not yet appeared in quantity, are intended for service on the main trunk lines throughout the USSR. The development of all aircraft is controlled by the government, primarily through the Ministry of Aviation Industry; though some phases may be supervised by the Main Administration of the Civil Air Fleet.

(g) Foreign transport aircraft in use by the USSR, as far as known, consists principally of large numbers of US lend-leased DC-3s. While Soviet representatives have visited US aircraft manufacturers and expressed interest in purchasing a number of

Constellations, no firm orders have been placed since Soviet policy is to effect such purchases only through the medium of a comprehensive trade treaty, and the US has indicated that A settlement of the US-USSR lend-lease account is the prerequisite to such an agreement.

(h) Soviet policy requires that all foreign airlines be excluded from Soviet territory in the interest of national security. On the other hand, the USSR has been instrumental in organizing, equipping and controlling civil airlines in Rumania, Hungary and Yugoslavia, and in aiding the re-establishment of the pre-war Polish airline. This has been undertaken (a) in order to impose a continuing Soviet control over air communications in areas contiguous to the USSR, and (b) by promoting interlocking air agreements between these satellite countries to stimulate trade and to encourage political and economic integration.

Soviet bilateral air agreements permitting Soviet air access into other countries are unilateral in application, as foreign airlines are not permitted to enter the USSR. When the USSR encounters opposition to this type of agreement by a country with which it desires air relations, a point is selected in a nearby country to which both parties have access for an exchange of traffic on mutually agreed terms.

While Soviet policy requires scrupulous observance by foreign airlines of Soviet territorial integrity, the USSR nevertheless permitted its own airlines to operate an illicit commercial service in northern Iran after the withdrawal of Soviet troops. This operation was terminated only recently following a formal protest from the Iranian Government. Another example of indifference to the rights of other countries is apparent in the present organization of the Sino-Soviet airline. The formation of this airline in 1939 resulted from a Sino-Soviet agreement providing for a jointly-owned monopoly of air services between a point in the USSR and Sinkiang Province, China.

In practice, however, the company appears to be completely dominated by the USSR with a single Chinese holding the title of Chairman of the Board, but lacking any authority. Chinese pleas for company reorganization to give China a fair share in the airline have gone unanswered. The USSR has entered into no multilateral air agreements and is not likely to do so in the foreseeable future except on terms consonant with Soviet national policy. Although a seat on the ICAO Council has been held in reserve for the USSR since formation of this organization, the USSR has declined membership. This is quite understandable, for present Soviet air policy would not permit the USSR to comply with ICAO principles or regulations.

4. Soviet civil air policy is definitely influenced by military air requirements. The reorganization of Russia's military forces in 1946 is believed to have placed the Main Administration of the Civil Air Fleet under the Ministry of Armed Forces. In this position, it is independent of the Soviet Air Force and Soviet Naval Air Force, but remains under the control of the military authorities.

Soviet civil air transport is certainly regarded as a military air asset. It is equally important in time of peace as an essential transport service, and a commercial activity of economic and political value. For this reason, Soviet civil air transport does more than merely justify the maintenance of a manufacturing industry.

5. The purely internal civil air policy of the USSR is in no way influenced by any foreign country. For the most part the international air policy of the USSR is also not affected by foreign influences, but the increasing resistance encountered by the USSR and Soviet satellites in their attempts to negotiate air agreements with non-satellite countries is definitely affecting the implementation of Soviet policy. Western European countries have refused to sign air agreements with satellite countries and the USSR which do not provide reciprocal rights.

6. No detailed information is available on this subject. The budget for civil air is, however, believed to be included in that of the Ministry of Armed Forces, since this agency controls the UGVF.

7. See 4.

8. All institutions of higher education, including those dealing with aeronautics, are believed to be operated or controlled by the Ministry of Higher Education. Political indoctrination undoubtedly holds a high place in the list of subjects. The formation of a high-level aviation academy, to be located near Moscow, has recently been reported. The faculty list includes almost all the important aircraft and aircraft-engine designers of the USSR.

9. The government owns and operates its own aeronautical research and development facilities. Government control of these facilities is maintained through the Academy of Sciences, Ministry of Aircraft Industry, and the Ministry of Armed Forces. Although there is no specific information, it is known that the government program is extensive. At present the greatest emphasis is believed to be centered on jet fighters, long range bombers, and long range heavy transports. This view is supported by the new aircraft seen at the recent Aviation Day and May Day air shows. Believed to be of secondary importance is the development of radar and other ancillary equipment. The degree of latitude given to research is not known. Control of theoretical research is maintained through the Academy of Sciences, which allocates the priority on all basic projects. Control of development research in aeronautics is probably vested in the Ministry of Aircraft Industry and the Ministry of Armed Forces. Under the political and economic system which exists in the Soviet Union freedom of private research, in the Western sense, does not exist.

10. Complete control of aircraft development, including financing of manufacturing facilities, is vested in the Government through the Ministry of Aircraft Industry.

Certain factories of the aircraft industry are believed to have research facilities which are carrying out development projects, but the majority of the factory research is believed to be restricted to the development of new and better production methods.

B. CIVIL AIR ORGANIZATION

1. In all, there are 58 ministries in the Soviet government, and nearly all of these ministries are to some degree interested in civil aviation. The degree of interest varies from those ministries which merely use civil aircraft for passenger travel and freight transportation to that of the Ministry of Armed Forces, which actually has complete control of the Main Administration of the Civil Air Fleet. Governmental agencies and ministries which have a substantial interest in Russian civil aviation are believed to be as follows:

State Planning Commission
Council of Ministers
Academy of Sciences
Ministry of Aviation Industry
Ministry of Armed Forces
    Armed Forces General Staff
    Main Administration of the Soviet Air Force
    Main Administration of the Soviet Navy
    Main Administration of the Civil Air Fleet
    Air Force of the Airborne Forces
Main Administration of the Northern Sea Route
    Osoaviakhim

To a lesser degree the following agencies and ministries have interests in Russian civil air:

Ministry of Construction Materials
Ministry of Communications
Ministry of Higher Education
Ministry of Heavy Machine Building
Ministry of Machine and Instrument Construction
Ministry of Oil Industry, Eastern Regions
Ministry of State Security
Ministry of Transport
Main Administration of the Combined Sea and Land and Meteorological Service
Ministry of Foreign Trade
Ministry of Foreign Affairs
Ministry of Military and Naval Enterprises
Ministry of Electrical (Equipment) Industry
Ministry of Light Ministry
Ministry of Machine Tool Construction
Ministry of Road and Construction Machine Building
Ministry of Transport Machine Building

2. Only a partial answer can be given this question. Answers given are incomplete and are based, in general, on deduction rather than definite information.

Politburo--Major policy decisions affecting Soviet civil aviation are probably decided at the very top level in the Politburo, which, although not an actual part of the Soviet government structure, is the Communist Party organ for the direction of the government. Acceptance of Politburo policy is a foregone conclusion.

Council of Ministers--This body is responsible for the implementation of the over-all policy of the USSR, which includes civil aviation. Major policy decisions are given this organ by the Politburo.

State Planning Commission (GOSPLAN)--The economic mainspring of the Soviet economy is the State Planning Commission, which has 11 members, elected from among the leading industrial workers, scientists, and specialists. Its task is to prepare quarterly, yearly, and five-year plans, and present them for approval to the Council of Ministers; to supervise fulfillment of the plan, and to submit solutions for the practical and methodological problems involved in economic planning.

Principal work of the Commission is to coordinate the various plans with the numerous branches of Soviet economy involved.

While this Commission has a major role in implementing military and civil air policy, its complicated organization of more than 40 departments and bureaus apparently handles its problems on a piecemeal basis. There is a "Group Aviotransport" in the "Department of Aviotransport and Motor Transport", which apparently has a major interest in the development of civil aviation.

Academy of Sciences--This organization is responsible for the over-all direction of scientific research in the Soviet Union. In the fulfillment of this mission the Academy of Sciences must to a certain degree direct the development of civil aircraft. Just how much control this organization exerts on the scientific institutes of the Aircraft Industry and the Main Administration of the Civil Air Fleet is not known.

Ministry of Aviation Industry--This organization is responsible for the production of all aircraft in the Soviet Union. Considerable liaison obviously exists between the aircraft industry and the Academy of Science, the Soviet Air Force, Soviet Naval Air Force and the Civil Air Fleet. The exact degree of control exercised by the Main Administration of the Civil Air Fleet over the Ministry of Aircraft Industry is not known.

Ministry of Armed Forces--This is the ministry to which the Main Administration of the Civil Air Fleet is believed to be subordinated. It is, therefore, probably responsible for general over-all supervision and control of the Civil Air Fleet.

Armed Forces General Staff--This body is responsible for military planning for the Ministry of Armed Forces, of which the Civil Air Fleet is a part.

Main Administration of the Soviet Air Force--Although this agency does not have direct control of the Civil Air Fleet, it does to a certain degree influence UGVF policy. Just how this influence is effected is not known. During the last war the Soviet Air Force (then the Red Army Air Force) had control of the GVF to the extent that directives as to the use of UGVF units could be given the Chief of the Civil Air Fleet by the Chief of the 18th Air Army (then designated the Long Range Force). Civil Air Fleet personnel could be withdrawn for use in the 18th Air Army.

Main Administration of the Soviet Navy--This body influences UGVF policy to a certain degree and UGVF units are known to have been subordinated to the Navy. Navy interest in the Civil Air Fleet is probably centered in the Naval Air Force.

Main Administration of the Civil Air Fleet (UGVF)--Although there are three agencies responsible for Soviet civil aviation, the Main Administration of the Civil Air Fleet is the chief motivating agency. It is the largest of the three and is actually responsible for the implementation of Soviet civil air policy.

The organization of the Main Administration of the Civil Air Fleet is not known in detail, but it is believed to be similar to the organization of the Main Administration of the Soviet Air Force. The following directorates of administration are known to exist:

Political
Technical Matters
Repairs
Construction
Foreign Lines
Medical
Cadres
Inspector
Legal
Editing and Publishing
A scientific research institute

The UGVF is specifically charged with the following:

Control of servicing, repair and spare parts for all aircraft of the UGVF
Control of all air routes
Survey, planning and construction of new routes and airfields
Direction of operations with economic objectives
Planning future developments
Direction of research and developmental work in civil flying
Control of equipment and technical training
Registration of aircraft
Issue of permits to use civil aircraft
Issue of permits for flights outside the Soviet Union
Ratification of construction programs of subordinate territorial directorates
Control of experiments in new types of transport aircraft, engines, balloons, gliders, and the organization of series production of non-military aircraft on government order, including technical control of special productive activity
Organization of necessary signal communications
Direction of training for flying and technical ground personnel
Organization of medical services
Organization of fire-fighting services
Control of matters involving foreign air traffic

Air Force of the Airborne Forces--This organization is a part of the Soviet Air Force. As the name indicates, it is responsible for the planning and execution of all Soviet airborne operations. In the performance of its duties in wartime, the Air Force of the Airborne Forces must draw some of its aircraft from the UGVF. The exact extent of liaison in peacetime is not known, but a close tie is undoubtedly maintained.

Administration of the Northern Sea Route--This organization is one of the three independent organizations within the Soviet Union concerned with civil aviation. It employs civil aircraft for ice reconnaissance and exploration of the Arctic region. In addition, it is responsible for air transport throughout the Soviet Arctic. While separate from the UGVF, it must operate closely with the Civil Air Fleet, and the UGVF is believed to be responsible for the general direction of its over-all policy as well as inspection of Northern Sea Route aircraft.

Osoaviakhim (Society for the Promotion of Aviation and Chemistry)--This organization is the third organization which is considered to have a primary interest in civil aviation. The Osoaviakhim has its own aircraft, which are used by aero clubs for private flying, or rather the nearest approach to such activity, in the Soviet Union. The Osoaviakhim can be considered a para-military organization for the promotion of flying among Soviet youngsters before they are of military age.

3. This question is not believed applicable to the Soviet Union. The Soviet government controls and operates all civil aviation and extra-governmental opinions on the adequacy of civil aviation or its relation to the public interest would have no material influence on civil air administration. An objective analysis of Soviet civil aviation, however, clearly indicates that it is inefficient in many respects. It can only be said to serve the public interest within the Communist concept of this purpose.

4. From the standpoint of the known and probable functions of these many agencies concerned with civil air, it appears that considerable overlapping and duplication exists. The resulting conflicts are probably solved by the State Planning Commission, the Academy of Sciences, or the Council of Ministers. If settlement cannot be effected at this level, the problem is probably referred to the Politburo for decision.

C. PROCEDURES AND REGULATIONS

1. Air Routes

These questions are generally inapplicable to Soviet civil air. The entire civil aviation program is a government monopoly. No competition between carriers for air routes can exist. The decision to inaugurate a new air route could possibly arise in a number of agencies, such as the State Planning Commission, Ministry of Armed Forces, Ministry of Foreign Affairs, Council of Ministers, or in the Main Administration of the Civil Air Fleet itself. Any new air route would probably have to be approved by the State Planning Commission, but the actual implementation of this policy decision would be the responsibility of the Main Administration of the Civil Air Fleet.

2. Rates

a. All rates on Soviet civil airlines are fixed by the UGVF, and thus are fixed by the government. At the official exchange rate of 20¢ per ruble, rates on Aeroflot are approximately double the US commercial airline rates of 5.1¢ per mile. If the so-called "diplomatic rate" of exchange is used (12 rubles per dollar) Soviet rates are comparable to US domestic rates.

Both the above exchange rates are purely arbitrary, as the ruble is not used in foreign exchange, so its international value is undetermined. On the basis of prices which Soviet citizens must pay for imported goods sold in Soviet stores, it is estimated the consumer's ruble is worth about two cents. Purchasing power of rubles expended by the government is considered to be much greater than the purchasing power of those spent by individuals, since the government is able to set cost prices on the materials which it buys. In view of the above, it is impossible to compare realistically rates on Soviet airlines with US commercial rates, since the comparison would be based on a non-existent international exchange rate of the ruble.

b. Rates are believed to be based primarily on economic considerations; however, political factors sometimes affect rates. During the operation of the illicit airline in Iran, for example, rate cutting tactics were employed in an attempt to force the government-owned Iranian Airlines into bankruptcy.

d. No specific information is available on this subject. There is not believed to be any such thing as a discriminatory rate policy as such. High ranking members of the Communist Party, government, and armed forces, however, are believed to have priority in riding UGVF aircraft. These individuals are not believed to pay money for their passage, although the cost is probably charged to the government agency which the travelers represent. It is also probable that the USSR occasionally grants preferential rates to individuals or groups of workers, in order to capitalize on the propaganda value of such paternalism. How the bookkeeping is handled is of little importance, since the government in any case pays for the operation of civil airlines.

3. Safety

a. Although no specific information is available regarding safety regulations, it is probable that whatever regulations are in effect are issued by the Main Administration of the Civil Air Fleet. Responsibility for enforcement probably is delegated to the Inspectorate of the Main Administration of the GVF.

b. According to numerous foreigners who have travelled in Soviet aircraft, the regulation are either inadequate or are not enforced. Because in the USSR orders of the state are usually strictly enforced with punishment for violations, it is believed that adequate safety regulations have not been promulgated. Soviet aircraft are operated apparently on the theory that an airplane can fly anything which can be put into it. A complete ignorance of scientific loading (such as lashing cargo in the aircraft prior to take off), is evident. It is definitely known that Soviet authorities are alarmed at the accident rate of USSR aircraft.

4. Inspection

a. The following is a summary of the types of inspections laid down in Air Force regulations. As it is believed that UGVF regulations are similar, this digest provides a possible indication of Civil Air Fleet directives on the subject.

Pre-flight Inspection--All aircraft to be inspected before flight by the aircraft mechanic, technician, and crew. The flight technician to examine at least fifteen aircraft monthly, chosen at random.

Inter-flight Inspection--In cases of repeated operations, to be carried out by the crews and ground technical personnel.

Inspection after Landing--(Considered the most important since all deficiencies and damage occurring during flight need to be established.) To be carried out by technical crew members and technical ground personnel under the supervision of the squadron technical officer.

Periodic Inspection--To be carried out only in units in rear areas, in flying schools and training establishments. In front-line formations only regulation jobs are to be done, the period of which is laid down in instructions for technical maintenance of the different types of aircraft.

Inspection of Aircraft and Engines which have reached Regulation Limit of their Life or become Unusable because of Damage--(The purpose of this inspection is to determine whether the aircraft in question, on the basis of its actual condition, is still capable of further use.) The degree of repair to be established as well as the necessity for transfer to a maintenance unit. It is also to be decided whether the aircraft should be written off. For the purpose of such inspections a commission, with the regimental engineer as chairman, is to be established by regimental order. When the examination has revealed that the aircraft, despite the lapse of regulation number of flying hours, is still not in need of repair, the commission has authority to prolong the regulation overhaul period of an aircraft by 30 per cent and of an engine by 20 per cent. This decision, however, must be confirmed by the Chief Engineer of the Air Army.

b. If the above listing of inspections is complete, it is apparent that Soviet directives on this subject would be considered inadequate by US standards.

c. See b.

5. Airports and Communications

a. Aircraft of the Civil Air Fleet appear to use either military or civil airfields. There are, however, airfields in the Soviet Union that support strictly civil activity.

b. These airfields are operated and maintained by the three Soviet civil air organizations.

D. GENERAL EVALUATION

1. Despite the paucity of detailed information, it seems clear that the civil air policies of the USSR are closely geared to the economic capacities, political aims, and military requirements of the country.

It is reasonable to conclude that Soviet planning for civil aviation is far sighted and well conceived, but that the implementation of this leaves much to be desired. While the future will see a considerable expansion of Soviet civil aviation, this development probably will fall short of planning estimates.

2. The principal points of strength in Soviet civil aviation can be summed up as follows: (a) adequate manufacturing facilities to satisfy aircraft production needs of the expanding domestic air network; (b) a large war-trained reserve of pilots and technicians upon which to draw as need arises; (c) training establishments for new personnel, refresher courses and technical schools for advanced training adequate to meet Soviet standards; and (d) finally, perhaps the greatest source of strength, the ability inherent in the Soviet system of control to allocate skills and direct available resources solely toward the objectives of Communist national policy.

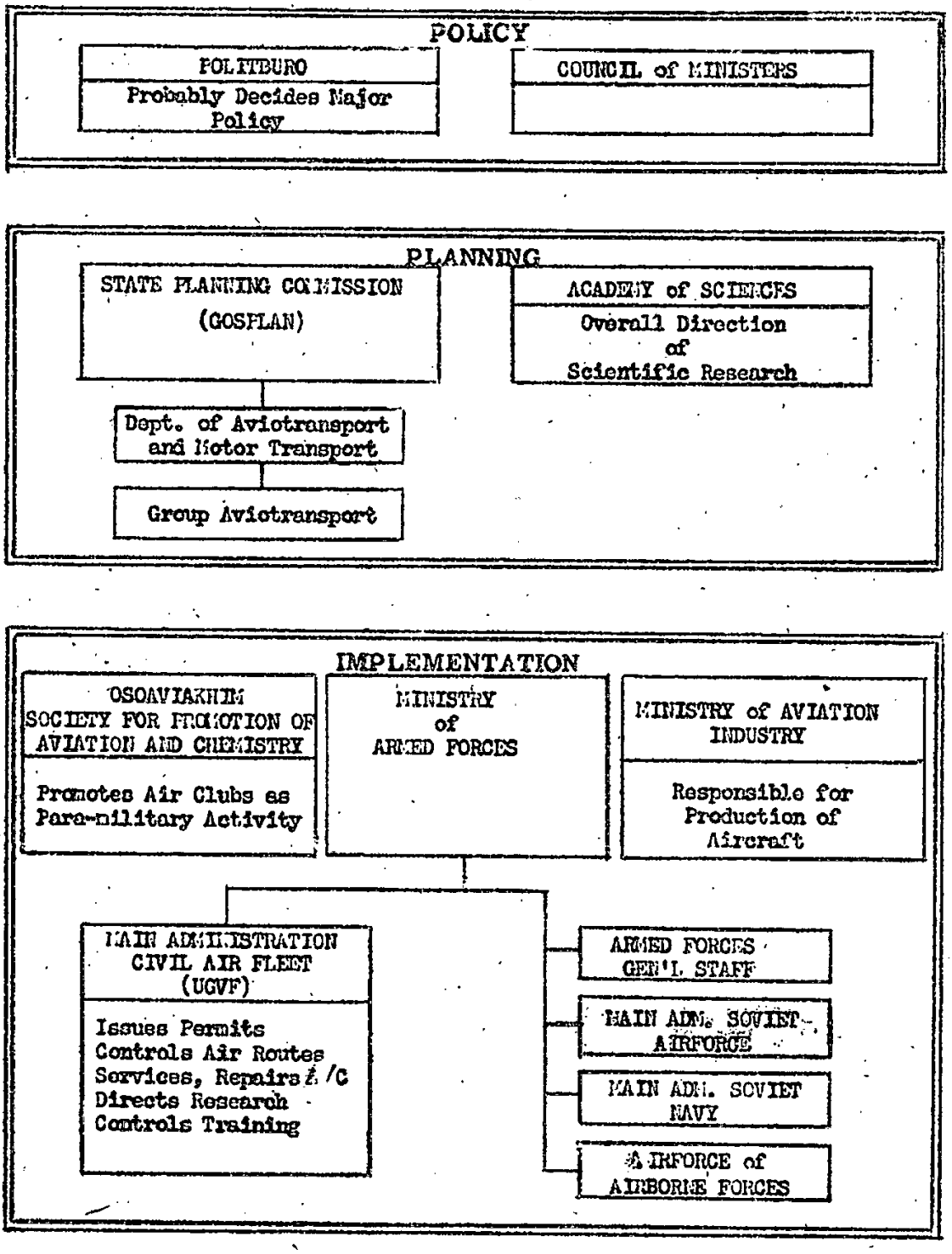
Serious weaknesses, however, characterize the Soviet civil air establishment. These are: (a) lack of experience in commercial operating techniques as practiced by the leading western air carriers, which results in poorly executed scheduled operations with low safety standards; (b) lack of experience in long-range operations; (c) lack of sufficient modern aids to navigation (such as electronic equipment required for night flying and bad weather operations), for general use; (d) lack of trained operators for such equipment, resulting in reduced operating efficiency; and (e) obsolete equipment still in use over most of the Soviet air network.

There undoubtedly lies, in the vast extent and regional isolation of the Soviet Union, a challenge and a compelling incentive to Soviet civil aviation. The widely dispersed, yet economically important population centers, together with a deficient surface transportation system, present an obvious mission for civil aviation, and explain the high priority given to it in the fourth five-year plan.

SECRET

CIVIL AIR POLICY

U S S R



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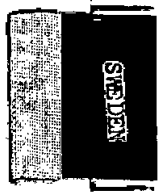

SWEDEN

CIVIL AIR POLICIES

1. Sweden's basic policy with regard to civil aviation is to "fly everywhere". The impelling motives for this policy are to promote commerce and to maintain national prestige. Because Sweden is a small country having limited resources, it has cooperated with Norway and Denmark in forming Scandinavian Airlines System in order that the equipment, personnel and facilities of the three countries may be pooled to further their mutual civil aviation interests. Negotiations at a government and intercompany level are now going on to enable AB. Aerotransport (ABA) to fly to certain Balkan countries on a reciprocal basis.

   The Government naturally desires that Swedish airlines operate as far and as frequently as is economically possible, but civil aviation in Sweden cannot be considered an indispensible instrument of national policy for the reasons that the country has no outlying territories with which it must maintain contact, has a sizeable merchant marine for trade purposes, and has land and sea connections with the Scandinavian countries with which it is most closely associated geographically and culturally.

   After the merger of ABA and SILA, the Government may determine civil aviation policy with respect to scheduled air carriers to a greater degree than formerly, but the company's working committee of which the chairman will be elected by the private stockholders, will actually direct policy. Up to the present, Swedish airlines have flown without hindrance or pressure from the State wherever foreign politics, available equipment, and airline economy has permitted.

2. (a) & (b) The Swedish Government promotes the development and expansion of scheduled and non-scheduled air transport by making air agreements with foreign governments, by protecting the interests of Swedish companies in other countries, and by granting loans from the Aviation Loan Fund for the purchase of aircraft.

   (c) The Government does not concern itself with private flying except to regulate it for safety reasons under the CAB (the Board of Civil Aviation)

   (d) The Government does not manufacture aircraft, but military planes are manufactured in Sweden under government contracts. ABA, 97% government-owned, has ordered a number of commercial planes from Svenska Aeroplan AB. (SAAB), Sweden's only aircraft factory.

   (e) Aeronautical research is carried on by the Aeronautical Engineering Research Institute (Flygtekniska Forsoksanstalten).

   (f) The Government is not concerned with the training of pilots except by the Swedish Air Force. The technical universities of Stockholm and Goteborg as well as technical schools, which are run by the state, give courses in aeronautical engineering.

(h) The Government does not directly export or import aeronautical equipment although ABA, the Government-owned airline, imports the equipment it needs and the Board of Civil Aviation imports airfield equipment. Sixteen obsolete Swedish B-17 two-seater light bombers were recently exported to Ethiopia by the Air Force.

(i) & (j) Airports and air navigation facilities are operated by the Government through the Board of Civil Aviation.

3. (a) The question of ownership of air carriers in Sweden has recently been subjected to an investigating committee of the Riksdag which has not yet officially announced its decision. The Legation has learned, however, that a merger of ABA, which is 97% Government-owned, and SILA, which is owned by private interests, has been proposed. Fifty percent of the stock of the merged company, which will be known as ABA, will be held by the Government and fifty percent by private interests. The chairman of the Board will be elected by Government shareholders. Seven members of the Board will be elected by the Government and seven by private interests. There will also be an operations committee of which the chairman will be elected by private interests, two members of the committee by government shareholders, and two members by private shareholders. This does not clearly indicate whether Government ownership or private ownership is favored as the above inscribed compromise has resulted from much discussion and investigation of the problem.

Foreigners are not allowed to own controlling or minor interests in Swedish aviation companies.

(b) The aircraft manufacturing industry in Sweden is privately owned.

(c) The Government's policy regarding competition among national carriers is theoretically one of free competition, but ABA has practically a monopoly on flying regular routes within Sweden.

(d) The Government protects national airlines against competition with foreign carriers through the principle of reciprocity.

(e) There is no subsidization of air carriers and aircraft manufacturing. Subsidies are sometimes granted to private flying clubs for gliding purposes.

(f) The development of transport aircraft is left to private initiative and is carried on only by Svenska Aeroplan AB. (SAAB).

(g) Foreign transport aircraft are used exclusively by Swedish airlines.

(h) Sweden participates actively in international aviation organizations such as ICAO and IATA.

Although Swedish airlines operate abroad on bilateral air agreements, multilateral air agreements are favored.

4. Civil aviation in Sweden is not influenced by military air requirements but is regarded as a commercial activity of economic and political value. The armed forces do not control Swedish Civil aviation. In time of war, civil aviation pilots and personnel would undoubtedly be used as a reinforcement of the military air potential.

Civil air transport is not regarded as a justification for the maintenance of a manufacturing industry since foreign aircraft are used exclusively and airplane manufacturing in Sweden is primarily military.

5. Swedish civil air policies are not dominated by any foreign power. Sweden is, however, associated with Norway and Denmark in forming Scandinavian Airlines System, a company in which the personnel and equipment of Svensk Interkontinental Lufttrafik AB. (SILA, Swedish Intercontinental Air Lines, Inc.), Det Danske Luftfartselskab (DDL, The Danish Air Lines), and Det Norske Luftfartselskab (DNL, The Norwegian Air Lines) are pooled to operate airlines to North and South America. Sweden is a member of IATA and ICAO. Although Sweden's civil air policy is not related to, or influenced by the United States, Sweden closely follows aviation developments in the United States and endeavors to profit by American experience and methods.

6. Sweden's national income in 1946 was estimated to be approximately Sw.cr. 19,617,000,000 (Sw.cr. 3.6 equal $ 1.00). The 1947/1948 national budget is Sw.cr. 4,174,873,200. The budget for the national defense amounts to Sw.cr. 798,646,400, of which Sw.cr. 451,990,000 is the military Air Force budget and Sw.cr. 1,225,000 the Air Force Administration budget.

Following agencies receive the amounts specified from the Government:

The Ministry of Communications:	Sw.cr.
For the subscription of new shares in AB. Aerotransport	14,055,200
For Investment in the Aviation Loan Fund	17,000,000
For acquisition of grounds for airports	700,000
For airport construction	12,620,000
For hangars and administration buildings	1,300,000
For radio beacons	2,000,000
For lighting installations	175,000
For vehicles, machines and tools	300,000
Civil aviation emergency allocation	1,000,000

	Sw.cr.
To the Swedish Meteorological and Hydrographical Institute:	
For investigations related to aviation weather forecasting service (tentative appropriation)	629,000
Subsidy to a weather reporting station in the North Atlantic (tentative appropriation)	900,000
Extra inspection of aircraft, etc. (tentative appropriation)	15,000
The Ministry of Defense:	
Subsidy to private flying (included in Air Force budget) (appropriation with reservation)	390,000
The Ministry of Ecclesiastics:	
Aeronautical Medical Research	181,600
Technical Universities of Stockholm and Göteborg (including aeronautical engineering education)	9,655,200
Technical schools	4,127,000
Contribution for the establishment of special sections for flight engineers at trade schools (tentative appropriation)	100
Subsidy to the school for flight engineers at Mölndal (tentative appropriation)	215,000
The Ministry of Commerce:	
Aeronautical Engineering Research Institute	818,400

7. No vested interests exert influence on Swedish Civil air policy.

8. The Government sponsors and subsidizes aeronautical education insofar as it operates the technical universities of Stockholm and Göteborg as well as technical schools at which aeronautical engineering education is obtainable. The number of students is left to the initiative of the students themselves, with the exception of Air Force personnel taking courses. In needy and worthwhile cases Government support can be obtained by students.

Sw.cr. 215,000 is appropriated by the Government for the training of flight engineers at a special school at Mölndal.

9. The Government operates its own aeronautical research and development facilities but does not subsidize private organizations. Sw.cr. 818,400 is appropriated to the Aeronautical Engineering Research Institute and Sw.cr. 181,600 for aeronautical medical research. Appropriations are increasing. Aerodynamics and tenacity are given the greatest emphasis. Svenska Aeroplan AB. (SAAB, the Swedish Aircraft Company, Inc.) conducts its own aeronautical research but uses the wind tunnel of the Aeronautical Engineering Research Institute. The Institute primarily conducts research on military problems but occasionally gives advice to commercial airlines on special problems.

10. The development of new types of military aircraft and equipment is financed by the Government through the Aeronautical Engineering Research Institute.

B. CIVIL AIR ORGANIZATIONS

1. The following agencies are concerned with civil aviation:

Government agencies:

The Swedish Meteorological and Hydrographical Institute
The Ministry of Foreign Affairs
The Ministry of Communications
The Royal Board of Civil Aviation
The Ordnance Survey Department
The Royal Telegraph Service
The Royal Post Office Department
The Custom House
The Air Force
The Aeronautical Engineering Research Institute
The Aeronautical Medical Research Board
The Technical University of Stockholm
The Technical University of Göteborg
Technical Institutes
The Stockholm Technical Institute
The School for Flight Engineers at Malmö
AB. Aerotransport

Private agencies:

Svensk Interkontinental Luftrafik AB. (SILA,
Swedish Intercontinental Air Lines, Inc.)
(Scandinavian Airlines System /SAS/)

Non-Scheduled Air Transport Companies:

Skandinaviska Aero AB. (Scandinavian Airways, Ltd.)
AB. Norrlandsflyg (The Norrland Air Service, Inc.)
Svensk Flygtjanst AB. (Swedish Air Service, Inc.)
AB. Trafik-, Turist-, Transportflyg
AB. Nordisk Aerotjänst (The Nordic Aero Service, Inc.)
AB. Aero Service
AB. Ahrenbergsflyg
AB. Smålandsflyg
AB. Skåneflyg
AB. Värmlandsflyg
Aerotoxin AB.

Manufacturers and Suppliers of Aircraft and Aircraft Material:

Svenska Aeroplan AB. (The Swedish Aircraft Company, Inc.)
Svenska Flygmotor AB. (The Swedish Aircraft Engine Company, Inc.)
Kockums Mekaniska Verkstads AB. (The Kockum Mechanical Workshop, Inc.)
AB. Nordiska Armaturfabrikerna
AB. Aero-Service
Aero Materiel AB.
AB. Flygleveranser

The Royal Swedish Aero Club and associated aero clubs all over the country

About 30 flying schools

2. The Royal Board of Civil Aviation was established in 1945 under the Ministry of Communications. Previously, matters regarding civil aviation were taken care of by a section of the Highway and Waterway Board (KungligaVag- och Vattenbyggnadsstyrelsen). At present the Board of Civil Aviation is organized as follows:

ROYAL BOARD OF CIVIL AVIATION

Inspection Division:

Operations Standards and Accident Investigation
Airworthiness Section
Personnel Licensing Section
Medical Section

Division for Ground Organization:

Administrative Section
Electrotechnical Section
Radio Section
Planning Section

Air Traffic Division:

Air Traffic Navigation Section
Air Traffic Control Section

General Administrative Division:

Organization and Budget Section
External Relations Section
Legal Section
Statistical and Economic Section
Accounting Section

Airport Administrations:

Stockholm - Bromma
Malmo - Bulltofta
Goteborg - Torslanda
Norrkoping - Kungsangen

C. PROCEDURES AND REGULATIONS

1. Air Routes

(a) The Ministry of Communications grants permission to airlines to operate the air routes which they desire.

(b) Economic conditions and the standing of the company concerned determine the granting of a concession to operate a route to a particular carrier. In the case of Svenska Lloyd, which desired to operate the route between Göteborg and London, the Government refused permission for the alleged reasons that the company was not equipped to handle such traffic, that ABA was already flying the route, and that the traffic did not warrant the granting of a concession to another Swedish company. In this case, the Board of Civil Aviation had recommended to the Government that the concession to Svenska Lloyd be granted.

(d) Carriers are not forced to fly any given route, but they are sometimes denied the privilege of flying routes they wish to operate. All carriers are entitled to apply for any proposed new route. There is, however, an agreement between ABA and SILA that the former will fly internal and European routes whereas the latter will fly intercontinental routes.

(h) A carrier's certificate could be revoked for failure to comply with CAB regulations, but such a case has not occurred.

2. Rates

(a) Rates are fixed by the carriers subject to the approval of the Government.

(b) Internal rates are based upon Swedish second-class railroad fares plus charges for sleeping accomodations.

(c) Applications regarding changes of rates are submitted to the Board of Civil Aviation.

(d) In principal no discrimination is permitted among carriers. Government officials and company employees are sometimes permitted to fly free of charge or at a reduced rate.

3. Safety

Rules and regulations concerning safety are issued and enforced by the Board of Civil Aviation. National regulations are not completed, and those in effect are complemented by international regulations. Safety regulations are enforced impartially.

4. Inspection

Regulations and procedures governing the inspection of equipment, personnel, and accidents are in accordance with ICAO principles. These regulations are revised from time to time. They are enforced by the Board of Civil Aviation. Penalties for failure to obey regulations conform to international practice.

5. Airports and Communications

(a) & (b) Regulations governing the use of airports are those issued by the Board of Civil Aviation effective from August 1, 1947 to June 30, 1948. Airports are operated by the Board of Civil Aviation.

(c) & (d) ICAO procedures are followed with regard to civil aviation communications. Civil air communications systems are operated by the Telegraph Service and by the Board of Civil Aviation.

6. Reports and Forms

The Board of Civil Aviation requires carriers to submit traffic reports, operations reports, and disturbance-of-operations reports. All carriers must submit annual reports on operations. Monthly reports of a general character are required from the carriers. Special reports were required in 1946 in order to fix rates.

The Government does not require periodical reports on research activities and technical developments.

Commercial pilots are subjected to medical examination prior to every flight.

Aircraft flight operations are controlled by the Traffic Management and the Air Traffic Inspection Division of the Board of Civil Aviation. Aircraft inspections are of two types, aircraft type examinations and supplementary examinations.

Accident investigation committees are appointed to investigate every accident and a report is submitted to the board of Civil Aviation.

D. GENERAL EVALUATION

1. The Royal Board of Civil Aviation is generally considered to be honestly and sincerely administered and maintains standards as high as, if not higher than, the United States in regard to safety. Shortage of personnel and lack of experience handicap the administration of the Board.

There has been considerable discussion in Sweden on the question of Government ownership of air carriers, and the proposed merger of ABA and SILA is an attempt to compromise on this problem which has confronted many other countries.

In general, the Swedish Government's civil air organizations and policies are well adapted to the requirements of the country's commerce.

2. A point of strength in Swedish civil aviation is the cooperation with Norway and Denmark. This enables Swedish air carriers to operate, in conjunction with Norwegian and Danish carriers, greater distances with greater capacity and frequency.

A point of weakness in Swedish civil aviation is the dependence on foreign aircraft which in view of Sweden's dollar shortage may seriously limit Sweden's ability to purchase planes. Another point of weakness is the lack of trained pilots and flight personnel which requires SAS to employ approximately thirty American citizens and some British subjects to operate and maintain aircraft.

Swedish civil aviation is at a further disadvantage in that Bromma, Sweden's principal airport, will probably not be able to receive DC-6's and Boeing Stratocruisers if fully loaded. The construction of an airport which will be much superior to Bromma has been started at Halmsjon, but it is not expected that this airport will be completed within five years.

CIVIL AIR POLICY

SWEDEN

MINISTRY OF COMMUNICATIONS

- Grants Air Routes
- Certificates Airlines
- Constructs Airfields and Installs Facilities
- Forecasts Weather

ROYAL BOARD OF CIVIL AVIATION

- Operates Civil Airports and Navigational Facilities
- Issues Licenses (Pilots)
- Promotes Private Flying
- Imports Airfield Equipment
- Controls Civil Air Traffic
- Approves Commercial Air Rates
- Issues and Enforces Safety Regulations
- Issues Airworthiness Certificates

A. B. Aerotransports
(97% Government-owned Airline)

GERMANY (PRE-WAR)

CIVIL AVIATION IN PRE-WAR GERMANY

The following report on pre-war civil aviation in Germany is condensed from a study specially prepared for this series by the Aeronautics Division of the Library of Congress. The full report covers the subject in very much more detail and includes charts and a complete list of references. It is available to anyone desiring to carry out further research.

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UNCLASSIFIED

CIVIL AVIATION - PRE-WAR GERMANY

A. CIVIL AIR POLICIES

1. German civil aviation was an instrument of national aggrandizement, created by a totalitarian state to forward its ideology, and completely dominated by that state in policy and procedures. Air commerce, air sport and the aircraft industry existed to feed each other and the Luftwaffe. "Today's air power is not contained only in the air forces of a nation; it includes -- and this is the meaning of Goring's proclamation of a 'nation of flyers' -- the air force, industry, and civil aviation. Civil aviation has a front line soldier's position equally with the Air Force, for it defends the position of a nation in the air through its technique, transport, sport, and research functions".

   Adolf Bäumker, Managing Director of the German Academy of Aeronautical Research in 1943, indicated the German approach to the study of air power as early as five years after the Treaty of Versailles: "We must in investigating the bases (of air power) distinguish three factors: the aircraft industry, air transportation, and air sport, in addition to military aviation". Bäumker's analysis on Deutsche Lufthansa, the aircraft industry and air sport, forces the conclusion that each of the three components of German civil aviation was an instrument of national and party policy in exactly the sense of the Luftwaffe.

2. (a) & (b) The first German government following World War I had centralized all internal scheduled and unscheduled air transport into the hands of one company; the second government extended that company around the world as a weapon in its geopolitical warfare. The identification of government and airline was so complete that one man Erhard Milch, was from 1933 to 1945 both State Secretary of Aviation and Executive Director of Deutsch Lufthansa. Government control came about through capital ownership and was implemented by subsidies.

   After the Nazi advent to power, Lufthansa placed principal emphasis on the international field, inter-European and inter-continental, with particular attention in the latter respect paid to South America. Within Europe, Lufthansa worked out, usually within the framework of the International Air Transport Association, reciprocal agreements with Sweden, Holland, France, England, Switzerland, and Italy, which permitted joint operations between the various countries involved. During the war, Denmark, Hungary, Rumania and Bulgaria were forced to join in this sphere of influence. "It was quite evident that the National Air Ministry, acting through the Lufthansa, was very willing to offer strenuous competition in all phases of commercial air transportation, regardless of expense".

   (c) Because the expense was too much for the ordinary pocketbook, the German authorities made no special efforts to promote private flying or the personal plane. In 1938, for example, there were only 152 private aircraft owners. However, the schools, clubs, and sport organizations encouraged by the government owned approximately 600 planes,

and thousands learned to fly with them. A brief history of government sponsorship of private flying clubs and organizations follows:

Air sport in pre-war Germany had been centralized in the Deutsche Luftrat (German Air Advisory Board) since 1924. This organization worked through the Deutsche Luftfahrt-Verband (German Aviation Union), a private organization founded in 1902, to avoid the provisions of the Treaty of Versailles which banned public support of air sport. The German Aviation Union in 1929 headed 249 clubs, organized into 12 groups. Germany's international representation, particularly with the Federation Aeronautique Internationale, was undertaken by the Aero Club of Germany.

The success of the German Aviation Union was extraordinary, considering that it was granted ostensibly a yearly subsidy of only 250,000 RM, to be devoted to the purchase of gliders. Somewhere contributions were obtained to finance the expansion of membership from 19,300 in 1926 to 45,000 in 1929. The number of planes owned by local clubs increased from 18 in 1926 to 64 in 1929, and the number of gliders from 125 to 643 in the same period. The Union owned about 60 balloons, which probably represented an investment of 600,000 marks. Possibly the source subsidizing this growth was the secret funds of the Reichswehr.

The Union's analysis of the social origins of the 6,400 members it described as "youths" will show how deeply the air sport movement had taken roots in every social class: 25% were said to be from the lowest financial class; 27% from the lower middle class; 39% from the upper middle class, and 9% from the professional class. It is significant of the conservative nature of the Union that the Communists were forced into their own air sport club, the "Storm Bird".

Probably the most striking single feature of the sport movement was the mushroom growth of gliding and soaring. In 1920 about 50 enthusiasts gathered at the Wasserkuppe in the Rhön mountains to begin an annual contest that attracted tens of thousands by 1933. Newspapers offered prizes of from 3 to 5 thousand marks; villages banded together to send their champion to the Wasserkuppe; and several flourishing magazines publicized the exploits of the winners. A society, the Rhön-Rossiten Gesellschaft, was founded by private interests not related to the German Aviation Union to advance the theory of gliding and soaring. The Union maintained, in addition, training schools for gliders at Grunau, Schwarzenberg in Saxony, Doernberg, the Wasserkuppe, Rossiten, and Wangen. The Union's greatest contribution to the later history of aeronautics in Germany was probably this creation of air consciousness in the youth of Germany.

When the Nazis assumed power, the German Aviation Union and the Aero Club were in the process of a voluntary merger. Göring halted this combination. The Aero Club retained its identity, but all other flying clubs in Germany, including Göring's own National Socialist Flying Corps, were incorporated into a new organization, the German Air Sport Union. The Rhön Rossiten society was renamed, and made a state institution.

At the same time, aeronautics was introduced as a subject into the public school curriculum by a decree of the Minister of Education. The decree prescribed such educational devices as "aeronautics in modern languages", "aeronautics in physical education", and "aeronautics in history". The Hitler Youth leader and the Air Sport Union leader partitioned between them the spare time of German youth. "Recruits for the Luftwaffe", said the agreement, were to come only from the Hitler Youth, but they were to be chosen by the Air Sport Union. The 10 to 14-year olders would be tested as potential aeronautical material in the so-called "model plane building work associations". Those selected would spend their 14th to 18th birthdays in the air sport squadrons of the Hitler Youth, but be subject for their purely aeronautical education to the Air Sport Union.

The Hitler Youth in the flight squadron underwent this program from 14 to 18:

Time	Course	Agency
1 afternoon each week	World Outlook	Hitler Youth
1 afternoon each week	Workshop Service	Air Sport Union
2 Saturdays in the month	Physical Training	Hitler Youth
2 Saturdays in the month	Flight or Workshop Service	Air Sport Union
1 Sunday in the month	Small Arms and Terrain Sport	Hitler Youth
1 Sunday in the month	Flight Service	Air Sport Union

It is of this period that the Nazi publicist for air sport was thinking when he wrote in 1942 "everywhere animated activity set in, of which the public knew nothing. It did not lay in the interests of the Reich to publicize openly this air sport." On the November 9th after his 18th birthday, the Hitler Youth graduate would become a member of the Party, and on the Sunday after that a member of the Air Sport Union. By attaining his 18th birthday, the youth also became subject to the six months labor service

requirement, followed by his two years of military service in the Luftwaffe.

The replacement of the Air Sport Union by the National Socialist Flying Corps (usually abbreviated NSFK) in April 17, 1937 was a change of name rather than of function. The NSFK assumed the duties of supplying reinforcements for the Luftwaffe, and developing national air consciousness. The division of labor between the Hitler Youth and the Air Sport Union was carried on by the NSFK. The only difference was that the NSFK, unlike the Air Sport Union, was a recognized party organization, and could walk shoulder to shoulder with the SA and the SS in party parades.

The NSFK was divided into 16 groups, corresponding geographically with the districts ("Gaue") of the Hitler Youth and the Party. Each group was subdivided into regiments ("Standarten") and companies ("Stürme"). The terminology is that of the SS. By 1938 the situation was this: 150,000 11 to 13 year old boys have one afternoon a week and one Sunday a month to devote to model flying. Eighty thousand from 14 to 18 were in the air squadrons of the Hitler Youth, and 60,000 young men were members of the NSFK. The NSFK had the added feature of non-flying, but contributing members (the "Förderer" or sponsor), who numbered 230,000 in 1939, and were allowed to pay a mark a month. The Air Ministry, for example, suggested in 1938 that it would be well for its employees to join the NSFK.

With this sort of financial support, the NSFK in 1938 could boast 23 soaring schools, 5,000 gliders, 7 schools for motor flight, and 600 planes. Major General Christiansen, leader of the NSFK, had ordered 2,000 more planes of the type of the light Siebel "Hummel" for 1940, and was talking in terms of muscular flight. In a total of 125 summer camps, 7,500 Hitler Youth annually underwent flying training at the hands of the NSFK. The NSFK instructors themselves had been indoctrinated with the proper political ideology at the Berlin-Dalhelm school of the party's official political philosopher, Alfred Rosenberg. Christiansen could boast that "in close cooperation with the Main Education Office of the Party and the Führer's delegate for the entire spiritual and philosophical education, Rosenberg, the NSFK guarantees the systematic development of the youth in a uniform spiritual and character-moulding education".

Fees for training and instruction were, surprisingly enough, rather high. Christiansen in 1938 established five groups of fees for "everything included" rates for 22 flying lessons of one hour each, which reveal the military influence behind German air sport.

Group A: Members of the NSFK of less than 23 years, fully suitable for flying services, holders of the glider license second stage, who had not yet done any military duty. Cost: RM 200, each additional hour RM 12.

Group B: Similar regulations, but in place of the stage II glider certificate, a service period of at least two years with the NSFK or with the "Flieger-HJ" (Flying Hitler Youth). Cost: RM 400, each additional hour RM 21.
Group C: Members of the NSFK aged up to 35 years with at least two years' activity in the NSFK: the C glider flying certificate was desirable and the instruction had to be undergone in the interest of military service. Cost: RM 600, each additional hour RM 24.
Group D: Members and male sponsors of the NSFK of up to 40 years of age with a membership or sponsoring activity of at least 2 years. Cost: RM 800, each additional hour RM 36.
Group E: All other protagonists of the NSFK, including women. Cost: RM 1,000, each additional hour RM 42.

The whole German air sport movement can be judged on the basis of the failure or success of the NSFK in fulfilling its functions of creating suitable replacements for the Luftwaffe, and generating national interest in aeronautics. For, as Christiansen said, "As the Luftwaffe is the real heart of military aviation, the Lufthansa of commercial aviation, so is the NSFK the real meaning of the entire German air sport movement." The opinion of the expert seems to be that the NSFK failed the Luftwaffe. Asher Lee says:

In spite of Christiansen's best endeavors, the general opinion among the older hands of the Luftwaffe was that pre-training with the National Socialist Flying Corps did not make any real contribution to the breeding of a better race of German Air Force pilots. At the beginning of the training course, at the regular German Air Force flying training schools, the young Hitler embryo pilots held a certain slight advantage over the others in theoretical knowledge of aircraft, but more particularly in political prestige. As the young aspirant pilots reached the later stages of flying training, the effects of the National Socialist Flying Corps training were progressively thinner up to the time the average pilot received his wings. It seems that, on the whole, most very good pilots are born and not made, and that most average pilots have to fly in order to become pilots. A few hours of flying National Socialist gliders was worth little more than training on a bicycle would be for a professional racing motorist. On the whole the National Socialist Flying Corps remained full of budding promise but never blossomed.

(d) Government promotion of aircraft manufacturing and the reasons therefor, are presented in the following sub-study which for purposes of clarity is divided into three sections. Due to the important influence of the war years on the industry, they have been included in the study.

History.

Before 1933, Germany can be said to have had no aircraft industry. Her total output in 1931 was 13 planes, and in the following year it was only three times that number. The companies which constituted the air frame section of the National Union of German Aircraft Industry were Arado, Dornier, Erla, Fiesseler, Focke-Wulf, Heinkel, Junkers, Klemm Messerschmitt and Rohrbach. Their products were distinguished for technical excellence, but their plants and equipment were very small and their capital investment comparatively insignificant.

With Hitler's assumption of power, the creation of a sizeable air force became a primary goal. Goring began the expansion of the aircraft industry which was to build the Luftwaffe. He ordered the immediate increase in production of existing planes, and initiated the development of new military types. The purpose of the first action was to provide companies with manufacturing experience, and to have something to fly to impress the German people. The second action involved two basic steps: (1) design and development and (2) the expansion of the manufacturing capacity.

The design and development of high preformance military aircraft were undertaken by engineers in research institutions and in industry along lines laid down by the National Air Ministry. The Messerschmitt 109 and 110, the Junkers 52 and 87, and the Heinkel 111 are perhaps the most successful results of this research. These planes were combat-tested in the Spanish Civil Air.

The expansion of the industry was accompanied by (1) extension of existing aircraft plants, (2) by bringing concerns engaged in other industries into aircraft manufacturing by converting some of their plants, and (3) by constructing new plants. Some of the concerns from other industries which took on the manufacture of aircraft before the war were:

Company	Location	Engaged in Manufacture of
Allgemeine Transport-enlagen	Leipzig	Cranes, mining and transportation equipment
Blohm & Voss	Hamburg	Shipbuilding
Gothaer Waggonfabrik	Gotha	Railroad cars
Henschel Flugzeugwerke	Berlin	Locomotives
"Weser" Flugzeugbau	Bremen	Shipbuilding

Funds for the expansion were provided principally by the Air Ministry directly through the Bank der deutschen Luftfahrt incorporated in 1938 with a capital of 70 million RM, or through bank credits guaranteed by the Air Ministry. However, the company management, generally speaking, carried on operations with little interference from the government. "The arrangements were liberal enough so that by close cooperation between the government and the aircraft industry it was possible to repay loans quickly and thus to build up the ownership of expanded facilities."

The Air Ministry itself owned Junkers and Arado, and the Saxony State Bank controlled Arla. The Reichsbank voted 50 percent of the shares in the two aero-engine companies, Daimler-Benz and BMW. An estimate of 150 million RM in war loans from the Reichsbank alone to the aircraft industry is probably an understatement, in view of the 20 million RM given to only one relatively small aircraft accessory company. As for private industry, Allgemeine Elektrizitats Gesellschaft controlled Focke-Wulf, Mittel-Deutsche Stahl controlled ATG, and Krupp stood behind Weser. The aircraft, aircraft accessory, and aircraft engine industries were set up in the form of limited liability companies, rather than as corporations, to avoid the necessity of reporting on the volume and nature of output.

Until 1934, the prices paid to the aircraft industry immediately on receipt were "calculated" or estimated sums. Final prices were agreed upon annually after the auditing of the company's books, on the basis of the principle of assuring the industry 6 to 8 percent interest on capital invested. The industry's profits, therefore, did not depend on volume or quality of output, but only on the amount of capital originally invested. This principle was abandoned in 1934, apparently because it proved uneconomic to support marginal firms. Payment before the war was computed on the basis of an estimation of the total value of orders received after examination of the company's books. Prices determined in this way seemed to have guaranteed to the manufacturer his cost price of production plus 6 to 8 percent. The cost price figure included all expenses and all taxes, so that the 6 to 8 percent granted was net profit.

From the first, the keynote of the organization of the German aircraft industry was "rationalization". Competition was discarded as a matter of policy. Patents and designs were pooled. Only a few of the more competent groups were encouraged to carry on engineering development. Several companies were regarded as satellite or "shadow-plants" for concerns with a strong design organization, such as Junkers and Messerschmitt. Henschel entered the aircraft industry of its own accord in 1933 and made a substantial investment of its own funds. Henschel developed several new designs, but its principal contribution was the production of airplanes designed by other companies. By the "licensing"

device, new concerns could be equipped with machines and could acquire experience. Junkers, for example, gave licenses to Mitteldeutsche Motorenwerke and Pommersche Motorenwerke, and Daimler Benz licensed Henschel and Bussing NAG shortly before the war.

The outlines of the peace-time Nazi aircraft industry had been definitely fixed by the middle of 1936. Despite the increase in potential aircraft, production between 1936 and 1938 showed virtually no increase, with the annual output in the latter year at 5,235 planes. Historically, no important step-up in production was to occur until the second part of 1939. The growth of German aircraft production during the pre-war years is shown in the following table, taken from US Strategic Bombing Survey, Overall Report (European War). Washington, 1945, p. 11:

Year	Combat Types	All Other Types	Total
1931	0	13	13
1932	0	36	36
1933	0	368	368
1934	840	1,128	1,968
1935	1,823	1,360	3,183
1936	2,530	2,582	5,112
1937	2,651	2,955	5,606
1938	3,350	1,885	5,235
1939	4,733	3,562	8,295
Total	15,927	13,889	29,816

On the authority of a report prepared for Göring, the characteristics of the aircraft industry in 1936 can be summarized as:

Rapidity of Growth: In 1933, the net production of the aircraft industry was worth 37-1/2 million RM, or 0.2 percent of the total of German production. The automobile industry was seven times as large. In 1936, the aircraft industry ranked fourteenth among the 279 industries studied with a total net production of 527 million RM, or 1.6 percent of German industrial production. While the sum of German production had increased 190 percent, the production of the aircraft industry had increased 1500 percent. Employees of the aircraft industry numbered 124,878 in 1936, those of the automobile industry only 110,148.

Diversity in Size: In 1936, the aircraft industry comprised 74 geographically distinct factories, that is, 53 air frame factories, 16 engine factories, and 5 repair establishments. Eight factories paid out in salaries over 10 million RM each, or 41 percent of the total of salaries in the industry. Fifteen factories paid out over 33 percent of the total, 28 factories 23 percent, and the last 23 factories only 3 percent. Of the 8 largest factories, 5 produced airframes, and 3 produced aero engines. The production of these 5 air frame factories amounted to 39 percent of the whole, and that of the engine factories to 50 percent.

Employment: Two per cent of all German industrial workers were employed in the aircraft industry in 1936.

By 1936, the structure of the German aircraft industry had been planned in terms of its war-time potential. The relationship of the peace and war-time aircraft industries can be expressed in this manner:

The aircraft industry built by Germany in the years immediately preceding the war worked on a single-shift basis to supply military aviation. If undisturbed, Germany's peace-time plant capacity could have produced the peak war time quantities by the single device of introducing the three shift system.

German manufacturers by application of "series" or production line methods and by extensive production tooling, had reached a stage far more advanced than actually needed for 1938 or 1939 operations.

Germany fought the war with the peace-time products of the factories. The Me 109, Mello, Ju 87, and the He 111 were in substantial production before the war, and the Ju 88 and the FW 190 were beginning to come off the lines in 1939 and 1940. The He 177 and the Me 262, projected for 1944, never actually got into the volume production stage.

Government Planning

In his capacity as Air Minister, Göring appointed a Director of Aircraft Supplies, who was charged with the procurement of aircraft. Udet occupied this position until his death by suicide in 1941, and carried on direct negotiations with the industry as to production plans. When Milch took Udet's place in 1941, he set up an organization in the Air Ministry whose sole function it was to plan the aircraft program. The planning work on programs was carried on with the advice of the Main Committees for Airframes, Supplies, and Accessories. These committees were formed by Speer when he became Minister of Armaments and Munitions in 1942, and were outgrowths of the Industry Advisory Council formed by Udet in May 1941. The Main Committees were made up from industry, and represented a definite industry point of view. The function of these committees in the aircraft industry was to advise the Director of Aircraft Procurement and the Air Ministry on production matters.

In addition, there were Special Committees for most of the principal aircraft companies, with offices at the main office of the company, and Special Rings for each of the industries which supplied the aircraft industry. The Special Committees were especially important in the cases of the principal "complexes", Junkers, Messerschmitt, and Focke-Wulf. They funneled the requirements of the member firms of the "complex" as to materials, facilities, and workers. In 1943 the Main Committee for Airframes was made into the Main Committee for Aircraft and centralized the requirements and facilities of the entire industry. In 1944, the Air Ministry was formally dissolved and

its procurement facilities taken over by the Speer Ministry, working through and with the Committees.

The procedure for program planning, while it was still undertaken by the Air Ministry, was as follows: 1) the General Staff of the Air Forces originated the requirements for aircraft by type, approximate numbers and delivery schedules, 2) the Air Ministry received the request from the General Staff and the planning group in the Procurement Division undertook the preparation of studies aimed at the fulfillment of the requirements; 3) the planning group consulted the Main Committees for airframes, engines, and accessories, and the divisions of the Speer Ministry which had jurisdiction over materials, machine tools, and other matters which were basic to the proposed aircraft plan; 4) the planning group set its completed study to the German Staff of the Air Forces. Goring personally approved each official program, presumably after consultation with Hitler. After the Air Ministry was transferred to the Speer Ministry, the procedure remained substantially the same.

Comparison

A discussion of the relationships between the aircraft industry and the government would inevitably infringe on the story of military aviation, since the story of the aircraft industry is inseparable from that of the Luftwaffe. However, a comparison of the German and American war-time aircraft industry would stress the following differences:

The complete integration of all German aircraft, industry, experimental engineering, production and operation, under one central directing organization.

The complete regimentation of all German labor, and the retention in the industry of engineering, supervisory, and mechanical skills under a policy which made them ineligible for combat service until proved otherwise. The German policy, plus the use of slave labor, plus the rigid military control over migration of all labor, left to all German establishments stable seasoned staffs of managements, engineering, tooling, supervisory, and mechanical skills which permitted rapidity of evolution in experimental engineering and productive efficiency.

The lavish variety of German experimentation on all manner of highly speculative devices in a large number of highly specialized and elaborately equipped individual laboratories. This provided an integrated but highly diversified program of specialized experimentation, which, in combination with (1) and (2), gave to the German aircraft industry a rapidity of technical evolution, and a degree of flexibility and adaptability in rapidly changing tactical situations.

The marked emphasis on internal combustion turbines and jet and rocket propulsion, and on development and application of self directing ("robot") control devices, which in Germany at war's end were distinctly in advance of the United States developments in similar lines.

The elaborate underground laboratory and factory installations in Germany which, aside from their bomb-proof characteristics, greatly facilitated preservation of secrecy.

The much longer period of continuous German concentration on war production under compulsory government control which conditioned the individual German establishment to far greater dependence on centralized government planning, and made it far more amenable to government control than the individual United States establishment.

(e) Government promotion of aeronautical research is presented in the following sub-study. Changes due to the war are also included.

The Air Ministry, as set up in 1933, placed a Technical Office, headed by General Udet, at the apex of the research system. The difference between research and development was recognized by the creation of two different departments headed by the Technical Office, and thus responsible to one man, Udet, who was also the procurement officer.

The Development Department was broken down into 9 divisions, with complementing testing stations: air frames, motors, apparatus, and radio, all tested at Rechlin; weapons, tested at Tarnowitz; bombs, ground organization, torpedos, and long distance steering apparatus, tested at Udetfeldt; jets and guided missles tested at Peenemunde; fighter planes and tactics, tested at Diepensee. The leaders of the divisions were Air Force Officers, usually with the rank of colonel, and generally selected for their engineering background. Each division had a dual responsibility; development and production. It is estimated that perhaps 10 percent of the developmental work was actually done by the Air Force, and 90 percent by the research institutes of the large commercial firms. There were a large number of such institutes, since industrial research in Germany has always been well advanced. However, the research institutions frequently became service units because of their close association with aircraft manufacturers.

Aeronautical research, specifically, was the responbilility of the ex-Weimar official, Adolf Baumker. He apparently regarded the institute as the fundamental unit in research; by "institute" he meant a unit small enough to be administered effectively by leaders only one echelon removed from

the workers themselves. In practice, this meant about 300 scientists. The institute leader was required to know each member of his staff personally, and to be thoroughly conversant with the technical aspects of the work. The institute had to be almost autonomous in scientific research, even though a number of institutes might be grouped under the administrative or fiscal management of one establishment.

The director of an establishment coordinated the work of his institutes, provided heat, light, power, guards, and draft deferments, but did not attempt to direct their scientific activities. The institute leader received research projects directly from the Air Ministry, or originated projects himself. His reimbursement was determined by the Minister of Education, and was equal to that of a professor at the technical colleges. The group leaders at Luftfahrtforschunganstalt, Braunschweig, received an annual salary of 11,000 marks, which was equivalent to as many dollars in war-time Germany. The institute leader received somewhat more, and the staff workers somewhat less, but salary was not dependent on immediate performance. Most important, the institute leader reported directly to Bäumker, and was immune from other pressure.

The "fixed" plants: buildings and real estate - were owned by the government, and assigned to the establishment without cost. The "movables", apparatus, instruments and furniture - belonged to the establishment. The aeronautics Research Establishment at Braunschweig (LFA) had 70 buildings and 5 major wind tunnels. One firing range alone had cost 4 million marks. The Luftwaffe was equally lavish with its own testing stations: Peenumunde represented an investment of $120,000,000; the Otztal extension was planned to cost $60,000,000 to $75,000,000. Juridically the institutes were corporations under public law, and maintained their civilian character throughout the war. Operating expenses came from two sources, the Air Ministry and the industrial firms, who were charged for work done. All money received was accountable, and the Air Ministry would decrease its grants if in any period the money derived from industry was considerable. Bäumker adopted the policy of refusing to accept industry commissions since too many ad hoc tests prevented proper calibration of equipment.

Parallel to the research establishments, but without actual physical facilities, were the two honorary organizations - the German Academy of Aeronautical Research and the Lilienthal Society. Membership in the Academy was the result of election, and was a high distinction. The Academy is perhaps comparable to the National Academy of Sciences, though restricted to aeronautics. Göring was President, and Bäumker Managing Chancellor. The exchange of ideas between the science and industry was the task of the Lilienthal Society, also presided

over by Bäumker. The Central Office for Scientific Aeronautical Publications, which published and distributed all classified aeronautical research, was a part of the Lilenthal Society.

A change in the organizational structure of aeronautical research in 1941 occurred as the result of three events: the death of Udet, and his replacement in the Technical Office by Milch; Bäumker's illness and semi-retirement and the reorganization of the dormant national research institute, the "RFR". One of Milch's first acts was to detach the research function from the Technical Office, and to make it personally subordinate to him. Due to Bäumker's state of health, it was necessary to substitute for him a four man Aeronautical Research Direction, the "Forschungsfuhrung der Luftfahrt".

The position of the RFR in aeronautical research needs special clarification. Its theoretical assignment was to govern the research work of the technical schools and colleges, but it had been inactive during the early years of the war. In July 1943, Göring revived its powers and placed Ozenberg in charge. The latter made vigorous efforts to build a powerful agency to coordinate research in all its phases, to protect scientists from the draft, and to accelerate the release of those already in the services. His relationship to aeronautical research was therefore twofold: 1) as a source of material and personnel, 2) as the director of all university and technical college research work.

Ozenberg's final plan was never carried out, but is presented here as an example of German thinking on the organization of research in the last desperate phases of the war. In October 1944, he succeeded in getting Göring and Hitler to sign an order creating a Military Research Association, an over-all body to include the Army, Navy, Air Force, and the universities and technical colleges. The order creating the Military Research Association assigned to it these tasks:

> The control and intensification of all research dictated by war developments.
>
> Examining basic research results to determine what development work would be most fruitful.
>
> Securing the necessary research staff and materials to produce the results required.

The RFR was subdivided into fifteen branch directories, and twenty plenipotentiaries. The branch directors were representatives of each of the important fields of science, engineering, and industry. The plenipotentiaries represented sub-classes of those fields of industrial production or of research of special importance in war. For example, there were branch chiefs for physics, iron and steel, and organic chemistry, and plenipotentiaries for explosive physics, plastics, jet propulsion, and remote steering research. The

More promising, he states, was the practice gradually evolved of joining research institutions and industry into joint permanent conferences on broad problems. For example, the Aerodynamics Committee, composed of leading experts of research and industry, established the priority for problems involving the use of wind tunnels. The acceleration of the power increase of the Argus-Schmidt jet pipe for "V-1" was a problem for which industry voluntarily called in the research institutes. New developments like the Me 163, the Natter, the Enzian, and the Wasserfall were the result of industry-research cooperation.

(f) The following sub-study summarizes the extent of government promotion of aeronautical education and evaluates the results.

There were in pre-war Germany for aeronautical engineering, as for all other branches of engineering, two alternative courses of study: 1) entry to an engineering school after technical continuation school (or from a secondary school with a first or second-rate certificate) after two years' workshop experience; 2) entry to a technical college after graduation from a technical school and one year's workshop experience. The first course gave a certificate in aeronautical engineering, the second course a diploma.

The Air Ministry and the Aircraft Industry Economic Group promoted aeronautical engineering education by means of grants in aid for living expenses, tuition, and examination fees, and even full-time scholarships. It is estimated that 30 percent of all aeronautical students received financial aid from the Government. These aids were not restricted to the aeronautical engineer; they were available in all branches of engineering.

Theoretically, the courses had different aims. The certificate course was designed to produce the practical engineer, sufficiently grounded in theory for general engineering duties, perhaps best qualified for design and production work. The "diploma engineer" was the highly trained scientific engineer, able to direct technical development, to engage in research, and to discern fundamental laws. In practice, the certificate engineer often stepped over the lines set up by this demarcation, but government agencies and the military held fast to the distinction until 1938.

The period of time given to these courses was the same as for other branches of engineering; five half-yearly terms for the certificate course, and seven half-yearly terms for the diploma course. At the schools of engineering, certificate examinations were held at the conclusion of the school term; at the technical colleges, the graduate examination could not be taken before seven full terms were completed.

At the technical colleges the course of studies for the "junior division" (the first three or four terms) did not differ materially from that in mechanical engineering. The senior division, entered after successful completion of an over-all examination, was divided into the three departments: airframe construction, aero-engine construction, and aircraft operation (that is, equipment, armament, and maintenance). Airframe construction included the aerodynamics of design, testing, research, strength of structures, unit construction, and materials; aero-engine study embraced the design and construction of aero-engines, materials, altitude performance, fuels and storage, and propeller problems; the aircraft operation course included radio engineering for communication and navigation and control in flight.

Not all engineering schools or colleges could offer these special courses. The National Ministry of Science and education, as the responsible authority in matters of education, had set up courses in "light construction" (aircraft construction) at the following engineering schools: Berlin-Beuth, Bremen, Essen, Esslingen, Hamburg, Constance, Magdeburg, Stettin, Wismar, and at the seven-term State Technical Academy of Chemnitz. The Air Ministry maintained a school of aeronautical engineering at Thorn, which trained suitable candidates from industry, without cost.

The technical colleges were of two types: The "Lehrzentren" (Instructional centers) giving instruction in all three specialized sections, and the "Lehrstätten" (Instructional Establishments), instructing only in general aircraft construction. In the first category were the colleges at Berlin, Brunswick, and Munich; in the second, Aachen, Darmstadt, Stuttgart, Vienna, and Danzig (after 1938 and 1939). After 1939, it was also possible to acquire the degree of Doctor of Physics from the Chair of Applied Mechanics of the University of Göttingen.

The certificate engineer had to show two years' practical workshop experience before starting his studies. These two years were made up of one year's general engineering practice, and one year's special experience. Graduate engineers had to complete at least six months' general workshop experience before starting the course.

However, the aeronautical engineer was the special concern of a central directing body: the Engineering Recruiting Section of the German Aeronautical Research Institute of Berlin-Adlershof. This office supervised and assisted engineering students, starting with the preliminary workshop training until their transfer into professional employment. The department allotted the workshop posts for the second section of the

practical training, the course in the manufacturing plants, in collaboration with the Reich student organization. It allocated funds for the promotion of aeronautical studies, and directed the activities of the student flying groups and study groups.

Admission to the higher technical grades of the government service was conditional upon passing a state examination. The examination gave the title of "Flugbaumeister" (Aircraft Constructor) and was preceded by three years' probation as an Assistant Aircraft Constructor. Training and examination were subdivided into the following sections: airframe construction, aero-engine construction, aircraft armament, aircraft equipment, operational administration. The probationary constructor could select one of these sections, but was required to study armaments and aero-engine construction. Flight training was taken in addition to professional instruction. At least one year of practical work in the aircraft industry was insisted upon, plus two years of training in the testing establishments of the Luftwaffe or in the Research Institutes.

The Air Force itself was active in the education of its officers and enlisted personnel. Four air-war colleges, situated at Gatow, Dresden, Furstenfeldbruck and Werden, were training 800 active officers annually by 1938. The technical schools at Adlershof, Juterbog, Halle, and Gottingen produced about 7,000 specialists in that year. In cooperation with industry, a four year course in metal aircraft working and aero-engine mechanics was provided at the larger factories. On completing their training, the pupils were required to begin a long-term enlistment with the Luftwaffe. The practical training was divided into two sections: two years in the training workshops, followed by two years in the assembly and repair shops. At the same time, the apprentice was required to attend the training schools of the factories, and devote two hours a week of his time to glider construction.

In 1938, Dr. Otto Fuchs, the official charged with the government survey of aeronautical engineering education, reported on the results of his study. His prime conclusion was that German aeronautics suffered from a lack not so much of aeronautical engineers as from the general dearth of engineers of all categories. The decline in the amount of general technical education particularly affected aviation, because German aviation was built on the mechanical rather than the aeronautical engineer.

At the date of his report, there were in Germany 220,000 graduates of the mechanical branches of engineering, of whom one-tenth (22,000) were engaged in aeronautics. A yearly increment of 500 graduate engineers and 2500 certificate engineers could be expected. Of that total, even a peace time aviation would need 1,400 engineers as replacements. If the 1 to 10 ration were maintained, only 50 graduate engineers and 250 certificate graduates would turn to

aviation; if special circumstances diverted a larger number to aviation, other industries would feel the want. A cursory examination of the "help wanted" advertisements in war time issues of magazines like the Zeitschrift des Vereines Deutscher Ingenieure will reveal the truth of this prediction.

Others of his observations on the state of German aeronautical engineering merit repetition here. Dr. Fuchs' position gave him definite information, and the occasion of his lecture assures the objectivity of his judgments:

The workshop training of the future graduate engineer was seldom forwarded by industry, which concentrated on its own apprentices.

In general, the graduate engineer was less competent that the certificate engineer. "Industry complains about the long period of time necessary to work him into the factory . . ., research complains about his deficient physical and mathematical knowledge". Proof of this incompetency was the number who failed the Flugbaumeister examination, even after a three year probationary period.

The university teacher was overworked, and sometimes incompetent. Of the 19 institutions giving aeronautical engineering courses, some had two or three instructors and a few only one. The average teaching load throughout the universities was 20 to 24 hours a week. Of 21 instructors queried, 15 had acquired their special aeronautical knowledge in a one year course given in 1934/1935.

The cost of an engineering education, plus the lack of social prestige as compared with the officer of the Army or Air Force, caused fathers to influence their sons to turn their attention away from engineering. An officer with the rank of captain had received an income of 32,000 RM by his 29th birthday; his graduate engineer counterpart had cost the family 2,500 RM at the same age, and was just beginning in his profession. The social inferiority of the graduate engineer was evidenced by the special formation of an Engineer Corps in the Luftwaffe, which set the engineer socially distinct from the officer.

(g) Lufthansa trained its own pilots at the German Traffic Pilots School, subsized by the Air Ministry on a non-profit basis. Lufthansa formulated educational policy, and provided the teaching staff, while the Air Ministry supplied the equipment. Most of the trainees were Lufthansa employees, although some foreigners were admitted as a propaganda measure.

(h) The only reliable statistical information on German exports and imports of aeronautical equipment predates September 1931. After that date statistics concerning the exports and imports of aircraft and automobiles, were combined with aircraft and automotive parts.

For the exporter of aircraft or aircraft equipment to Nazi Germany, the market was to all intents a military and governmental one. There were no private companies with real independence of action. Germany bought aircraft equipment, particularly British engines, and was eager for manufacturing licenses. The Hamilton propellor, for example, was licensed for German manufacture. The whole procedure required preliminary approval by the Air Ministry, if difficulties in payment in foreign exchange or transfer of license fees were to be avoided. Germany's own exports were included in the Hjalmar Schacht manipulation of "blocked marks" and barter agreements. The market therefore was primarily in the German satellite countries, Turkey, Russia, and South America, and the method of salesmanship was diplomatic pressure.

(i) The German airport system assumed its first structural organization in the period of free competition before the formation of Deutsche Lufthansa. Before 1926, states, cities and smaller political units created "regional associations" first to build airports, and then, (with the bait of local subsidy), to induce airlines to use their facilities. For example, the largest airport, that at Berlin-Adlershof, was owned in 1928 jointly by the City of Berlin, the State of Prussia, and the Reich. The Reich was financially interested in 15 airports; approximately 70 other commercial airports were creatures of the local governments. In 1936 the Reich assumed full title and control of the airports used in regular air transportation through the device of a National Union of German Airports.

The purpose of this organization was, according to paragraph III of its constitution, the promotion of the common interest and prosperity of German airports. The Union took the orders of the Airport Department of the Air Ministry bargained with Deutsche Lufthansa, apportioned lump sum profits to its members, and issued unofficial directives and advice. Its main purpose was the establishment of uniform airport fees, in the form of the "General Conditions for the Rent of Airport Facilities". Lufthansa went through the formality of paying the Union the fees which its financial reports show were annually returned to it by the Reich.

Visitors to pre-war Germany commented on the disproportion between the elaborateness of airport facilities and buildings, and the paucity of actual air traffic. Obviously part of the intention was to create visible symbols of German air power, and for this reason many party gatherings were held in the local airport. Local pride perhaps explained much of the German airport system, but we have the word of Heinz Bongartz, Lufthansa's public relations director, that "certain it is that every airport installation will, in case of war, be of use to military aircraft".

(j) Administration of the exclusive control of aerial navigation granted to the nation by the act of December 15,1933 was delegated to the local Air Boards and their field stations at the airports. The Air Ministry insured the competency of air navigation personnel by training candidates at the navigation school in Wildpark near Potsdam. Employment was on a civil service basis.

There was some effort made to distinguish between the facilities provided by the government as part of its civil airways system and those furnished by Deutsche Lufhansa. Lufthansa operated its own message service and the short wave radio stations on its international routes. Since the government operated the long wave ground installations, any message to or from aircraft had to clear through government facilities. The ground station also furnished direction finding service in close cooperation with similar stations at other airports through a system of direct telephone connections. Because there was little night flying, and the actual volume of traffic was small, Germany's air navigation system, while adequate, was never particularly promoted.

3. (a) Prewar German government policy with regard to ownership of air carriers is discussed in the following sub-study:

1919 - 1926

The first peacetime German airline began operations in 1918, but was actually incorporated as early as 1917, significantly under the auspices of the National Transport Ministry and the Reichsbank. Official encouragement was immediate, largely because of: (1) the classic German economic philosophy of state participation in public transportation, (2) the clamor of a greatly expanded war-time aircraft industry for a domestic market, (3) the political particularism of the various German cities, communities, and states, and (4) the presence at hand of large numbers of war-trained personnel eager to return to aviation.

The first national subsidy was given in 1920. The flow of subsidies from the nation and the smaller units was so great that in 1921 there were 42 airlines, all competing for subsidies. In 1922 the German-Russian Air Transport Association ("Deruluft") was formed as

a joint German-Russian enterprise. By 1925 two interest groups -- Deutsche Aero-Lloyd and the Junkers Luftwerkehrs-Gesellschaft -- had assimilated all others. These two organizations had built up a structure of 23 local associations -- the so-called "regional" air transport companies -- to tap the local subsidy-givers.

The largest shareholder in Deutsche Aero-Lloyd was the Reichsbank; Junkers represented the aircraft industry and other private investors. Aero-Lloyd had affiliated itself with the International Air Transport Association (IATA); Junkers worked out "union" agreements with the airlines of other countries, pooling planes, research and facilities. The "union" agreement principle, if properly implemented, would have meant an extra-national enterprise conducted by one private company in agreement with foreign companies, without state control.

Pressure from the National Ministry of Transport was exercised in favor of a merger of all airlines. Junkers refused, but Brandenburg and Fish of the government capitalized on Junkers' financial difficulties to force through this merger in 1926. The Deutsche Lufthansa was the result of the combination of Aero-Lloyd and Junkers. The stock in the new company supposedly assigned to Junkers was actually retained by the Reich.

The financial organization of the Deutsche Lufthansa at its founding was:

Nation	6,500,000 RM	26 %
States	4,750,000 RM	19 %
Cities	6,875,000 RM	27.5 %
Junkers and Aero-Lloyd	6,875,000 RM	27.5 %
	25,000,000 RM	100 %

The Deutsche Lufthansa assumed the international and important internal routes of its predecessors. In theory the Deutsche Lufthansa did not constitute a monopoly, but in practice the Reich expressly withheld the granting of national subsidies to any other lines. The Deruluft line could be left undisturbed because all its German capital was held by the Deutsche Lufthansa. Throughout the Nazi regime, the Deutsche Lufthansa retained the forms of private economic enterprise, but was a state subsidized complete monopoly in all essentials.

1926 - There is considerable unanimity on the larger goals of the Deutsche Lufthansa. German publicists present them as:

"Creation of quicker and more frequent air connections between all important economic and cultural German cities under consideration of their utility in the German folk economy, in which the most important depots shall also receive a night traffic for post and freight.

"Extension of the inner-European German air transportation net to all important centers of Europe, placing particular weight on a service as frequent as possible.

"Building of the planned long-range airways to the U.S.A., South America, and the Far East."

The story of Lufthansa's own growth and the development of its subsidiaries will illustrate how fully it realized these aims.

In 1926 Deutsche Lufthansa accumulated a total of 3,710,614 plane-miles. It operated nine foreign routes in cooperation with foreign airlines and had opened night services from Berlin to Koenigsberg and to Paris. A survey flight with two Junkers G-24's was made to China by way of Siberia. This expedition laid the groundwork for the Eurasia Aviation Corporation, which was founded in 1930 under Chinese-German auspices, the Chinese Ministry of Communications holding two-thirds of the stock. A Dornier "Wal" Flying Boat was dispatched to Brazil to survey the possibilities of a South Atlantic route.

1927 - Trial flights were made over the Alps. The newly established lines, Geneva-Marseilles and Berlin-Oslo, pointed the way for later important lines. Condor, a Lufthansa subsidiary in South America, received the concession for service on the Rio de Janeiro-Porto Alegre coastal route, paving the way for the subsequent German penetration of Brazil.

1928 - A regular service was established between Berlin and Madrid. Routes from Berlin to Zurich, Vienna and Leningrad, as well as from Munich to Milan, were put into operation.

1929. In spite of a 50 per cent reduction in subsidy, the company kept expanding. In July, a seaplane catapulted from the deck of the Bremen en route to New York initiated a regular ship-to-shore mail service. A similar catapulting took place off Cherbourg on the return trip, the plane carrying the mail on ahead to Bremerhaven.

1930 The dirigible Graf Zeppelin flew to South America to lay the groundwork for a regular South Atlantic route. Air-mail services were increased and additional long-distance routes were planned. An expedition was sent to Baghdad, and catapult ship-to-shore flights were extended.

1931-32. A scheduled passenger service was opened over the Alps from Munich to Venice. There was a 15 per cent reduction in traffic in 1932 as a result of the world economic crisis, but the number of special flights increased.

1933. The character of the company was fundamentally altered as a result of the seizure of control in Germany by the Nazis. From a conventional airline, founded and subsidized with the usual economic and political objectives, it changed into a direct instrument of military power. The newly-created Air Ministry assumed jurisdiction over Lufthansa. Without relinquishing his business connections, Erhard Milch, executive director of the company, became Secretary of Civil Aviation under Hermann Göring in the new Ministry.

1934. Considerable equipment was added, notably Diesel-powered aircraft. The last independent internal air transport company expired and Lufthansa became practically a monopoly. On February 3, 1934, Lufthansa began scheduled air-mail flights across the South Atlantic to South America. A specially-converted steamship, the Westfalen, served as a floating airbase. Dornier Wal flying boats operated from Bathurst to Natal, refueling from the Westfalen in midocean. The aircraft was then catapulted from the ship, in order to attain take-off with the maximum load.

1935. The number of international routes was increased to eleven; trans-Atlantic airmail service to South America was accelerated, and Condor extended its route to Santiago. The German Zeppelin-Reederei was formed to operate the Graf Zeppelin on regular trips across the South Atlantic from Frankfurt to Recife (Pernambuco) to Rio de Janeiro. Before 1935, French and German interests in South America had conflicted. In May of that year Air France and Lufthansa agreed to technical cooperation and a division of schedules. This collaboration increased, and in July 1937 a new agreement provided for the pooling of receipts on the South America routes, and for technical cooperation on the projected services in the North Atlantic and to the Far East. One of the objects of these agreements was, apparently, to counteract the growth of the Pan American system in South America.

1936. Trial flights to New York were begun in 1936 with two-motored Dornier flying boats. Routes varied, but most of the flights were made by way of Lisbon and the Azores.

1937. A great expansion of Lufthansa routes took place in 1937. New routes were operated from Copenhagen to Oslo, London to Vienna, Berlin to Paris, Berlin to Stockholm, Berlin to Baghdad, and Buenos Aires to Santiago. Early in 1937 the Deruluft services were suspended, and the company was liquidated shortly thereafter. However, Lufthansa soon reopened the Baltic routes formerly operated by Deruluft. On the South Atlantic route the Graf Zeppelin was replaced by long-range planes such as the Do 26. The airbase vessels Westfalen and Ostmark were stationed on this route. The Schwabenland in the North Atlantic was joined by the new motor-vessel Friesenland to refuel and catapult four-motored Blohm and Voss flying boats on test flights to New York.

Condor, the large German subsidiary in Brazil, extended its operations, connecting with other pro-Axis airlines in South America. Sedta, a new subsidiary in Ecuador, began active operation. Independent companies also were aided, and planes were made available on generous financial terms. However, when Aeroposta Argentina, a bonafide independent airline, took advantage of this generosity, it had to agree to repair its planes in Condor's shops, to purchase only German parts and accessories, to buy only German aircraft for a period of five years, and to coordinate its schedules with those of Condor and Lufthansa. Other companies, like Varig, in which Condor had a large interest, and subsequently Vasp, masqueraded as national airlines. They employed largely German or Brazilian-German personnel, were controlled by German company officials, and received their equipment from Deutsche Lufthansa. The Latin American states were aware of the subterfuges but were loathe to interfere with companies which provided transport into regions hitherto almost inaccessible.

1938. Lufthansa expanded its eastern operations into Afghanistan by extending its Baghdad line to Kabul. In the west, Deutsche Lufthansa-Peru went into active operation. A transcontinental route was established from Rio de Janeiro to Lima, with the collaboration of Lloyd Aereo Boliviano, a Junkers company. In late 1938, the route mileage of Lufthansa, exclusive of subsidiaries, was 32,720.

1939. On January 1, 1939, the Austrian airline, Oesterreichische Luftverkehr A. G., was taken over, completing the Lufthansa monopoly in the expanded Third Reich. In addition, the airlines in the so-called Protectorate of Bohemia and Moravia were absorbed by the German air transport system. During the year Lufthansa acquired Condor's parellel route to Santiago. Trial and publicity flights across the North Atlantic were still continued, but Lufthansa never received the necessary permission to establish regular service. The flying-boat mail service to South America was maintained successfully up to this time.

The War. With the outbreak of War, Lufthansa was nationalized and all commercial operations ceased. Later in the year a number of services were renewed, all on international routes. With rare exceptions, domestic operations were not resumed. New lines were opened to Moscow in 1940, and to Rovaniemi, Finland, in 1942. The number of routes steadily decreased, however, as many of them did not serve military purposes. The Moscow route operated until Germany's attack on Russia in the summer of 1941. By an "agreement" early in 1943, all accessible equipment and facilities of Air France were transferred to Lufthansa, as were also some of the French flight and ground personnel. In effect, Air France was taken over by the German company.

In the year before Hitler's advent to power, Bley, the official apologist for Lufthansa, asserted that three great groups contending for world power - the British Empire, the United States and European Continent - came into conflict in air transport as in other fields. The only solution possible was a Pan-European combination of air transport companies under German direction. By 1940 the geopolitical emphasis was even more pronounced. Bley stated: "Owing to the German air victories in East and West, air power is becoming a geopolitical factor. Its tremendous speed and radius of action make possible thinking in terms of continents; it is the means of traversing, covering and controlling great areas (Grossraume) from one point. And since the New Order of Europe is already definitely indicated as the next historical reality, air power can be considered in a double sense as the true bearer of this geopolitical event; firstly, because it has prepared the victory, and secondly, because it is the only means of mastering and controlling this area."

South America

Sindicato Condor, Ltda. was founded at Rio de Janeiro on December 1, 1927. It was the successor of a line known as Kondor Sindikat which had been operating between Porto Alegre and Rio de Janeiro since February 1927. The principal sponsors of the new line were Dr. Peter von Bauer and Captain Fritz Hammer, officials of the German-Colombian airline, Scadta. After failing to attract American capital to the line, Condor secured German financial aid, partly from Lufthansa through Aero-Lloyd, partly from Schlubach, Thiemer & Company of Hamburg, and partly from the Hamburg-American Line. Additional capital was furnished by South and Central American interests.

Condor was soon laying the foundation for a trans-Atlantic air service in cooperation with Deutsche Lufthansa. To advance this plan, the company began a weekly service between Rio de Janeiro and Natal in February 1930. This was later extended to Fernando de Noronha, where mail for Europe was handed over to a Hamburg-American ship which subsequently transferred it at the Canaries to a Lufthansa plane bound for the continent.

In May 1930 the arrival of the Graf Zeppelin at Rio paved the way for a contract with the Brazilian government in March 1934, calling for a minimum of 20 trips a year. Condor became general representative in South America for the Deutsche Zeppelin-Reederei, working closely with it until 1937, when the Hindenburg disaster compelled cessation of operations. Condor also cooperated in the establishment of transoceanic mail service with catapult planes. This replaced the mail-carrying services of the dirigible.

In 1932 Condor extended its route to Uruguay and to Buenos Aires. Lufthansa also extended its routes from Natal to Rio de Janeiro and Buenos Aires. In October 1935, through the efforts of Captain Hammer, Condor received a four-year concession for a route to Santiago, Chile. In 1939, this contract was extended to 1942, but this time it was granted to Lufthansa, an indication of the interchangeability of Lufthansa and Condor activities.

In common with all the German-dominated lines, Condor had little difficulty in securing excellent equipment and personnel, all of whom were German or "German nationals". Condor's managing director, Ernesto Holck, was a German; its 18 pilots included 16 Germans or naturalized Germans; and its planes were serviced by 13 German mechanics.

Condor acted as the feeder for planes and personnel for all other Axis-affiliated airlines in South America. Despite the formality of Brazilian registry, Condor

was a part of Deutsche Lufthansa, whose economic, political, and military purposes it served. From a small beginning, Condor grew until it operated over 10,000 route miles, possessed one of the largest and most modern air fleets on the continent, and had the resources to undercut the tariffs of all its principal rivals.

On Christmas Day, 1941, Condor was forced to cease operations because of lack of gasoline, its supply having been cut off as a result of pressure by the American and Brazilian governments. The company was then purged of some, but not all, of its pro-Axis elements. As a result, it was continued on the Proclaimed List. Late in August 1942, its managing director and traffic manager were arrested, and the other German employees were dismissed. With the cooperation of the Defense Corporation, the company was turned over to native Brazilians and the name changed to Services Aere os Cruzeiro do Sul, Ltda. On November 22, 1942, it was removed from the Proclaimed list.

Sedta (Sociedad Ecuadoriana de Transportes Aercos) was founded in 1937 by a group of Ecuadorians and Germans, headed by Captain Fritz W. Hammer. The contract with the Ecuadorian government provided for the operation of a route between Guayaquil and Quito. Hammer was killed in an accident in 1938, and replaced by Gusteve A. Wachsmuth, who had been a pilot for Condor for ten years. Ecuador granted to Wachsmuth and Koosmeyer, head of Lufthansa in South America, an extension in Ecuador of the Rio to Lima service. In 1940, the company sought permission to operate to the Galapagos Islands, and proposed a line to Bogota to connect with the Sedta system. These requests were refused, although a line from Guayaquil to Loja was approved.

Lufthansa did not absorb Sedta directly, but complete control was assured by an equipment agreement and a monthly subsidy of $2,100. The company was capitalized nominally at $12,000. Passenger revenues were far below the established rates because of Sedta's custom of liberal discounts and distribution of free passes.

In 1939 about half the passengers paid no fare. Sedta's personnel was almost without exception German. The line's turbulent history ended in September 1941, when the Ecuadorian government expropriated the company and seized its two Ju 52's.

Lufthansa-Peru was founded in May 1938, as a German subsidiary, but was registered as a Peruvian company. Until some expansion took place in 1940, its only route was Lima-Arequipa-La Paz, with occasional stops at Tacna and Puno. Its importance was more strategic

than economic, as it formed the western link of the transcontinental penetration by the Axis. At the height of its activity, it operated about 1,200 miles of route with its two Ju 52's. In 1940 it carried 1,100 passengers and 3,400 pounds of express.

After World War II began, it had considerable difficulty in obtaining supplies and capital. Repeated German violations of Peruvian neutrality culminated in the scuttling of two ships in an attempt to block Callao Harbor. This resulted in the expropriation of the company and the internment of its personnel on April 1, 1941.

Within Germany

Within Germany Hansa Flugdienst was organized April 30, 1938, with a capital of 50,000 RM (Lufthansa, 45,000 RM; Hansa Luftbild, 5,000 RM). The company was established to take over the charter services and special flights operated in Europe by Lufthansa. The chief activities of Hansa Luftbild consisted of making aerial surveys and conducting special and scenic flights.

Deutsche Zeppelin-Reederei was formed March 22, 1935. Its capital stock of 9,559,000 RM was owned by Luftschiffbau Zeppelin and Deutsche Lufthansa. The line operated fortnightly services between Frankfurt, Pernambuco, and Rio de Janeiro in the summer, and had plans for increasing this to a weekly schedule in 1936. However, the destruction of the new dirigible, Hindenburg, forced a suspension of company activities.

In Europe

Outside of Germany the Lufthansa's European plan was subordinated to its South American traffic. Services Aereos Portugueses in Lisbon operated no air services of its own, but managed the Portuguese end of the Berlin-Stuttgart-Geneva-Marseilles Salamanca Lisbon line of Deutsche Lufthansa. The plan was apparently to make it possible for Deutsche Lufthansa to use Portuguese airfields for flights to the Azores and Cape Verde Islands.

Franco's Spain, in 1938, agreed to the formation of an Hispano-German company, the Iberia Compania de Lineas Aereas, to operate airlines internally and between Spain, Morocco, and the Canary Islands. The German interest in this company was sold on August 7, 1943, to the state owned Institute Nacional de Industria. Lufthansa monoply of Spanish internal traffic was justified by the necessity of flying over Spanish territory when operating routes to South America.

The situation in two other countries, Greece and Iceland, is still unclear. The Icelandic Aviation Company (Flugfjelag Islands H/F) had originally been founded by Finnish interests, to provide local service within Iceland. Deutsche Lufthansa provided the aircraft and personnel. In addition to transportation, the planes were used to search for shoals of herring for the Icelandic fisheries. As a reward, Lufthansa received a note from the Premier of Iceland, which, according to the German interpretation, contained a promise to Lufthansa of flying rights equal to those granted any other nation until April 1, 1940. The American occupation of Iceland in 1941 prevented the completion of any arrangement. For Greece, we have only Wronsky's statement that Lufthansa owned 51 per cent of the stock of the Greek Aerial Communications Company (Societe Hellenique des Communications Aeriennes).

Far East

In the Far East, Deutsche Lufthansa's weapon was the Eurasia Company, formed in February 1930. Two-thirds of the capital was advanced by the Chinese Transportation Ministry, one-third by Deutsche Lufthansa. Actually, however, half of the Chinese capital had been borrowed from Deutsche Lufthansa at seven per cent interest. Eurasia flew the routes Shanghai-Lantschau, Peiping-Canton, Lantschau-Factau, Sian-Kunming. Equipment and personnel were almost entirely German. In 1939 seven flights to Kabul and a few test flights from Germany to Baghdad were carried out. The route Germany-Kabul-Afghanistan was later covered once a week as part of a projected link with the Far East.

(b) (See A. 2(d).)

(c) No competition existed since Lufthansa was a monopoly.

(d) By arrangements made under the auspices of the International Air Traffic Association, Air France was permitted to use the ports at Berlin, Hamburg, Cologne, and Nuremburg; Imperial Airways used the Cologne Aerodrome; the Dutch KLM line used the ports of Hamburg, Berlin, and Frankfurt am Main; the Polish line "Lot" the Berlin-Templehof airport; and the Belgian Sabena line, the ports at Berlin, Hamburg, and Cologne. Deutsche Lufthansa undertook the representation of those lines in Germany, and was accorded the same privileges in the countries represented by these national airlines.

(e) See A 2(a&b)

(f) On December 29, 1939, the Deutsche Lufthansa had a total of 145 air transports. The Blohm and Voss 222 and 228 flying boats and the Junkers 290 were war time developments. None of these types saw extensive commercial service, as during the war production was concentrated on the more critical military models. The backbone of the Lufthansa fleet remained the Junkers 52, which was first developed in 1926. In 1935, C. G. Gray, the English student of aeronautics, called the Ju 52 the best transport plane in the world, and France and Britain today are still using this model to some extent on internal lines.

The cost of operation of German air transportation demonstrably increased as a result of technical development. Over the period 1919 to 1940, Deutsche Lufthansa used the following carriers in civil air transportation:

Model	Speed (km per hr.)	Useful Load	Transport Utility (Ton km per hr.)
F 13	185	0.345	65
K 20	170	0.96	163
Ju 86	260	1.05	273
He 111	270	1.07	288
Ju 52	230	1.50	345
FW 200	315	2.50	787
Ju 90	290	3.80	1.100

A direct comparison of planes having approximately the same useful load capacity and flying over the same categories of routes gave this result:

Period	Model	Operation Cost
1932-34	K 20	100
1935-38	Ju 86	93.2
1936-38	He 111	83.8

(g) Lufthansa's fleet in peace-time was entirely German, since part of its overall mission was to demonstrate the worth of German industry. During the war, some DC-2's and DC-3's were seized from the Dutch and Belgians. By contract with neutral Switzerland, the Lufthansa DC-2's and DC-3's were kept abreast of the latest Curtiss and Douglas factory changes throughout the war.

(b) For Lufthansa and the International Air Transport Association and Lufthansa's operations of foreign airlines, see A. 3 (a). Germany regulated its air traffic and commercial relations with other countries through separate treaties. These so-called Air Traffic Conventions were all practically identical, and generally followed the C.I.N.A. Convention. Although Germany, like the United States, was never a party to that convention, these separate treaties were often described as preliminary, and were provided with cancellation clauses.

Such separate treaties were concluded by Germany with Switzerland (September 14, 1920), Denmark (April 25, 1922), The Netherlands (July 24, 1922), Norway (January 23, 1925), Austria (May 19, 1935), Sweden (May 29, 1925), France (May 22, 1926), Belgium (May 29, 1926), Czechoslovakia (January 22, 1927), Italy (May 20, 1927), Great Britain (June 29, 1927), Spain (December 9, 1927), Poland (August 28, 1929), United States (May 31, 1932), Hungary (January 13, 1933), Yugoslavia (September 3, 1936), Greece (November 9, 1936), Portugal (March 11, 1937), and the Union of South Africa (March 17, 1937).

Of the various international conventions signed by Germany, the Warsaw Convention of October 12, 1929 is the most important. On January 12, 1937, the Second Convention of May 29, 1935 (The Rome Convention) regarding the Unification of Rules Relating to the Precautionary Attachment of Aircraft came into force, together with the Act regarding the Inadmissibility of the Precautionary Attachment of Aircraft. The other Rome Convention, relating to Damages caused by Aircraft to Third Parties on the Surface, was not ratified by Germany. The International Sanitary Convention for Aerial Navigation signed April 12, 1933 was in force in Germany.

4. The administration of both civil and military aviation by one ministry indicates how completely they were allied in the German point of view. German civil aviation, strictly speaking, was not influenced by military aviation; it was merely another aspect. The Lufthansa was a secondary Air Transport Service for the Luftwaffe; the air sport movement was pre-military training for the Luftwaffe; in the absence of personal flying or competitive air transport, the aircraft industry had no recourse but to the Luftwaffe.

What will be said in this paragraph about civil aviation as a reinforcement of the military potential is not confined to Germany alone. The British Cadman report of 1938 states that "the problem of the air is one - two sides of a single coin - and the military aspect of aviation cannot fundamentally be separated from the civil aspect". The civil aviation of any country is an auxiliary of the military in that: (1) it maintains a system of high speed communication for government and industry, in both peace and war; (2) it justifies the existence of a system of lighted and radio equipped civil airways; and (3) it creates an organization of highly trained personnel.

who can be drawn upon for military use. The relationship between the peace time maintenance of the aircraft industry and civil aviation is, of course, a fundamental one. It is not included here because German civil aviation after 1933 was not an important customer of the aircraft industry, although perhaps its best advertisement.

Since the volume of transport operation determines the extent of the contribution civil aviation can make in any of these respects, it is doubtful if German civil aviation was regarded by the Nazis themselves primarily as a successful civilian counterpart of the Luftwaffe.

Part of the answer is, probably, that Germany valued its civil aviation as an immediate political activity of great potential commercial value. German students of air transport repeated the classic statement of the 1930 League of Nations report that state participation in European civil aviation is an act of politics, rather than of economics. Indeed, Walter Fahl says that all transportation is an act of politics, but that air transport, more than any other form, is an act of high politics. The phrase, high politics, had connotations for the Nazi mind that require definition. It is, in essence, the politics that Clausewitz meant when he said war is the continuation of politics by other means. The Nazi contribution was to stress the converse: "peace is the continuation of war by other means".

German aviation certainly was not economic in what the Nazis called the "narrow" meaning of returning dividends on capital invested. There is no doubt, however, that the ultimate aims of German expansion in South America, for example, were broadly economic, with the purposes of attaining markets and raw materials. This trade campaign was also a political enterprise. For W.Burden says, in his "Struffle for Airways in Latin America", "under the Nazi regime, foreign trade became so regimented as to constitute for all practical purposes a part of government activity. The full force of the German government was consequently thrown behind the propaganda efforts designed to help the trade program and increase the prestige of the Reich".

5. Germany's civil aviation was under the nominal supervision of the Council of Ambassadors from 1919 to 1926. From the Paris convention of that date until Germany's withdrawal from the League of Nations, it is possible to say foreign powers exercised influence over German civil aviation in a negative sense. In March, 1935 with the public recognition of the Luftwaffe, all external restraints were cast off.

6. The data to answer this question are still lacking. It is possible to estimate Germany's national income in this period as: 1932, 45 billion RM; 1934, 52 billion RM; 1935, 57 billion RM; 1938, 76 billion RM, and to guess that military expenditures consumed one-eighth to one-ninth of the national income. During the war years, aircraft, together with air force equipment, represented approximately 40 percent of total German production, and this percentage may be applicable to the period of preparation before the war. No budget as such were published after 1934. The finances of the totalitarian state defy examination by orthodox standards.

7. Probably the largest vested interest in Nazi Germany was the Nazi party itself. That group was split internally by clashes of temperament and the personal ambition of a few vigorous personalities for Hitler's favor, but presented a united front to the rest of Germany. Milch, for example, intensely disliked Willy Messerschmitt, and the development of the Me 262 suffered in consequence; Göring and Schacht quarrelled over the conduct of the four year plans as they concerned aviation; Rust felt that education and research were more properly his provinces than Göring's. But Göring remained, before the war, at least, Hitler's "truest paladin," and German aviation was safe from other influence. During the war, Speer got Hitler's ear, and the result was the formal dissolution of the Air Ministry in 1944.

On the whole, the wishes of the banking interests and the aircraft industry of Germany paralled those of Göring. The Reichsbank headed by the confirmed Nazi, Georg von Stauss, the "aviation banker" - had been behind the formation of Deutsche Lufthansa, and owned or controlled some of the larger private aircraft and aero-engine companies. For purposes of representation in German's economic corporate structure, the aircraft industry like 30 other branches of industry, had been organized into an Economic Group: Main Committees and Special Rings were expressly founded to present the industry point of view to Speer's Armaments Ministry, and Frydag, Speer's delegate for aircraft production, was a member of the Board of Directors of both Henschel and Heinkel.

Yet it is altogether true to say that the final word rested always with the government official and the party he represented. The Nazi state prided itself on having achieved the "revolutionary solution of retaining the entrepreneur in his functions and at the same time converting him into the service of the state...Chambers and groups, main committees and rings, and economic groups all have one thing in common - they reflect the tendency to place the relationship of state and industry more on the basis of common trust and cooperation than on the basis of command." At the time, the industralist was reminded: "One thing will remain after the war and become more and more established: the conviction that the State is the legitimate partner ("Teilhaber") in every enterprise," and that "the partnership of the state is all-embracing." The industrialist already knew that for Hitler "the Party created the State."

8. See A 2(f)

9. See A 2(e)

10. Generally, aircraft development was forwarded in Germany by government initiative and supervision of a development contract. The head of one of the development divisions of the Technical Office would discuss the desired characteristics of a new weapon or device with industry representatives, and then issue development contracts to one or more firms. Often the idea originated with the firm, was successfully developed, and then presented to the Air Force for trial and acceptance. The costs of research and development to the firms were borne in their entirety by the Air Force.

B. CIVIL AIR ORGANIZATIONS

1. The governmental structure of Nazi Germany differed so completely from accepted standards that any direct description is not only extremely difficult, but of somewhat dubious value. The best study of the German state (by F. Neumann, published in 1942) is prefaced by the remark that National Socialist Germany was a "non-state, a chaos, a rule of lawlessness and anarchy."

Essentially, the hierarchy of peacetime civil aviation was indistinguishable from that of military aviation. Adolf Hitler, as National Leader and Chancellor, and Commander of the Armed Forces, was also the supreme authority for civil air matters.

Officials controlling aviation:

National Minister of Aviation--Hermann Göring (also Supreme Commander-in-Chief of the Air Force)

State Secretary of Aviation--Erhard Milch (also Inspector General of the Air Force)

Under Milch:

Chief of Air Defense

General Aviation Office
- Air Traffic
- Air Police
- Weather Service
- Flight Protection
- Supervision of Local Air Boards

General Commanding Aircraft Supplies
- Research Institutes
- Development--the testing stations, the industry
- War Economy
- Industry Personnel--delegated to the German Aeronautical Research Establishment, Berlin-Adlershof
- Supply

Outside of this organization, but still subordinate to Hitler were the following organizations:

Sport:

- The National Socialist Flying Corps
- Air Squadrons of the Hitler Youth--Reich Youth Leader
- Model Plane Building Associations--Reich Youth Leader

Scientific and Technical Associations:

- National Union of German Airports
- German Academy of Aeronautical Research
- Lilienthal Society
- Standards Committee for Aviation--branch of the German Standards Committee

Industry Associations:

Economic Group of the Aircraft Industry

Research and Education:

Schools and Colleges--Ministry of Science and Education
National Research Council--Göring

2. (a) (b) & (c) It is believed that the functions of prewar German Government agencies concerned with civil aviation have been fully covered in other sections of this report.

3. In the absence of parliamentary debate or of a free press on the English or American model, an accurate documentation of German prewar public opinion is impossible. However, it can be taken for granted that the aviation interests, the armed forces, and the general public were satisfied with German civil aviation in direct proportion to their contentment with the ideology of the Nazi party. When Germany had political parties, none, with the exception of the Communists, objected to state subsidies. Since the most important competitive forms of transport were also either owned or controlled by the State, there was no overt act of resentment. At this time it was stated, "The present frictionless cooperation of all branches of transportation with aviation ...is noteworthy. The railroad and the automobile, which fight each other, work willingly with the airplane. In large degree this is brought about by the smallness of the part played by air transportation in the actual movement of passengers and freight, and by the fact that the plane accomplishes functions, particularly in international transportation, in which the others are not interested." The position the State would assume in the event of such a conflict was plainly indicated: "A preference of air transportation as against all other branches of transportation justifies itself through the national interest."

4. The plan of authority of the Nazi state was: (1) the concentration of all power into the hands of a Leader in whose person the means of governmental and extra-governmental adjustment were combined; (2) the deliberate elimination of any statutory confines qualifying that power. Under such a system, Hitler, or his creatures, controlled everything, made all decisions, and resolved all conflicts. Göring, when in favor, exercised this unlimited power over all phases of aviation in Hitler's name.

C. PROCEDURES AND REGULATIONS

1. Air Routes

See A-3 (a).

Since Deutsche Lufthansa was a member of the government, its overall policy was controlled in its entirety by the Air Ministry. At the same time, Lufthansa made and enforced its own operating policies and procedures. Under such a system there could be no place for a Civil Aeronautics Administration or a Civil Aeronautics

Board. A member of the Lufthansa expressed his bewilderment at the American air transport industry, "shared in by many companies, suffering under rigid, all-inclusive laws, regulations and decrees, which in allegedly old and bureaucratic Europe are not thought of."

2. Rates

Rates were fixed by Lufthansa on the basis of what the traffic would bear. In theory, Lufthansa attempted to bring its rates down to the equivalent of prices for first class accomodations on the railroad. Rates averaged about 8 cents a mile in July 1939. As propaganda, prices were lower on certain routes than first class railroad accomodations, prices in winter were lower on all routes, rebates were given for the purchase of return tickets, and for special occasions like the Leipzig Fair.

3. Safety

Lufthansa was responsible for conducting its own operation as safely and efficiently as possible. There were actually no transport category regulations. For example, no landing speed limitation was imposed on aircraft. Lufthansa, however, had an operations manual outlining its policies and procedures for all personnel.

4. Inspection

There was no governmental regulatory body controlling in any way equipment, personnel, or aircraft maintenance. It must be repeated that Lufthansa was a governmental agency as far as its operating policies and procedures were concerned. Lufthansa depended primarily on the knowledge and technique of the older maintenance men for the overhaul, maintenance, and inspection of aircraft. The usual procedure was to inspect and repair the airplane and equipment more frequently than is the custom in this country. This practice was partly due to the operation schedule which consisted of short hops and low over-all time per month per airplane.

5. Airports and Communications

See A-2 (i).

6. Reports and Forms

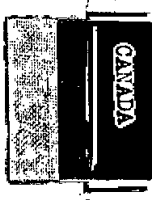
All the log-books, archives, index cards, legal contracts, literature and other files of the Company were destroyed or lost in the course of the fighting in April and May 1945 both by fire and by other agencies.

D. GENERAL EVALUATION

1. Considered only in terms of the Nazi frame of reference, German commercial aviation was sound, progressive, and well adapted to the country's political and economic wants. Deutsche Lufthansa, for example, was described by a French student in 1939 as

"presenting none of the inconveniences that one meets usually in the 'chosen instrument,' or those with which one customarily reproaches state enterprises."

2. The failure of civil aviation was primarily the failure of military aviation. German civil air rose and fell with the Third Reich.



CANADA

CIVIL AVIATION - CANADA

A. CIVIL AIR POLICIES

1. The basic policy of the Canadian Government is to develop aviation in Canada, for economic, political and military reasons. Civil aviation, which cannot be wholly divorced from the military, is regarded as an instrument of national policy, particularly since the Government owns and controls Trans-Canada Air Lines which operates all main line services within Canada as well as all international routes. The state determines all major policy with respect to the chosen instrument. It is emphasized, however, that the corporation is run as a private enterprise, and that the personnel are not civil servants.

2. (a) Scheduled air transport is divided between the Government's chosen instrument on the one hand, and the privately owned Canadian Pacific Air Lines, a subsidiary of the Canadian Pacific Railway system, on the other. There are other privately owned scheduled air transport enterprises but they are all so small as to be of no particular consequence. From the purely civil point of view the Government completely controls the development and expansion of this type of enterprise. This is done by means of several acts of Parliament, notably the Trans-Canada Air Lines Act of 1937, as amended, and the Aeronautics Act of 1927, as amended. The reasons for Government promotion and control are not only Canada's great size, and small population, but also the desire to eliminate in air transportation the wasteful duplication experienced by the two transcontinental railroads. Canada feels that her resources and requirements are not sufficient to support open competition in this field.

(b) There have been perhaps more non-scheduled air transport operations in Canada, over a period of years, than anywhere else in the world. To a large extent, Canada is a "natural" for non-scheduled operators because of the fact that there are many small communities which lie north of the main line rail, air and highway systems and which are almost inaccessible except through the medium of air transport. These small communities cannot support scheduled operations and, when large scale prospecting activities are added, the market for non-scheduled air services expands considerably. The Canadian Government is anxious to see these services continue and, since the creation of the Air Transport Board in 1944, there has been a serious attempt at regulation and control not only to prevent the market from being glutted, but to stabilize the industry and prevent uneconomical price cutting. During the past two years over 200 licenses have been granted to non-scheduled fixed base operators whose combined activities extend across the Dominion. The Board has about reached the point now where it believes that a moratorium on licensing for a period of six months or a year would be very beneficial in that it would permit the Government to study and evaluate what has so far taken place. Under Air Transport Board regulations the non-scheduled operators are required to submit periodic reports of their activities to the Air Transport Board. The Canadian Government does not

subsidize any of these carriers. However, the Government is anxious that their activities continue because it realizes that without them any real development of the north country will be retarded by many years because of lack of adequate transportation.

(c) Many people believe that the Government of Canada looks upon private flying as the step-child of aviation, and to a certain extent this may be true. Much of Canada's private flying takes place within the Royal Canadian Flying Clubs Association, which is Dominion-wide in scope and now has approximately fifty clubs in the organization owning perhaps 200-300 small aircraft, and with a membership of over 6,000 individuals. The Association is chartered by the Dominion Government. The Government pays the Association a direct subsidy of $5,000 per year and also aids the Clubs in various other ways. For example, it turned over to them approximately 200 Tiger Moths at the end of the war, for which the Clubs paid approximately $250 per unit. In addition, where ground facilities exist, these have in many cases been turned over to the Clubs to use at the nominal fee of $1.00 a year for hangar and other installations. On the other hand, the Government appears to have no program for the expansion of small landing fields which in itself would greatly stimulate private flying. Last year the Air Cadet League, which is a semi-civilian arm of the Royal Canadian Air Force, and which supplies approximately one-third of the annual enlistments to the Air Force, undertook a program of preliminary flying instruction for selected cadets. This instruction has been turned over to the Flying Clubs and they receive payment for their services. The Canadian Government certainly does not wish to have the flying club organization disbanded because it found during the war that the Association was extremely valuable in providing flight training for the Air Force.

(d) The Canadian aircraft manufacturing industry may be divided into three phases: (1) large transports and military types, (2) small transport, and (3) private aircraft. Canadian Government policy covers only the first category, with the other two being allowed to develop as private enterprises and without Government support or assistance, being controlled only by the economic laws of supply and demand.

Before the close of World War II the Canadian Government, which had been forced to develop certain wartime aircraft manufacturing facilities of its own, came to an important decision. It is believed that the official thinking went somewhat along these lines: When war broke out in 1939 we had no aircraft manufacturing industry of our own and were forced to rely on the United States and the United Kingdom for our aircraft. This, in many respects, was an unsatisfactory arrangement. We do not wish to be caught in this position again, hence we must have a manufacturing industry of our own. We have plant facilities now, but we realize that our market will be small and our resources limited, and that these plants will be extremely costly for us to maintain. Therefore, let us encourage manufacturers from the United Kingdom and the United States to take over and run these plants for us on a peacetime basis.

Something like this must have happened because it is known that at least a part of this reasoning is correct, and the balance may be presumed in the light of what has since taken place. Late in 1945 the Canadian Government made an arrangement with A. V. Roe of the United Kingdom whereby that firm would take over and operate the aircraft manufacturing plant at Malton Airport, just outside Toronto. The Canadian Government rented the plant to Avro on the basis that if the company made a profit, 50% of that profit would be paid to the Canadian Government for rental; if there were no profit, no rent would be paid. This was followed up by the Government placing orders for a new type of turbo-jet fighter, and the company, with Government encouragement, is also developing a turbo-jet transport which, if satisfactory, may be used by Trans-Canada Air Lines. It should be noted that Avro imported many technicians from the United Kingdom, which itself was interested in the dispersal of strategic industry, and that the program has resulted in the development of Canada's first aircraft engine manufacturing industry, namely, turbo-jets.

Late in 1946 the Canadian Government entered into a contract with the Electric Boat Company of New York, whereby the latter acquired the inventory, work-in-process and existing orders of the Canadair plant outside of Montreal. This firm was engaged in building the DC-4M1 and DC-4M2 under license from the Douglas Aircraft Company of Santa Monica, California. The R.C.A.F. had placed orders for 24 DC-4M-1's, and T.C.A. for 20 DC-4M-2's, which is a pressurized aircraft. All are powered with Rolls Royce Merlin 620 in-line engines. Both of these orders will be completed early in 1948. So far as is known the Electric Boat Company pays no rental for either the plant or the equipment, although it does hold an option to purchase same. Briefly, the foregoing is the extent of Canada's aircraft manufacturing industry with respect to which the Government has any policy whatsoever.

(e) The National Research Council, with headquarters in Ottawa, has an aircraft and radio branch which engages in aviation research and development.

The Canadian Government, having placed orders for R.C.A.F. fighters with Avro, is stimulating research and development in the turbo-jet fields, as outlined in the preceding paragraph.

(f) So far as is known, the University of Toronto is the only institution in Canada offering courses in aeronautical engineering, and these may not be complete. Other institutions may offer similar courses, but if so, they must be very limited. It is believed that most Canadian youth seeking aeronautical engineering training attend colleges, universities and private schools in the United States. Naturally, the Royal Canadian Air Force trains personnel in this field. There is, therefore, no Government promotional program in the field of education.

(g) While there is no broad over-all program for the training of pilots and other technicians, aside from the R.C.A.F., there are two active groups who play an important role in this field.

The Royal Canadian Flying Clubs Association offers flight instruction to all its members as almost a purely civilian enterprise. Reference has already been made in paragraph (c) above to the Air Cadet League, which has a membership limited to 15,000, and which supplies approximately a third of the annual enlistments to the R.C.A.F. During the last year not more than 100 Air Cadets were given flying instruction, but the League hopes to expand this number considerably during 1948. While there are no direct grants to foreigners, the Air Cadet League has embarked on a summer program of exchanging certain cadets with the United Kingdom, and the League is anxious to enter into similar arrangements with other Commonwealth countries, and with the United States, provided comparable organizations can be found. Preliminary investigations are now being made with this end in view.

Aside from these two organizations there are an indeterminate number of privately-owned flying schools which are not affiliated with the Royal Canadian Flying Clubs Association. There are also a number of small schools, privately owned, which train technicians in other branches of aviation.

(h) Apart from the sale of war surplus aircraft there has so far been little or no export of Canadian aeronautical equipment for civilian purposes. There is no question but that the Canadian manufacturers, such as Canadair, De Havilland, and Canadian Car and Foundry, are anxious to find markets abroad for such aircraft as the DC-4M-2, the Chipmunk and the Beaver, and the Norseman respectively, but so far without much success due primarily to exchange restrictions. However, these are regarded as private business enterprises and not subject to Government interference, except insofar as they reflect the Canadian general desire for an export market.

The Government may be said to restrict the importation of foreign aircraft through the existing tariff. This may be considered discriminatory in that the UK enjoys special advantages for its products imported to Canada due to Empire preference arrangements. There is a great deal of sentiment in Canada, both among aircraft manufacturers and air transport operators, for a reduction of this tariff on United States aircraft and engines. The operators complain bitterly about it and have made their views known to the Canadian Government. There is as yet no indication that any change will take place. It is interesting to note, however, that of the thousand civil aircraft registered in Canada as of the end of 1946, American aircraft accounted for 39% of the total, which included all of the large transports, as well as many medium transport, and private aircraft types. Canadian types, such as the Norseman, Piper Cub and Fleet, accounted for 33% of the total, while British aircraft, mostly Tiger Moths, made up the balance.

(i) All the major airports in Canada, with the single exception of the one at Edmonton, are owned and operated by the Department of Transport. The Canadian Government has a policy only with regard to main line airports excepting, of course, installations which are necessary principally to the R.C.A.F. With the

curtailment of the budget following the war the funds available for airport construction have been cut to a minimum. All of these funds have been earmarked for improvements and extension to main line airports,-in other words, those which benefit Trans-Canada Air Lines principally, and foreign carriers secondarily. The Dominion Government has been endeavoring to turn over the airports to the municipalities and has offered to do so at the nominal fee of $1.00. In addition, it has offered grants of 5¢ per square foot of runway for snow removal, plus offering to make funds available for airport expansion. Aside from Edmonton, none of the municipalities have yet taken advantage of the Government's offer.

There is one exception to the above Governmental program, namely, the Department of Transport has been engaged for the past two or three years in building a large airport at Yellowknife, on the north shore of Great Slave Lake, Northwest Territory. This is intended for use as a basing point for the many operators of non-scheduled services who cater to the needs of miners, prospectors and trappers.

Almost all other airport development is done either by local communities, or by Canadian Pacific Air Lines which has developed many landing areas of its own in the Canadian Northwest. It is not believed that the Canadian Government will have sufficient funds available in the foreseeable future to build many new airports but that it will continue to confine its activities to an expansion and improvement of existing facilities, almost all of a main line character.

The Canadian Government, through the Department of Transport, owns and operates all air navigation facilities in Canada. The reasons for this are largely those which prompt the Civil Aeronautics Administration to control the Federal airways in the United States.

3. (a) The Canadian Government has two stated policies with regard to the ownership of air carriers. First, and as noted above, all main line and international routes are to be operated by Trans-Canada Air Lines, a wholly owned subsidiary of Canadian National Railways, which in turn is owned by the Canadian Government. Secondly, the Canadian Government has stated that it desires to foster the development of other than main line and international operations, through the medium of private enterprise.

The reasons for Government ownership are due primarily to the fact that risk capital was not available; the country needed a transcontinental air line system; Canadian Pacific Railway and other private capital was not willing to share in the development with the Canadian National Railways and hence, in 1937, the Government decided to go the whole way in ownership and control. There is perhaps another reason, namely, the transcontinental line could not be self-sufficient for quite a number of years to come and, since this meant a subsidy, the Government decided to take full responsibility and control. Foreigners are not permitted to own controlling interest in

Canadian air transport enterprises. In this connection, it should be noted that Canadian Pacific Air Lines is wholly owned by Canadian Pacific Railway, which in turn is 60% owned by United Kingdom investors, with United States citizens owning 27%, Canadians 9%, and the balance widely distributed. Since control rests with the United Kingdom, whose citizens are not regarded as foreigners, there is no problem. However, before licenses are granted by the Air Transport Board to foreigners it insists on a complete disclosure of the ownership set-up.

(b) The ownership of the aircraft manufacturing industry has been discussed under paragraph 2 (d) above. Manufacturers of small and medium aircraft are all privately owned.

(c) There is no competition between Canadian scheduled air carriers, nor is this permitted by the Air Transport Board. There have been a number of instances in the past where Canadian Pacific Air Lines has been operating routes but when it was declared a T.C.A. "main line" operation, Canadian Pacific withdrew.

The Air Transport Board has licensed numbers of non-scheduled operators, many of whom base at a common point. However, they are not permitted to operate between two points on a scheduled route. The Board now desires to study the effects of the licenses granted, and will naturally examine the question of competition among operators based at a common point.

(d) Canada does not permit foreign air carriers to indulge in cabotage traffic within the Dominion. In addition, the Canadian Government has so far not entered into any Fifth Freedom agreements largely to protect its own carriers by reserving Canadian traffic for them. For example, the Peruvian Government has been anxious to conclude a Fifth Freedom agreement with Canada whereby Peruvian International Airways would be able to operate into Montreal on its route from Lima via Panama, Cuba and New York City. The Canadian Government has indicated its willingness to conclude a Fourth Freedom agreement with Peru but, since the Canadians themselves are anxious to obtain the Montreal-New York route for T.C.A., they are not willing to discuss a Fifth Freedom arrangement with the Peruvians.

(e) The Canadian Government does not admit that it subsidizes its air carriers, except in one minor instance. That exception (M & C Aviation Company) is a very small scheduled operator in Saskatchewan, for which Parliament, during the last few years, has voted a $12,000 annual subsidy. That company has since been absorbed by the Saskatchewan Government Airways, owned by the Government of that Province. The subsidy will probably be discontinued after this fiscal year.

The Canadian Post Office Department, contrary to American practice, has succeeded to a large extent in freeing itself from being used as a vehicle for subsidy payment. Last year the Post Office entered into contracts with the carriers by which it agreed to pay one and one-half mills per pound mile, on a decreasing yearly scale, for the transportation of mail.

Although this rate is some four or five times higher than that paid in the United States for similar services, it is nevertheless not regarded as a subsidy because postal revenues exceed the payments. However, the Post Office has been forced, in a number of instances, to revert to the old system of payments per mile for a guaranteed minimum. One or two of the routes of Maritime Central Airways, and at least one route operated by Canadian Pacific, are paid for at the rate of 50¢ per mile flown with a guaranteed minimum. The two large Canadian air carriers are in a very favorable position, however, in that they each have parent companies who absorb their losses. In the case of Trans-Canada Air Lines the operating losses are made good by the Canadian Government, while Canadian Pacific Railways, by means of unsecured loans to Canadian Pacific Air Lines, absorbs any loss its subsidiary may have.

The only subsidization of aircraft manufacturers which occurs in Canada is discussed under paragraph 2 (d).

The extent to which the Canadian Government subsidizes airport construction is discussed in paragraph 2 (i).

Such subsidization of education and training as is done in Canada was discussed under paragraph 2 (c) and (g).

(f) The development of transport aircraft in Canada must be divided into two categories, namely, large transports and small, or "bush" transports. Canadian Government policy, and the reasons therefor, is outlined in paragraph 2 (d).

(g) Until mid-1946 all large transports used in Canada were imported directly from the United States. This statement should be qualified with the observation that all DC-3's currently in operation in Canada were war surplus C-47 aircraft which were converted in Canadian plants, and mostly by Canadair of Montreal.

Medium sized and small transport types, which are used largely in bush flying, are generally of Canadian manufacture, although some American types are being used. Of the Canadian product, most are Norseman, although recently both De Havilland and Fairchild have produced their own small transports, namely, the Beaver (which is just now coming into production and is a 4-5 place aircraft), and the Husky, which is a somewhat larger and more versatile machine, although considered to be under-powered. There are some converted Avro-Ansons and a few De Havilland Dragon Rapides in service. The Canadian Government has no particular policy with regard to the use of foreign aircraft except that since the war ended its general policy has been to prohibit the importation of second hand aircraft in excess of 6,000 lbs. The current shortage of dollars, of course, acts as a deterrent but the tariff, generally speaking, does not.

(h) Although Canada has bilateral air transport agreements with the United States, the United Kingdom, Australia, New Zealand, Ireland, Newfoundland, Portugal and Sweden, only American, British and Australian air transport companies presently operate into the Dominion. The air carriers operating services into Canada

are as follows: Northeast Airlines, Colonial Airlines, American Airlines, Northwest Airlines, Western Airlines, United Airlines, Pan American Airways, British Overseas Airways and Australian National Airways, which is soon to become British Commonwealth Pacific Airlines.

All Canadian air transport agreements are bilateral in nature and cover four-Freedoms operations only. Canadian Government officials have indicated privately that, pending the outcome of the Geneva Conference on a multilateral air transport agreement, Canada will conclude a limited number of Fifth Freedom arrangements, but only where this is to her advantage. Canada is not interested in exchanging Fifth Freedom rights on a multilateral basis.

Canada is the headquarters of the International Civil Aviation Organization and the International Air Transport Association, both of which have their main offices in Montreal. The Dominion Government has ratified the Chicago Air Navigation Convention. It is also a member of the loosely drawn Empire Air Conference which, in general, exchanges views on Empire civil air problems but is without power of action.

4. Canadian civil air policy is influenced, to some extent, by military air requirements. Not only is civil air transportation of vital importance to any Canadian wartime economy, but the civil establishment is capable of providing a considerable number of trained personnel to meet wartime demands. That Trans-Canada Air Lines and the Royal Canadian Air Force should both order the same general type of four engine transport is an indication of the integration of civil and military air policy. The fact, also, that the ground establishments and facilities of Trans-Canada Air Lines are in many instances former, or still existing, R.C.A.F. stations is yet another indication of this fact. Naturally, the aircraft maintenance establishments of the civil air carriers are available to the R.C.A.F. in time of national emergency.

The military establishment does not, in a precise definition of the term, control civil aviation. The Canadian Government does not operate in that fashion, but all matters of national policy are determined by the Cabinet in the light of the over-all existing facilities and requirements of the nation.

5. It might be said that Canada has always attempted to work out her own civil air policies, but nevertheless these have been influenced considerably by the diverse developments which have taken place in the United States and in the United Kingdom. In many respects, the example and success of the former has had a greater influence on Canadian developments than that of the latter. This is no more than natural in view of the proximity of Canada and the United States and the fact that so many of her present air transport operators received much of their early training in the United States. The relationships which exist between United States and Canadian operators have always been close and cordial. Again, this is no more than natural in view of the many trans-border routes which have been in operation for the past ten years or more. British carriers, of course, have not had the same advantage as their American colleagues.

The British have never understood the Canadian civil aviation problem, whereas the Americans have had similar experiences and problems and therefore can meet Canadian requirements.

In addition, there has been very close and effective liaison between the various Government departments handling aviation problems in the United States and in Canada. As a matter of fact, the Canadian Air Transport Board, which was created in 1944, was patterned very closely after our Civil Aeronautics Board. The Civil Aviation Branch of the Department of Transport is a small counterpart of our Civil Aeronautics Administration. Despite these similarities, and despite the close relationships which exist in almost all fields, Canada has evolved her own methods of meeting her civil aviation problems. Actually, Canada cannot at present support more than one transcontinental operator and, in view of factors already cited, it is not surprising that this happens to be a Government owned chosen instrument. Similar instruments already exist in Canada's rail and ocean transport, so that air transportation conforms to a general pattern. Government ownership of transport facilities existed in Canada long before it was seriously contemplated in the Mother country. While it does represent a degree of socialization it is only moderately so, and was the most expeditious method of accomplishing a desired result. To state it briefly, Canada's civil air policies have, in recent years, followed a "middle of the road" course between the complete free enterprise which exists in the United States and the state socialism which presently exists in the United Kingdom. In most civil aviation conferences which have taken place since 1944 Canada has striven to reconcile the conflicting views which have generally existed between the United States and the United Kingdom.

6. The Canadian National income for 1946 was approximately 9.5 billion dollars. The national budget for the fiscal year ending 31 March 1948, is approximately $2,110,000,000. The total appropriation for national defense in Canada for the current year is about $240,000,000, with the Air Force being allotted about $60,000,000 of that sum. The total appropriation for civil aviation development for the current fiscal year is $16,280,500.

During 1946, scheduled air transport operators in Canada spent $21,171,229. This was $774,159 more than their income. The entire loss was attributed to Trans-Canada Air Lines and was absorbed by the Canadian Government. Mail revenue for scheduled airline operators was $5,262,101, although this is not regarded as a subsidy but rather in the nature of payment for services rendered.

Statistical information on non-scheduled carriers is only fragmentary. However, according to the published statistics, non-scheduled operators had expenditures totalling $1,305,354, which was $5,115 more than their receipts. Reported mail payments to non-scheduled carriers amounted to only $5,759.

The Canadian Government pays a nominal subsidy to the Royal Canadian Flying Clubs Association, which amounted to only $5,000 this year. Details as to expenditures of the Flying Club are not available.

So far as is known, there are no Government expenditures for aircraft manufacturing other than orders placed with Canadair and Avro. The DC-4M-1's, 24 of which are being purchased by the R.C.A.F., are contracted for at the fixed price of $640,000 each. T.C.A.'s order of twenty DC-4M-2's are contracted for at $660,000 each. There is no information that the Canadian Government has made any advances to Avro in connection with its order for turbojet fighter aircraft for the R.C.A.F., although it probably has done so. Neither is there any information as to the expenditures of the several aircraft companies themselves, since they have never published any statements.

The Civil Aviation Branch of the Canadian Government makes a grant of $25,000 to the National Research Council for civil aviation research. The only other grant, aside from that given the Flying Clubs and Air Cadet League, is a small sum to the University of Manitoba for an unspecified purpose, which may be, however, to foster aeronautical engineering education.

The Canadian Government makes a grant of $25,000 to the Air Cadet League of Canada. Actual annual expenditures of the League are not known. As pointed out in paragraph 2 (c) and (g) the League undertook a program of flight training for a selected group of not more than 100 cadets during the last year. This program is to be expanded as time goes on.

The budget estimates for the current fiscal year covering the construction, maintenance and operation of Department of Transport airports total $7,783,876, or approximately half of the entire appropriation for civil aviation purposes. There is no information as to how much may have been spent by municipalities or private enterprises, such as Canadian Pacific Air Lines, in the construction and maintenance of airports other than those owned by the Department of Transport.

The Civil aviation appropriation for air navigation facilities, that is, the Meteorological and Radio Divisions of the Department of Transport, amounted to $4,227,910 and $3,141,626 respectively. There is no information as to private expenditures, if any, for air navigation facilities.

7. Since Trans-Canada Air Lines is Government owned and controlled, although operated as a private company, it exerts considerable influence on Canadian civil air policy. The Minister in charge of Civil Aviation regards Trans-Canada Air Lines as "his baby." He leans heavily for advice on the President of Trans-Canada Air Lines in all matters of domestic and foreign civil air policy. For example, the Air Line can and does make its desires known to the Air Transport Board, the Department of Transport, the Post Office and External Affairs and very often gets its way in such cases, but only insofar as such desires do not conflict with overall Government policy or contravene the air regulations. An instance of such pressure came to light last year when American Airlines had a charter to transport the pea crop from Toronto. T.C.A., if it had had the spare aircraft, could have prevented American from being given a charter permit by the Air Transport Board, in order to carry the crop itself. There are other examples where the wishes of the Canadian carrier have

been taken into consideration where Canadian originated traffic was involved.

In the broad sense of the term, there is no aeronautical education in Canada. There are, of course, a number of exceptions. Some of the universities give aviation courses, but so far as is known none of them grant degrees in this field. Reference has already been made to the activities of the Royal Canadian Flying Clubs Association and the Air Cadet League of Canada. The annual grant of $5,000 to the Association, which now has very close to fifty member clubs, can hardly be called a subsidy. The enrollment in the Association is made up entirely of private citizens, most of whom engage in flying activities for purposes of sport.

The Air Cadet League has a semi-official status in that it is sponsored by the Royal Canadian Air Force and most instruction is provided by R.C.A.F. officers. The peacetime membership of the League is confined to 15,000 individuals, all of whom are young boys of high school age. Their league activities are extra-curricular and do not form a part of the high school course. The annual grant of $25,000 a year may be considered a subsidy, as well as the fact that instruction is provided free of charge by R.C.A.F. officers. The League is a movement very similar to the Boy Scouts, complete with uniforms and summer camps. The greatest stress so far has been in ground school activity and pre-flight training. The League has just embarked on a program of flight training which it hopes to expand in the future. As already indicated, and except for odd courses, there is little or no aeronautical engineering education in Canadian colleges and universities.

9. The Canadian Government and private industry both operate aeronautical research and development facilities. In the former case, the National Research Council of Canada is the arm of the Canadian Government engaged in this type of activity. According to the 29th annual report for the fiscal year 1945-46, the National Research Council expended $1,582,111.58 in research activities, of which approximately $1,200,000 was supplied to the Council by Parliamentary appropriation. However, of the total expenditure the amount attributable to the Aeronautical Research Committee was only $38,250.23.

During the past year the Council engaged in wind tunnel tests, experimented in aero dynamics, balancing of aircraft control, did a large amount of work on the aero-dynamic design of a tail-less glider, and conducted a variety of tests for the R.C.A.F., and other Government departments and industry on such things as rain, snow and wind gauges, tests on axial flow compressor blade sections and tests on new aircraft of Canadian design. Tests were also made on aircraft and allied instruments, for wing flutter and for electro-thermo de-icing of aircraft, wings and propellers. The Council also did some experimental and testing work on radio aids to air navigation, but there is no indication as to the cost of this activity.

In the private industry field both Canadair and Avro manufacturing plants have aeronautical research facilities of their own. The latter is said to have imported quite a few experts in the field of aeronautical engineering from the United Kingdom, while Canadair has been drawing on the American market for experts in this category.

However, there is no indication as to how many are employed, the extent of the research, the facilities available or the cost of the activities. Avro, as noted, is working on a turbo-jet fighter and a turbo-jet transport, but no detailed information is yet available.

The tendency is to reduce governmental expenditures for all types of activity from their wartime peak. This applies also of funds available to the Research Council. There is no way of knowing whether the manufacturers are increasing or decreasing their expenditures for research and development. Avro is probably receiving financial, as well as technical assistance, from the Hawker Siddeley group of aircraft manufacturers in England, with whom it is affiliated. If this supposition is correct, then Avro is at least semi-independent of Canadian Government orders and the research and development connected therewith. In any event, aeronautical research and development activities in Canada are on a small scale when compared with the United States.

10. The use of Government owned plants by both Avro and Canadair may be termed a subsidy. As indicated earlier in this report, the development of the new turbo-jet aircraft by Avro is dependent largely on orders placed by the Canadian Government, although the company may be doing work also for its affiliated companies in the United Kingdom. So far as is known, Canadair has no new types of aircraft under development, but the DC-4M-1 and 2 was developed and financed by the Canadian Government. Since Canadian Government orders are important to both companies, it seems safe to assume that the Dominion Government carries some weight with the respective managements.

In the small and medium aircraft field it is believed that the manufacturers are independent and do not receive any subsidy or financing from the Government. Such research and development as they do engage in appears to be on their own initiative and is done to meet existing conditions and demands.

B. CIVIL AIR ORGANIZATION.

1. The Cabinet (including the Privy Council)
The Department of External Affairs
The Department of Transport
The Air Transport Board
The Department of National Defense for Air
The Air Cadet League
The National Research Council
Royal Canadian Flying Clubs Association
Soaring Association of Canada
The Air Industries and Transport Association

2. (a) The Cabinet (including the Privy Council) determines all national policy with regard to Canadian civil aviation. Inasmuch as the Cabinet represents the Government in power its decisions may be regarded as final even though it may be obliged to go before Parliament for authority to implement the decision.

The Department of External Affairs, as may be supposed, handles all matters of a foreign relations nature as they effect civil aviation, and hence corresponds to our Department of State.

The Civil Aviation Division of the Department of Transport corresponds to our Civil Aeronautics Administration. As such, its activities embrace the entire physical side of aviation. For example, it owns and operates most of the airports, it controls the federal airways and the facilities attached thereto, it registers and licenses aircraft and grants licenses to airmen, etc.

Air Transport Board is patterned after our Civil Aeronautics Board. Thus, its functions are economic and judicial. It operates under the terms of the Aeronautics Act of 1927, and came into being in 1944 when the Act was amended. It grants licenses to carriers to perform all scheduled and non-scheduled flying in Canada provided these services are, in its judgment, in the public convenience and necessity. Carriers file operating statistics, tariffs and schedules with the Air Transport Board.

Department of National Defense for Air, of course, means the Royal Canadian Air Force, whose functions are believed to be self-explanatory.

Air Cadet League, as stated above, is a semi-civilian and junior arm of the R.C.A.F. Its primary function was to train young men as a junior volunteer reserve which would act as an aircrew feeder. Its peacetime function is to make available a basic training in aviation that will better fit Canadian youths for careers either in the Service, in civil aviation, or in other walks of life.

The National Research Council and its functions have been described in paragraph A.9.

Royal Canadian Flying Clubs Association has already been mentioned in paragraph B.2. Its activities are centered in the field of private flying, where it conducts fairly extensive private instruction.

Soaring Association of Canada is a new and very small organization which, to some extent, is associated with the Air Cadet League, and therefore with the R.C.A.F. Its purpose is to acquaint and instruct the youth of Canada in the operation of motor-less aircraft.

Air Industries and Transport Association is an industry group composed of both manufacturers and operators. Its main purpose is the solution of

common industry problems and to act as an industry liaison with the various branches of the Canadian Government.

(b) Obviously, all the Departments and agencies of the Federal Government came into being by reason of acts of Parliament, and some of them many years ago. The newest governmental agency is the Air Transport Board which was brought into being when the Aeronautics Act was amended in 1944. The National Research Council was also created by an act of Parliament and was established just after World War I.

Air Cadet League was formed in 1941. It was authorized in November 1940 by means of an Order in Council, and was granted a Dominion charter on April 9, 1941.

Royal Canadian Flying Clubs Association was established about twenty years ago and operates under a Dominion charter.

Soaring Association of Canada did not come into existence until the spring of 1944. It also operates under a Dominion charter.

Air Industries and Transport Association was formed in 1934. It is a private association, unincorporated, and therefore does not operate under a Dominion or Provincial charter.

(c) The establishment of civil air agencies in Canada has followed a fairly logical pattern, with one important exception. The Minister in Charge of Civil Aviation, is Mr. C.D. Howe who was formerly Minister of Transport, but for the last three or four years has been Minister of Reconstruction and Supply. Since Mr. Howe is a very strong figure in the Canadian Government, he was powerful enough to take the civil aviation establishment of the Department of Transport, as well as the Air Transport Board, with him when he went to the Department of Reconstruction and Supply. That has created an anomolous situation and the Deputy Minister of Transport reports to the Minister of Transport on all matters except aviation, on which he reports to the Minister of Reconstruction and Supply who, for such purposes is referred to as the Minister in Charge of Civil Aviation. The Air Transport Board, which is semi-independent, reports directly to Mr. Howe.

Mr. Howe has always had a great personal interest in civil aviation, and ever since he first became a member of Mr. King's Government. He has been largely instrumental in the creation of Trans-Canada Air Lines and also in the development of all national and international civil aviation policies during the past ten years. As a matter of fact, Mr. Howe is civil aviation in Canada, and he has powers which are much broader than anything held by any civil aviation official of our Government.

Originally, what is now the Civil Aviation Division of the Department of Transport was a Branch of the Department of National Defense. However, in 1936, when civil aviation was commencing to be well established, particularly in the Canadian Northwest, and when serious consideration was being given to creating a transcontinental air route, it was found that the civilian problems confronting the Civil Branch were becoming so great as to justify a switch from the military to a strictly civilian department of the Government. It was then that the Department of Transport was created with civil aviation as one of its functions and no change, except as noted above, has taken place since that time.

3. So far as is known, there has never been any serious public criticism of the aviation set-up of the Canadian Government except that which is directed against Mr. Howe, his policies, and the power which he exercises over civil aviation in Canada. Public opinion in Canada is not well informed on civil aviation matters. Mr. Howe's political opponents, namely, the Progressive Conservative Party and the C.C.F. Party, are not only uninformed, have no civil aviation program of their own, or are split within their own groups as to what policies should be followed. The Progressive Conservatives, are the largest minority party and, while they are opposed in general to Government ownership and to the type of broad powers which Mr. Howe wields, they lack direction and cohesion, with the result that their opposition is completely ineffectual. The C.C.F. Party, which is quite small, has a program which calls for the complete nationalization of all air transportation in Canada. The Liberal Government has stolen at least some of the C.C.F. thunder by the creation of a Government owned chosen instrument.

(a) The large aviation interests appear, on the surface at least, to be satisfied with the present Government policies and the way in which the Government agencies function. The smaller aviation enterprises are so widely scattered and so generally lacking in funds that most of them are not even members of the Air Transport Association, which does engage, once in a while, in a mild sort of lobbying to promote aviation.

(b) Competitive forms of transportation in Canada mean primarily the railroads, and both of these own airline subsidiaries. There has been a conflict of interest between the Government owned chosen instrument and Canadian Pacific Air Lines. This arose in 1944 when the Government declared its policy that T.C.A. would engage in all mainline and international operations. Canadian Pacific Air Lines, through its management, declared publicly that it had every intention of participating in

international operations and that it would fight the Government on this issue. The Government thereupon passed a law requiring that the railroads divest themselves of airline ownership within a specified period after the termination of the war. While this had no effect on T.C.A., except as a paper transaction, it was vital to Canadian Pacific, particularly since the Government announced that it intended to break up that carrier into several small operating companies. It is reasonably certain that the Government was not anxious to carry out this policy, but it did use it as a club to beat Canadian Pacific into submission to the Government's program, which was finally accomplished in the spring of 1947. At that time a completely new management, acceptable to the Canadian Government, took over the operations of Canadian Pacific Air Lines. Since then, on the surface at least, relations have been cordial, although there is some reason to believe that C.P.A. has not yet completely given up hope of securing international and mainline routes.

(c) The attitude of the political parties has already been discussed earlier in this paragraph.

(d) There has never been any public expression on the part of the armed forces that the other agencies of the Government are not fulfilling a useful function efficiently, and in the public interest. Since, by its very composition, the Canadian Government is a well knit unit and one Department does not take action to which another interested agency is opposed, it is safe to assume that the armed forces are in agreement with the Government's general program and conduct since they have a voice in its determination.

(e) The Canadian public is woefully uninformed on civil aviation matters and policy. It is but seldom that there is even any editorial comment on this subject. The most air minded newspaper in Canada, the Montreal Gazette, is perhaps the only vocal instrument in the country which constantly goes on record as being opposed to the Government's whole civil aviation policy. There are no indications that the Gazette's one man crusade is bearing any fruit.

4. There is little overlapping or duplication in the Canadian Government, largely because it is a small and relatively closely integrated organization. Occasionally, there is some overlapping, for example, between the Privy Council and the Department of External Affairs. This is due primarily to the fact that Mr. Howe is very close to the Privy Council, whereas he is rather remote from the Department of External Affairs. Usually these two agencies keep each other well informed and up to date, with External Affairs adapting itself on civil aviation matters to Mr. Howe's decisions. If there is any conflict, and this applies also to all other agencies handling civil aviation, it is resolved at the Cabinet level.

5. So far as is known there is no consideration being given at present to abolishing, reorganizing, or combining existing agencies or creating new ones.

C. PROCEDURES AND REGULATIONS.

1. Air Routes.

(a) The Air Transport Board, after hearing, awards air routes to designated carriers in accordance with the terms of the Aeronautics Act, as amended. Decisions of the Board must be approved by the Minister in charge of Civil Aviation.

(b) In general, public convenience and necessity, and fitness, willingness and ability are the guiding principles which determine the granting of a route to a particular carrier. In the case of all mainline and international routes these are awarded, in almost a routine and proforma manner, to the Government's chosen instrument, Trans-Canada Air Lines, and public convenience and necessity are presumed to exist. Other Canadian scheduled and non-scheduled operators must show public convenience and necessity, except that the Board has power to waive this showing in the case of certain non-scheduled operators, provided they satisfy the Board that the proposed commercial air service would be in the public interest. Foreign air carriers may operate into Canada provided a bilateral agreement exists between Canada and the carriers' respective country setting forth a specified route, and provided also that the carrier has been designated by its government to operate the route and that it has applied, through diplomatic channels, to the Air Transport Board for a license. In such cases, the existence of a bilateral agreement presupposes public convenience and necessity and the carrier is required merely to show that it is owned and controlled by nationals of the designating country and that it is fit, willing and able to perform the service.

(c) The carrier must abide by the terms of its license. In general, these specify routes to be operated, the type of service to be performed and the duration of the license. The license must conform to the provisions of the Aeronautics Act and to such rules, regulations, etc. issued thereunder. It must obtain an operating certificate from the Department of Transport without which it cannot commence the service. It must file schedules with the Board, as well as any subsequent amendments thereto, and also its tariffs and charges. The Board has the right to reject these if they are considered to be unjust or unreasonable or if they are unduly discriminatory, preferential or prejudicial. In general, licenses are not transferable and amendments may be made only by way of written endorsements, duly signed and sealed by the Board. All licenses are required to provide security, by insurance, bonds or otherwise to the satisfaction of the Board,

respecting liability to passengers and risks of public liability and property damage.

(d) Except with respect to main line and international routes, carriers are free to apply for any scheduled route or to operate non-scheduled services from any particular base.

(e) New routes are established, when they are of a main line or international nature, by consulatation and agreement between Trans-Canada Air Lines and the Canadian Government. Other routes, and non-scheduled operations, are generally left to the initiative of the carrier.

(f) New routes are not proposed by the Government, except in case of main line and international services. Since these are reserved to Trans-Canada Lines, no other carriers may aplly.

(g) Competition is not permitted over identical or similar routes, nor are non-scheduled operators permitted to operate to two or more points on a scheduled route.

(h) The Aeronautics Act provides that, where in the opinion of the Board a carrier has violated any of the conditions attached to its license the Board may cancel or suspend the license. Any air carrier whose license has been cancelled or suspended may appeal to the Minister. The Board also has powers to suspend, cancel or amend any license or any part thereof where in the opinion of the Board, public convenience and necessity so requires.

2. Rates.

(a) Under the terms of the Aeronautics Act, and "subject to the approval of the Governor in Council, the Board may make regulations ... respecting traffic, tolls and tariffs, and providing for the disallowance or suspension of any tariff by the Board, the substitution by the licensee of a tariff satisfactory to the Board or the prescription by the Board of other tolls in lieu of the tolls so disallowed." In other words, the Board has very broad powers with regard to the determination of tolls and tariffs, although their original creation is left to the carriers.

(b) Neither the Aeronautics Act nor the Board's regulations respecting commercial air services are specific as to the bases on which tolls and charges shall be determined. The regulations say: "The Board may determine and prescribe what are just and reasonable, individual or joint tolls, or may prescribe what is the maximum or minimum, or maximum and minimum toll to be charged, and what individual or joint classification, rule, regulation, terms and conditions of carriage, or practice shall prevail in respect of the services

performed or to be performed by air carriers." In view of these broad powers it may be presumed that economic, competitive, political and social considerations all enter into the determination of rates and charges, and as they are reviewed or finally established by the Board.

(c) While in the first instance rates may be determined by the carrier, they must be filed with the Board and, so long as they are deemed by the Board to be just and reasonable and not discriminatory and, so long as they conform to the Board's regulations, they will be approved by the Board in the light of the economic and other factors involved. In other words, the Board, while it has broad powers, does not fix the rate in most instances.

(d) Under the Board's regulations respecting commercial air services, discriminatory rates of any kind are prohibited.

3. Safety.

(a) The Department of Transport, in accordance with the Aeronautics Act, issues Air Regulations which govern and control aircraft operations, including safety requirements. These regulations are enforced by means of field inspectors and the Royal Canadian Mounted Police, who are familiar with the regulations.

(b) The Air Regulations, which follow very closely similar regulations of our Civil Aeronautics Administration, are believed to be adequate in the light of present standards and practices. While they are competently enforced this can be done only by means of spot checking in view of the large size of the country, the small and scattered population, and the limited number of enforcement officers.

(c) Safety regulations are enforced impartially.

4. Inspection.

(a) No aircraft may be flown in Canada unless it has been registered with the Department of Transport. It cannot be registered until it is certified as airworthy by the Minister in charge of Civil Aviation. The Department of Transport inspects and licenses all equipment, examines and licenses all operating personnel and investigates all accidents in accordance with the Air Regulations. As noted above, these regulations conform to, or are identical with those issued by the U. S. Civil Aeronautics Administration.

(b) The regulations are believed to be adequate in the light of present experience and established practice, and they are fairly and adequately enforced by the Department of Transport.

(c) Licenses may be revoked or suspended and, in the case of flagrant or repeated violations the individual may be arrested and prosecuted. Specifically, the Aeronautics Act states: "Any person guilty of violating such regulations shall be liable, on summary conviction, to a fine not exceeding $1,000 or to imprisonment for a term not exceeding six months or to both fine and imprisonment." In such cases, cancellation or suspesnion of the license would be automatic.

5. Airports and Communications.

(a) Regulations governing the use of airports are issued by the Department of Transport in accordance with the terms of the Aeronautics Act as supplemented by the Air Regulations of 1938, amended. The regulations, in general, follow those in force in the United States.

(b) The Dominion Government, through the Department of Transport, operates all main line airports. There is one known exception, viz., the city of Edmonton operates its own airport which it has taken over from the Department of Transport. Some airports, particularly along the Northwest Staging Route, are under the control of the Royal Canadian Air Force, although they are used for some civil air purposes, principally by Canadian Pacific Air Lines. Smaller airports are sometimes operated by the municipalities, or by the carriers themselves.

(c) Canadian procedures with regard to communications follow established international practice and conform to those in effect in the United States.

(d) The communication system is operated by the Radio Division of the Department of Transport.

6. Reports and Forms.

(a) & (b) The Air Transport Board requires air carriers to file with the Board returns with respect to their capital, traffic, equipment, working expenditures and any other matters with relation to the operations of commercial air services. All scheduled air carriers submit such detailed reports monthly and annually. These reports are studied and evaluated and are published monthly by the Dominion Bureau of Statistics. Non-scheduled operators, because of the special conditions which surround this type of operation, report to the Board on a less frequent basis. Their reports are consolidated and published by the Dominion Bureau of Statistics in a monthly sum total. None of these reports are published in detail, nor is the material which any of the carriers file with the Air Transport Board open for public inspection. It is not believed that these reports play too great a part in administering civil air policy.

They have been established so recently that they can have had no great effect in the granting of direct financial aid, but this is due largely to the fact that most scheduled operators do not wish to be dependent on the whim of Parliament for a yearly vote of a direct subsidy. Neither do the reports so far play any great part in assuring adequacy of service.

(c) Both the Air Cadet League and the Royal Canadian Flying Clubs Association hold annual meetings at which their annual reports are made public. The Government usually sends observers to these meetings and, where it is possible to do so, lends encouragement to the improvement of education and standards.

(d) The National Research Council publishes an annual report but since this is a Government agency it is a case of Government reporting on one of its own activities.

(f) and (g), (h), (i), (j). The Department of Transport is responsible for all matters under these headings. As already noted, its regulations are closely patterned on those in force in the United States.

D. GENERAL EVALUATION.

1. Generally speaking, the Government's civil air organizations, policies and rules of procedures are considered to be sound, honestly administered and fairly well adapted to the capacities, aims and requirements of the country's commerce, security and industry. There is some difference of opinion as to whether Government rules of procedure are progressive enough and, in view of the favored special position of Trans-Canada Air Lines, they may not always be regarded as strictly equitable. As indicated earlier, the Canadians follow a middle of the road policy with regard to civil aviation. That is to say they have both Government ownership and private enterprise. The middle course never satisfies the extreme right or the extreme left, and so there are some who criticize the Government for having gone to far, and others for not having gone far enough. There can be no question, however, but that the average Canadian, so far as he is aware or interested, is satisfied that present policies and organization meet the Dominion's requirements.

Most Government bureaus in Canada are understaffed. Certainly the Department of Transport and Air Transport Board could use more field personnel. Budgetary restrictions, however, do not permit this. In addition, most of the scheduled operators would like to see Government assistance in the form of mail pay, but the Post Office Department objects to being used as a subsidy medium. While a governmental grant would make possible a considerable expansion of Air Services, on the

whole the policies now in force seem to serve present needs reasonably well.

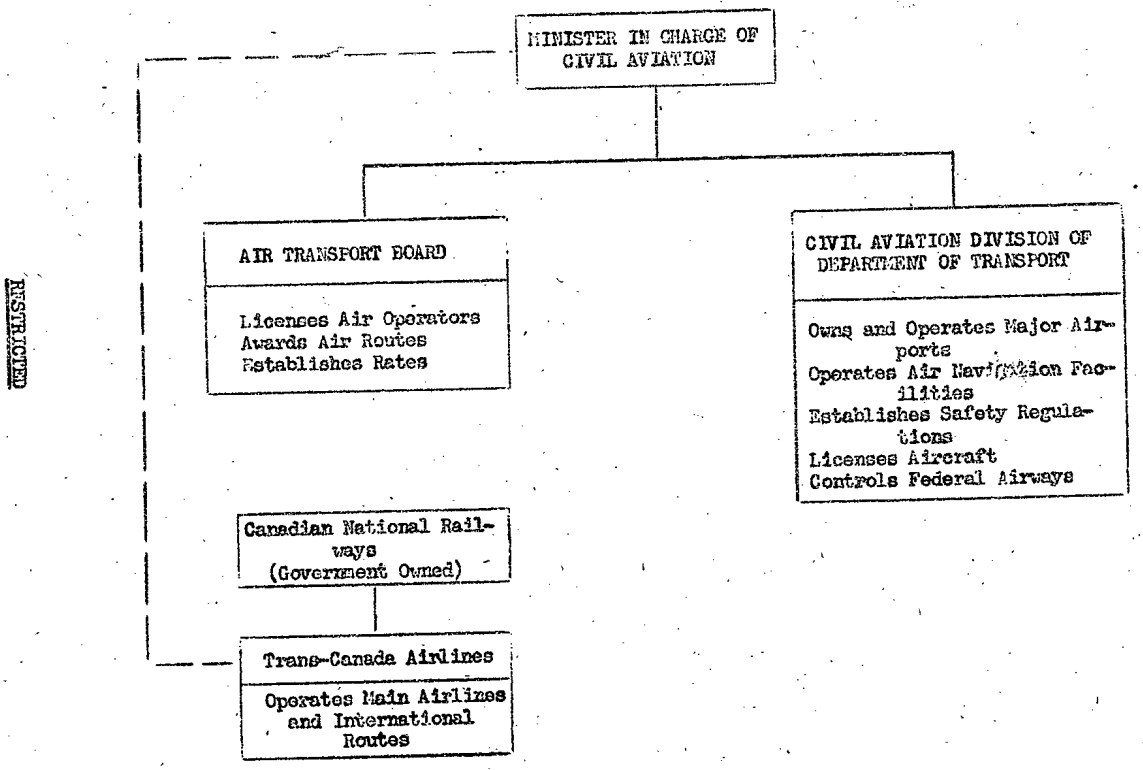
Naturally, Trans-Canada Air Lines, as a Government owned instrument, is in a favored position since the Government is treating with itself. However, so far as meeting operating rules and standards are concerned, T.C.A. is in the position of any other carrier and is not shown any favoritism.

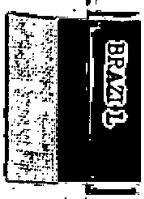
2. The Government's chosen instrument policy is largely responsible for the present strength of Canadian aviation. Certainly, the rapid expansion which has taken place during the last ten years could not have been accomplished through the medium of Canadian private interests. Speaking from the operational point only, T.C.A.'s performance is certainly as good as that of any first class air line in the United States. There is a definite tendency, however, toward "Empire building" and there seems to be no doubt but that the company is at present overstaffed. Furthermore, whether the Government realizes it or not, there is a strong tendency within T.C.A. to absorb more and more "main line" routes, thereby depriving private operators of their most lucrative routes which, in turn, tends to force them out of business. Eventually, and unless this tendency is curbed there may be no private air transport enterprise left in Canada, except for small bush operations. At the moment, there is a reasonably happy balance between public and private ownership and operation. It is a delicate balance which could easily be upset, resulting probably in complete state ownership and operation of all scheduled routes in Canada. Such an action would be out of accord with Canadian tradition and temperament.

In Canada, the policy of government ownership of air Transport facilities came about through lack of response on the part of private capital to a government proposal that it go into partnership with the Government-owned Canadian National Railway in establishing a Trans Continental Air line. This reluctance was probably due to the fact that the Government would have had a controlling interest (51%) of the stock with the balance distributed between the privately owned Canadian Airways and Canadian Pacific Railroad. It appears doubtful, however, whether private interests under any circumstances would have been willing to put up the capital for a Trans Continental Air line, badly needed though it was. There is an old saying in Canada that "the average Canadian will not invest a nickel to make a dollar, whereas an American will invest a dollar to make a nickel."

CIVIL AIR POLICY

CANADA





BRAZIL

CIVIL AVIATION - BRAZIL

A. CIVIL AIR POLICIES

1. The basic Brazilian Air Code is contained in Decree-law no. 483 issued June 8, 1938. The preamble and first three articles of this Code state certain considerations and principles that may be considered basic policy, as follows:

Decree-law No. 483 of June 8, 1938

The President of the Republic of the United States of Brazil, in accordance with the powers conferred on him by Art. 180 of the Constitution:

Considering that it becomes necessary to establish for the country legislation capable of efficiently controlling civil and commercial aviation;

Considering that the Brazilian legislation must accompany the progress of civil and commercial aviation all over the world;

Considering that it is equally necessary that the Brazilian legislation be in accordance with the most recent conventions and with the present measures on air law:

Resolves to decree the following Brazilian Air Code, which is signed by the Ministers of State.

Brazilian Air Code

Art. 1. The United States of Brazil exercises complete and exclusive sovereignty over the airspace situated above its territory and respective territorial waters.

Art. 2. Air law is governed by the conventions and treaties to which Brazil has adhered or ratified, and by this Code.

Art. 3. Air law is exclusively under federal jurisdiction for legislative and administrative purposes.

Sole paragraph. There can only be delegated to the States of the Union powers of an administrative character provided they are exercised under inspection of the respective federal authorities.

As regards international air policy President Dutra stated in his annual message to the National Congress on March 15, 1947:

"In accordance with the principles established by the Chicago Conference in 1944, Brazil is

beginning a new arrangement for its international air transport policy, comprising the agreements recently concluded with the United States, Great Britain and Northern Ireland, Portugal and France...

"At the above-mentioned Conference the conclusion was reached that the establishment of airlines should be done by direct negotiations between governments, thus doing away with the agreements which were made between governments and the interested companies.

"Such procedure has for its purpose the eliminating of discriminatory practices between the States and to establish uniform regulatory standards of air navigation between them."

An additional feature of the Dutra Government's basic policy toward all aviation is economy, required, in his words, by "The economic, financial crisis confronting the country".

It appears that Brazilian air transport companies designated to operate abroad under agreements with other countries are regarded as instruments of national policy.

The Federal Government, through the Ministry of Aeronautics, assumes responsibility for determining policy with respect to all Brazilian aviation.

2. (a) Contracts are issued to airlines selected by the Air Ministry to operate scheduled flights along the routes considered important to the nation by that Ministry. These contracts carry varying amounts of pay on a kilometer basis and are issued for varying periods. A five year contract dated September 2, 1947, for example, was granted Panair do Brasil for a route along the Amazon. This contract provides a subsidy of Cr$5.00 a kilometer from Manaos to Belem, and Cr$15.00 a kilometer from Belem to Porto Velho. The rates vary according to the economic possibilities of a route and the number of companies interested in operating it.

(b) Non-scheduled air transport is not officially promoted by the Government and is restricted by regulations requiring that every revenue flight must be approved in advance by the Directory of Civil Aeronautics (DAC) of the Air Ministry in Rio. There is at present, however, a wide-spread development of air taxi services in process, which ignores these regulations, and the DAC has not the means nor has it apparently the inclination for enforcement.

(c) Private flying is encouraged through an extensive system of subsidized aero clubs. Despite considerable reductions in their subsidies because of the present Government's policy of economy, the aero clubs are a very important

factor in the development of private flying in Brazil. The location of these clubs is determined by the degree of interest and financial support shown by local sponsors and is also determined by the DAC on the basis of the need for flying fields to enable small aircraft of limited range to fly from one inhabited sector of the country to another.

(d) There is very little promotion by the Government of aircraft manufacturing. A small Government factory is located at Galeao Airport which is still turning out a very few primary training planes of the Fairchild PT-19 type. This is primarily a plant for assembling prefabricated installations with parts shipped to Brazil from the United States. Final milling of parts and final assembly is done at Galeao, together with the necessary covering, doping and painting.

The privately-owned Government subsidized plant at Lagoa Santos near Belo Horizonte is inoperative at the moment due to litigation. This plant had a contract with the North American Aviation Company of the United States for the assembly of a limited number of AT-6 training planes.

The Government-owned and operated Fabrica de Motores near Rio de Janeiro, which was originally planned to produce Wright Whirlwind engines, is not a factor in the aircraft manufacturing industry, and it does not appear at the present time likely to become one. A very small number - less than 20 it is believed - of Wright Whirlwind engines were assembled from parts shipped from the United States.

A small privately owned company, Companhia Aeronautica Paulista, is manufacturing the Paulistinha, a two-place high-wing cabin monoplane powered with a Franklin 65 hp engine, at the rate of 500 a year.

(e&f) The following statement was made in the President's message to which reference has been made above:

> "In connection with the aeronautical industry there was created an Organization Commission of the Technical Aeronautical Center which, assisted by specialists from the Massachusetts Institute of Technology, established a plan for the construction of the referred to Center, where engineering courses with experimental laboratories will be given for training personnel."

Some research will be carried on at this Center, the first buildings of which are not expected to be completed before the end of 1948. It is believed that the main purpose of research projects will be to train aeronautical engineering personnel. The Center will also serve as a sort of Bureau of Standards to check the quality of aircraft and component parts used in Brazil. Until the first buildings of the

Center are ready for use at Sao Jose de Campos, some 60 miles east of Sao Paulo, engineering courses are being given to selected Air Ministry engineering officers by an American staff of six experts recruited under the direction of Professor R. H. Smith of MIT. No other aeronautical engineering courses are available in Brazil at the present time.

(g) An extensive training program for civilians is carried on with Government subsidy by the aero clubs. It is reliably estimated that there are at the present time some 7,000 persons in training. From this group of trainees private pilots are being licensed at the rate of approximately 1200 per year. As this training is subsidized by the Air Ministry, persons are not eligible for it who do not meet minimum qualifications for the Brazilian Air Force Reserve. This reserve status is more comparable to that of trainees engaged in the Civil Air Patrol program in the United States than to the reserve status of the U. S. Army Air Force or Naval Training Service Reserves. It is rather a form of recognition by the Brazilian Aero club pilots that they have an obligation to serve in the Brazilian Air Force in the event of a national emergency if they are qualified by further training.

The Air Ministry flight training center at Campos de Afonsos is training flight personnel for the regular air force at the present rate of approximately 100 a year. The training of maintenance personnel for the Air Force, air traffic controllers and other aviation personnel for the Air Ministry is being carried on at the Escola Tecnica de Aviacao in Sao Paulo. This school is reported to have a present enrollment of approximately 1,500 students. Upon the successful completion of specialist courses lasting from six to nine months, the students are graduated as sergeants in the Brazilian Air Force. No official program has been established for making training grants to foreigners, although from time to time it is understood that the Air Ministry invites limited numbers of students from neighboring countries such as Uruguay and Paraguay to attend courses at the Government schools mentioned above.

(h) As Brazil has practically no aeronautical manufacturing industry there is no official program for promoting Brazilian aeronautical equipment for export. Duties on imported aeronautical equipment is low, and when exchange restrictions were established on imports in June 1947 aeronautical equipment, both new and used, was given a preferred position in the allocation of foreign exchange.

(i) In the President's annual message he stated that "various (airport) construction works were carried out in various parts of the country, particularly in Sao Paulo and Rio de Janeiro; the airport of Santos Dumont and the bases at Afonsos and Santa Cruz and Galeao, the latter converted as the city airport. Nevertheless, in obeying the policy of economy, lavishness was prohibited, the superfluous was eliminated and

the transferable was delayed; only the indispensable was carried out". At the present time there appears to be no organized Government program for the promotion of airports for civilian use. Airport construction funds carried in the Air Ministry budget, the exact amount of which is difficult to determine, are reserved almost entirely for the maintenance and improvement of military fields.

(j) The Directory of Air Routes in the Air Ministry, a military organization, is charged with matters relating to the organization and operation of Federal airways and services in communications, meteorology, flight protection (i.e. traffic control) and airports. This Directory does not possess the means or the personnel to properly operate or maintain the air navigation facilities needed in Brazil at the present time. The Ministry has taken over the extensive facilities installed during the war by the US in Brazil, chiefly along the north coast and down the east coast as far as Rio, but the Directory of Air Routes is having difficulty in maintaining and operating these facilities with the exceedingly limited means and trained personnel at its disposal. Almost the only effective air navigation facilities are those installed, operated and maintained at the expense of private companies, such as Aerovias Brasil, Cruzeiro do Sul, Panair do Brasil and Varig. In order to conserve radio frequencies and to eliminate wasteful duplication the Government has from time to time considered the operation of all air navigation facilities in Brazil by a single agency, either a Government agency or a joint company supervised by the Government, but no final determination in this regard has yet been made.

3. (a) Brazil appears to favor or at least to permit competition by privately owned air carriers. The establishment of an agency which would issue certificates of convenience and necessity to airlines was decreed September 1946. The decree has not yet been implemented and new privately owned air transport companies continue to be formed in the absence of definite Government policy and regulation. From time to time a few of these new companies survive and become important air carriers.

The Directory of Air Routes in the Air Ministry operates a small fleet of transport planes as a national mail service, which flies an extended system of air routes carrying about 10% of the Brazilian airmail. A primary reason for its operation is Air Transport Command training for Brazilian Air Force pilots.

Commercial Enterprises are allowed to operate in Brazil, provided: (a) that the owners are Brazilian citizens or Brazilian juridical persons (i.e., a company organized under Brazilian law); (b) that they have their head offices in Brazil; (c) that the company is fully managed by Brazilians; and (d) that at least 1/3 of the capital stock is owned by Brazilians domiciled in Brazil. This applies to airlines as well as to other enterprises. As regards Brazilian airlines operating abroad, however, the Air Ministry and the Brazilian

Foreign Office have determined that no Brazilian airline will be designated to operate abroad unless a majority of its voting stock is controlled by Brazilian nationals.

(b) The Brazilian aircraft manufacturing industry is negligible. Specific Government policies affecting such ownership, other than the stock ownership rule mentioned above, are not apparent.

(d) Brazil reserves all cabotage privileges for its domestic airlines. It is negotiating with other countries air transport agreements similar to that concluded with the United States and looks to the provisions of such agreements to assure protection of its national airlines engaged in international services.

(e) There is no subsidization of the small aeronautical manufacturing industry in Brazil. The subsidization afforded air carriers, airports, education and training has been discussed in paragraph 2 (a), (f), (g).

(f) There is no current development of transport aircraft within Brazil.

(g) Brazil expects its airlines to use foreign transport aircraft and interposes no barriers to such use. To some extent it facilitates such use, as indicated in 2 (h).

(h) The first air transport agreement with a foreign country was concluded by Brazil with the United States in September 1946. Brazil has used this agreement with the United States as a model for its negotiations with other countries and proposes to continue to do so, as indicated by the words from President Dutra's annual message mentioned in paragraph 1 above. Brazil's policy with regard to a multilateral air transport agreement is being further studied in preparation for the forthcoming multilateral air transport agreement meeting at Geneva. It is believed to be generally favorable to the widest possible development of a multilateral approach to international air transportation, based on the principles of the Bermuda Agreement.

Brazil's policy is one of caution in granting routes transiting the country to foreign airlines. It appears that Brazil is disposed to grant routes to foreign airlines between another country and third countries which are reasonably direct and follow the Brazilian coastline, the "cut-off" route between Belem and Rio de Janeiro and the south, or a direct route from the west via Corumba, Campo Grande, Sao Paulo and Rio de Janeiro. Brazil appears interested in the eventual development by both domestic and foreign airlines of a

route running through Manaos, Goiania, to and from Rio de Janeiro. It appears to oppose the granting of "lateral", i.e. east-west, routes to foreign airlines unless those routes are reasonably direct portions of a route between another country and a third country, as in the case of the route granted the United States via intermediate points on the west coast of South America, Campo Grande, Sao Paulo and Rio de Janeiro, pending the development of the Manaos, Goiania, Rio de Janeiro route.

Brazil is a member of the International Civil Aviation Organization, and it is the policy of the present Government to support this organization. Brazil is represented on the ICAO Council.

4. The Air Ministry, which controls all aviation in Brazil, is essentially a military organization. The Air Ministry appears primarily concerned with security problems and the operation of the Brazilian Air Force. Few if any of its top-policy forming officials are acquainted with civilian aviation problems.

Although the Air Ministry is cognizant of the contributions which the civil air transport system can make to military defense in a national emergency, it does not appear to have taken definite steps in this connection to an extent that influences civil air policy. On the other hand military offices within the Air Ministry control civil aviation to a large extent. The Directory of Supply, a military office, inspects civilian aircraft, and the Directory of Civil Aeronautics issues air-worthiness certificates on the basis of inspections performed by the Directory of Supply; the Directory of Air Routes, also a military organization, controls air traffic and determines whether airports are suitable for use by civilian aircraft.

Civil air transport is regarded primarily as a commercial activity of economic and political value. It appears to receive scant consideration as a reinforcement of the military air potential and is not regarded as a justification for the maintenance of a manufacturing industry.

5. Brazil is influenced in its international air transport policy by its desire to adhere in negotiations with other countries to the same type of agreement it negotiated with the United States in September 1946. No other foreign influence appears worth mentioning in so far as Brazil's civil air policies are concerned.

6. Reliable figures for estimates of current Government and private expenditures for each of the activities mentioned in paragraph (2) are not available in all instances, partly because Brazilian budgets, both Government and private, often appear intended to conceal as much as to reveal. There are listed below, however, all available data which is considered reasonably reliable. There is no reliable

estimate of Brazilian national income:

The national budget for the current year is Cr$12,003,650,000 (approximately $600,182,500)

The Air Ministry budget for the current year is Cr$1,165,047,215 (approximately $58,252,360 or 9.7% of the national budget)

The Air Ministry budget carries the following items:

Scheduled air transport

For payments to air carriers of the type mentioned in paragraph 2(a) Cr$35,000,000 (approximately $1,750,000)

Private flying

Aero club training program as mentioned in paragraph 2(g) Cr$7,870,576 (approximately $393,500). These payments are planned on an incentive basis which it is estimated will result in some 140,000 hours of flying, mainly in small ships of the Paulistinha, Aeronca, or Piper Cub type.

Research and Aeronautical engineering education

Cr$30,000,000 (approximately $1,500,000) for expenditure by the Technical Aeronautical Center, mentioned in paragraph 2(f).

Training of pilots and technicians, including grants to foreigners

For training of civilian pilots see (c) above. For training of technicians the Escola Tecnica de Aviacao mentioned in paragraph 2(g) Cr$70,000,000 (approximately $3,500,000)

Airports

For the maintenance and improvement of aerodromes Cr$77,500,000 (approximately $3,850,000)

7. Although a few of the principal airlines appear to exert influence on civil air policy, no agencies of the government seem dominated by these interests. The large airlines exerting such influence are Aerovias Brasil, Cruzerio do Sul, Panair do Brasil and Varig. A smaller airline, Navegacao Aerea Sraeileira, also exerts considerable influence. These companies, together with Vasp, influence

very largely the Brazilian Air Transport Association (Syndicato Nacional dos Aeroviarios) through which standard rates for passenger and cargo fares are recommended. These recommendations are almost invariably adopted by the Air Ministry. All the scheduled airlines of Brazil and many of the other transport companies which sometimes operate virtually as scheduled airlines, though they have not applied for such classification, belong to the Brazilian Air Transport Association. Although many of the smaller lines fear the competition of the larger companies, they usually follow their lead in most matters because of their recognized superior knowledge of air transport operations.

In the absence of Government economic regulations the principal effort of these large companies appears to be directed toward an avoidance of difficult competitive situations. At the end of 1946 the Air Ministry established a new higher scale of air fares. In August 1947 it established again a higher standard of air fares, acting in both instances upon the solicitation of the Air Transport Association, and despite considerable protest by the public, newspapers, some members of Congress and some smaller airlines which did not wish to raise their fares. The larger companies go to some lengths to avoid competition with others. Cruzeiro do Sul, for instance, underwent difficulties this year with the Uruguayan authorities because it declined to land at Montevideo since that city was already served by Varig. There appears to be a tacit agreement that Cruzeiro do Sul will not seek routes to Europe while Panair do Brasil operates such routes.

8. The extent of government sponsorship, control and subsidization is indicated under 2(e), (f) and (g).

9. Research is carried out only to the extent indicated in paragraph 2 (e).

10. The Government does not subsidize aircraft development or research.

B. CIVIL AIR ORGANIZATION

1. All agencies of the Brazilian Government concerned with civil aviation lie at present within the Air Ministry. They are principally the Directorate of Civil Aeronautics, the Directorate of Supply and the Directorate of Air Routes. The newly-formed Congress has not yet established committees primarily concerned with civil aviation.

2.(a) Under Decree-law No. 9888 issued by President Dutra, September 16, 1946, the Director of Air Routes is charged with matters relating to the organization and operation of federal airways and services in communications, meteorology, traffic control and airports. The Director of Civil Aeronautics is charged with legal, technical and administrative problems relating to commercial and tourist (private) aviation with the exception of the operational control of air traffic. The Decree states further that the Director General of Civil Aeronautics is a Brigadier for Air or a civil engineer of the Ministry of Aeronautics, who has authority with regard to the

inspecting and coordinating of aero clubs, civil aviation schools, air transport companies, civil aircraft in general, and civil airmen in general. Notwithstanding the foregoing, inspections of civil aircraft are performed by the Directorate of Supply, and it is on the basis of inspections by the Directorate of Supply that the Directorate of Civil Aeronautics issues airworthiness certificates.

(b) The Air Ministry was creater by President Decree-law No. 2961, January 20, 1941, to direct all aviation activity in Brazil, both military and civil. Up to that time there had been (a) a separate department of civil aeronautics in the Ministry of Transport and Public Works with responsibility for civil aviation, and (b) air services of the army and navy with responsibility for their aviation requirements. The Air Ministry is now organized on the basis of the above-mentioned Decree-law No. 9888, Chapter I, Article 1, which states that the Air Ministry is charged with all duties related to Military and civil aeronautics, specifically "(a) to cooperate with the other agencies of the Government in order to guarantee legal order and assure national defense; (b) to organize, equip and instruct the Brazilian Air Force; (c) to regulate, develop and coordinate civil and commercial aviation; and (d) to coordinate and stimulate the aeronautical industry of the country."

(c) Many other countries have established an over-all government agency of cabinet rank with over-all responsibility for aviation. A desire to emulate these examples, coupled with the need to avoid duplication wherever possible in view of Brazil's limited financial resources, was probably basic to the formulation of the Air Ministry. Added to this there was evidence of a desire on the part of military influences, which are very strong in Brazil, to exercise control over all aviation particularly at a time when war clouds were gathering.

3. (a) While aviation interests are reluctant to criticize openly, the airlines do not appear to feel that the Air Ministry is functioning efficiently and in the public interest with respect to civilian aviation. In general, these interests are unhappy over the lack of attention and sympathetic interest in civilian aviation problems afforded by the top advisers of the Air Ministry; in particular, they are dissatisfied with the operation of air traffic control and air navigation facilities by the Directorate of Air Routes, and each company to the largest extent possible operates its own air navigation facilities. They are dissatisfied too with the functioning of the Directorate of Civil Aeronautics, although they recognize this is largely due to the very limited appropriations, personnel and authority assigned to it by the Air Ministry.

(b) It does not appear that competitive forms of transportation react particularly to the functioning of the Air Ministry.

(c) Political parties have not yet made a major issue of the functioning of the Air Ministry, although there has been considerable criticism in some opposition quarters of the continued trend for higher air fares, and of the lack of initiative in respect to the use of aerial means to combat the current locust plague in the south.

(d) The armed forces appear satisfied with present arrangements.

(e) The general public has been critical of the trend towards higher air fares and appears inclined to blame the Air Ministry as well as the air transport companies for it. Those members of the general public who own or wish to own personal aircraft are dissatisfied with the functioning of the Air Ministry because of the maze of red tape which complicates the issuance of certificates of ownership and airworthiness and of regulations which prevent the sale of aircraft on a time-payment basis.

4. Duplications and overlapping within the framework of the Air Ministry are resolved by appeal to the Air Minister.

5. No serious consideration appears to be given, by those in power to do so, to the abolishment, reorganization or combination of agencies, or to the creation of new ones.

C. PROCEDURES AND REGULATIONS

1. (a) The Directory of Civil Aeronautics, with the approval of the Air Minister, awards air routes to designated carriers.

(b) Among the considerations that determine the granting of a route to a particular carrier are the interest of the carrier in operating the route, the demands of the community for service, and the degree of traffic congestion along the route. There appear to be no definite policy guides or directives, except possibly with respect to traffic congestion. In this latter connection, for example, it is difficult for new schedules to be established on the Rio-Sao Paulo route either by new companies or by companies already operating the route, because the authorities have determined that there should be a space of at least five minutes between each take-off at the Rio and Sao Paulo terminals in order to prevent unsafe traffic congestion. All permitted scheduled take-off times at five minute intervals at the most popular hours of traffic have been allotted out of Santos Dumont Airport at Rio, thus preventing the establishment of new schedules by any company unless an existing schedule is abandoned. This arbitrary separation interval is not, however, coupled with effective control of cruising altitudes and cruising power.

(c) A typical recent contract is that between the Air Ministry and the scheduled airline, Linhas Aereas Brasilieras, S.A., for the operation of a route between Rio de Janeiro and Vitoria.

This contract provides for: a minimum of two round trips a week; the type of aircraft to be used, specifying the number of motors, capacity, cruising speed, range, instrument flying equipment, radio communications, and fire extinguishers; a guarantee that the airline will place sufficient personnel and aircraft in operation to assure the carrying out of the services; an obligation that the line will establish and develop traffic with other airlines in the area under conditions approved by the Air Minister; a schedule of penalties for not initiating or completing schedules, for violation of the equipment requirements, and for any other provision of the contract, and respect for air fare rates approved by the Government. The contract remains in force for a period of two years. It carries no monopoly privileges. The contract may be cancelled without recourse by the airline if the operation of the services interferes with the public order or safety; if the service is not commenced within 60 days after registration; if the operation of the line is interrupted for more than one month; if the contract is transferred without Government authorization, and if the fines are not paid within an established period. The line must submit for the approval of the Air Minister its operating and maintenance procedures within 90 days after the contract comes into force.

(d) It is not known whether any carriers are compelled to operate routes against their will. As indicated in paragraph (c) there are penalties imposed if they have agreed to operate certain schedules and fail to carry them out.

(e) Most routes in Brazil appear to have been established on the initiative of the carriers. In a few instances, however, as in the case of the Amazon route cited in paragraph 1-2 (a), the Government has taken the initiative in determining that a route shall be operated.

(f) All carriers are entitled to apply for any proposed new routes.

(g) Competition is permitted over identical or similar routes.

(h) Carrier certificates can be revoked or revised under the circumstances indicated in (c).

2. (a) Rates are fixed by the Government on the basis of rate schedules submitted by the carriers through the Air Transport Association. (See A-7).

(b) Rates appear to be based on economic and competitive considerations as determined largely by the carriers themselves through the Air Transport Association.

(c) The establishment of rates is discussed in A-7.

(d) Discriminatory rates are not permitted, but rate-cutting practices are widespread, and neither the Government nor the airlines themselves through their Association seem able to control rate-cutting effectively.

3. (a) As indicated in pragraph A-4, the rules and regulations concerning the airworthiness of aircraft are applied through the Directorate of Supply. Air traffic rules and the safety standards at airports are applied through the Directorate of Air Routes, although orders and certificates in both regards are often issued through the Directorate of Civil Aeronautics on the basis of directives received by the latter from the Directorate of Supply and Air Routes.

(b) The regulations are not adequate and they are not competently and strictly enforced.

(c) The enforcement of safety regulations does not appear to be used as a means of showing favoritism to certain carriers.

4. (a) Chapter II, Article 24, of the Brazilian Air Code Decree-law No. 438 of June 8, 1938, states that all aircraft must possess certificates of airworthiness and registration, and whatever other documents are required by administrative regulations. Chapter III, Article 28 of this same code provides that all airmen - pilots, navigators, mechanics and radio operators - must possess licenses. Such certificates and licenses are issued by the Directorate of Civil Aeronautics after inspection or examination of qualified equipment or airmen by inspectors of the Directorate of Supply, or in the case of airmen, by inspectors of the Directorate of Civil Aeronautics. All civilian accidents are supposed to be investigated by a designated inspector of the Directorate of Supply and the DAC. No definite standards exist for such inspections, examinations or investigation.

(b) The regulations are inadequate. Their enforcement is as indicated in paragraph (a) above.

(c) Fines are established on scales that vary from time to time for violation of regulations. Airline companies are fined when their pilots are reported for breaches of regulations. Repeated or severe infractions of regulations result in suspension of certificates and licenses.

5. (a) Aerodromes designated for civilian use are open to civilian aircraft in compliance with air traffic regulations as issued and revised from time to time by the Flight Protection Division of the Directorate of Air Routes.

(b) Nearly all airports used by civilian aircraft in Brazil are operated by the Air Ministry under responsibilities that are divided between the Directorate of Civil Aeronautics and the Directorate of Air Routes. When an aircraft is in motion on the ground or in the air it is under the control of the Directorate of Air Routes. Other administrative and operating responsibilities concerned with the installations and maintenance of passenger terminal buildings and the clearances of ship papers, etc., are the responsibility of the DAC. The construction and maintenance of aerodromes is largely the responsibility of the Directorate of Works in the Air Ministry.

In a very few instances, such as the aerodrome at Barreiras, an isolated point midway between Rio and Belem along the cut-off route, the aerodrome is operated by one of the airlines using the aerodrome.

(c) Communications systems are operated by the Air Ministry and some airlines. Air traffic controlled zones have been established around principal traffic centers and aircraft entering those zones are required to give position reports and to comply with air traffic rules issued by the Directorate of Air Routes, which operates most of the control towers most of the time.

(d) The Directorate of Air Routes operates the Air Ministry network; some airlines, including Aerovias Brasil, Cruzeiro do Sul, Navegacao Aerea Brasileira, Panair do Brasil and Varig, operate their own communications systems. An informal survey made within the past six months indicates approximately 120 company-owned communications stations, of which approximately 100 are owned and operated by Cruzeiro do Sul and Panair do Brasil, the remaining 20-odd belonging to the other airlines named above.

6. (a) The Air Ministry requires the following traffic information to be submitted monthly by air carriers: kilometers flown on revenue flights and non-revenue flights; the number of passenger kilometers flown; the number of seat kilometers flown; the load factor in percentage; the average number of passengers per flight; the average of seats per flight; the total number of passengers carried; the average distance flown per passenger in kilometers; the average flight length in kilometers; kilograms of mail transported; mail metric-ton kilometers carried; the average mail load carried; air cargo (express or freight); total kilograms carried; air cargo ton kilometers; average load of air cargo per flight in kilograms; total kilograms of baggage carried; ton kilometers of baggage carried; average baggage load carried in kilograms; average total weight of passengers, mail, cargo and baggage carried per flight; revenue hours flown; registered aircraft in use; kilograms scheduled to be flown; kilograms actually flown; scheduled completions in percent; total subsidized kilograms to be flown; total subsidized kilograms actually flown; percentage of subsidized kilograms to be flown as compared with those actually flown; average number of daily flights; average flight utilization of equipment in hours per day; average kilograms flown per airplane per day.

(b) Before the advent of ICAO no data on expenses, revenues and rates were required of airlines by the Air Ministry. This year the Air Ministry commenced obtaining such information as required by ICAO from the Brazilian airlines engaged in international service, including Cruzeiro do Sul, Panair do Brasil and Varig. Aerovias Brasil will also be required to submit such information.

(c) The aero clubs are required to submit periodic reports on the number of students in training and the number of hours flown.

(e) Pilots are required to submit to annual physical examinations by a designated medical examiner.

(f) Pilots are required to undergo a flight check with a designated examiner of the Air Ministry for each new type of airplane they propose to fly. The names of types of airplanes for which a pilot has been approved are written on his license by the examiner.

(g) Each six months every civilian aircraft must be inspected by a representative of the Directorate of Supply. The number of hours flown apparently has no bearing on the timing of this inspection, it is a regular semi-annual affair, and is usually performed in a rather perfunctory manner, often by persons whose technical knowledge and experience are obviously inadequate. The inspection report covers one double-spaced page of a hectographed form which calls for the following information:

Type of aircraft
Date and place of examination
Factory number of aircraft
Owner of the aircraft
Classification (whether transport, private or other)
Pilot in charge

Airframe Data

Airframe hours flown: Total:
From last overhaul:

Power Plant Data

Motor make
Type
Number
Hours of operation since last overhaul
Propeller: Type: Factory number:
Pitch: Diameter:

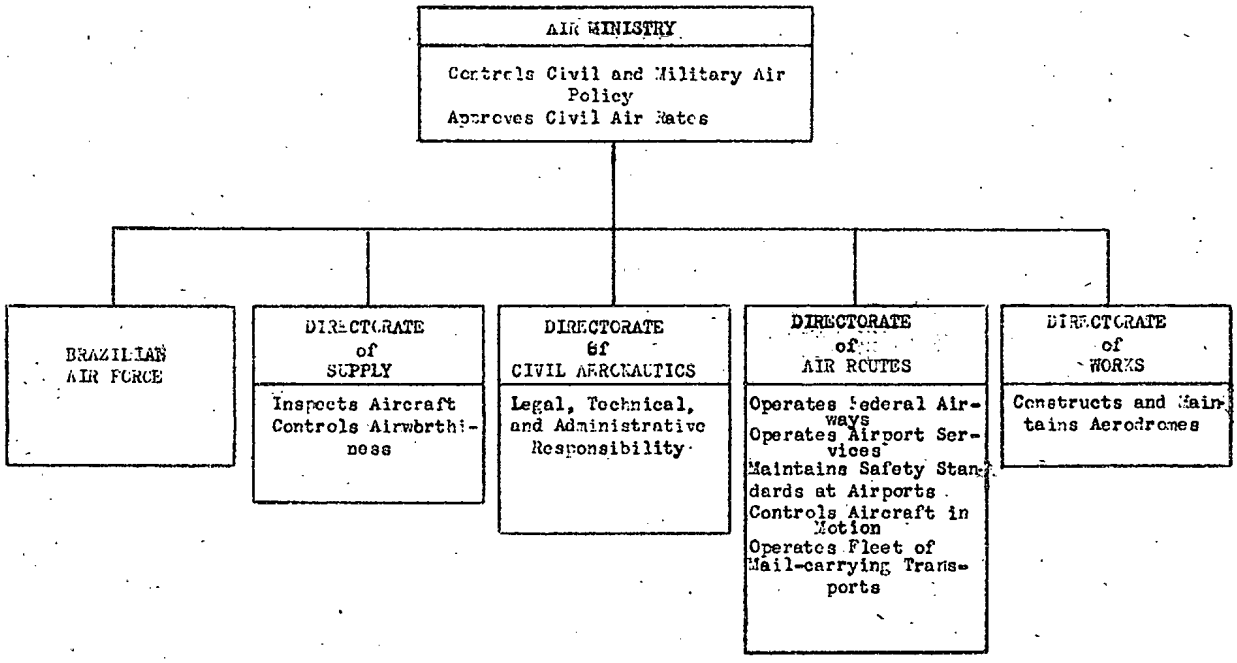
Provisions for fire protection
First aid kits.

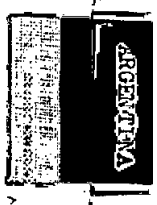
(h) After the initial inspection of each aircraft by an inspector of the Directorate of Supply for the issuance of an airworthiness certificate, the semi-annual inspection mentioned in (g) is required.

(i) No definite procedures or forms appear to be required in connection with accidents.

(j) All periodic special reports, examinations reports or other forms applying to civilian aircraft are submitted to the Directorate of Civil Aeronautics. The traffic statistics

CIVIL AIR POLICY
BRAZIL





ARGENTINA

CIVIL AVIATION - ARGENTINA

A. CIVIL AIR POLICIES

1. Civil aviation is definitely regarded as an instrument of Argentine national policy. The state determines all policy with respect to aviation within the country. It is the stated policy of the Argentine government that international operations should be limited as much as possible to 3rd and 4th freedom traffic. Since it is contended that every country has a proprietary interest in traffic which it generates, it is argued that traffic between two countries should be divided equally between the airlines of those countries. According to this policy, 5th freedom traffic should only be permitted in a country which either has no international airline of its own, or is unable or unwilling to handle all its own traffic. This policy is still maintained despite the exception made in granting 5th freedom rights to the US in a recently concluded agreement with the United States.

2. (a) Development and expansion of scheduled air transport is promoted in the following manner: The "chosen instrument" airline, FAMA, is organized with the government holding 30% and private interests 70% of the stock. While private stockholders are devoid of authority in the organization they have been encouraged to invest in this venture by the government's guarantee of a minimum five percent yearly return. The same system is in effect with respect to domestic airlines. Government investment in the three domestic airlines, however, amounts to only 20 percent. The airlines are also encouraged by the operations of the Army Air Transport Corps (LADE) which is charged with developing new routes considered to be of national interest but which are not sufficiently remunerative to interest the regular domestic airlines. If such a route is taken over by which ever carrier is operating in the zone it eventually produces sufficient traffic to warrant scheduled operations.

(b) Non-scheduled air transport is subject to restrictive regulations which are having the effect of discouraging these operations to a considerable extent. Furthermore, it is the stated policy of the government to protect scheduled air carriers from all competition from non-scheduled air carriers. Both in the domestic and international field no permits for non-scheduled operations are likely if these in any way compete with scheduled carriers, and such permits are given only when the services are of such a nature that they cannot be performed by the scheduled carriers.

(c) It is Argentine Policy to give generous financial and technical aid to the various flying clubs, reducing the expense of flying training for the individual student to a figure which is approximately 20 percent of the actual cost. On the other hand, the State, keeps strict and complete control over these operations, which are designed to fit into the pattern of military training, rather than to serve

the convenience of private aircraft owners.

(d) & (e) Practically all aircraft manufacturing and research are being carried out under the direction of the Army at the Cordoba Military Institute. This institute has already produced a twin engine bomber and a jet trainer There are only two private organizations known to be engaged in the manufacture of aircraft. One is working on a twin engine five-passenger transport similar to the Cessna UC-78; the other has built a 150 HP tandem trainer similar to the Miles Magister. One firm is licensed to manufacture Cheetah engines and another is licensed to build a German type radial engine. Neither of these are believed to be in production. As far as is known, no private research of importance is carried out.

(f) There are no courses in aeronautical engineering offered in Argentina.

(g) The only aeronautical training offered in Argentina besides that given in the civilian flying clubs is under Army supervision. There is a military aero-technical institute having nine schools and a total of about 800 apprentice mechanics, a meteorological institute giving on the job training, and a medico-aeronautical institute which offers courses in this field. Grants to foreigners for aeronautical studies have been extended only to military cadets, and these are neither frequent nor numerous.

(h) Argentina has announced the intention of encouraging local production of equipment in every possible way and protecting domestic production.

(i) & (j) All airports and air navigational facilities are the property of the government and controlled by the Secretariat of Aeronautics. Meteorological stations and cartographic offices are also under government auspices.

3. (a) It has been pointed out that air carriers are owned by mixed companies having minority government interest and majority private interest. The reason given for this policy by the highest aeronautical authority, the Secretary, is that in this way private capital will be attracted (under certain government controls) but that the participation of private interests will also serve to avoid the dangers of monopoly or statism.

Foreigners are not permitted to own interests in the mixed companies.

(b) The government has announced a policy of encouraging the development of the aeronautical industry by private individuals, as well as by the state, but in practice 99 percent of this industry is owned by the government.

(c) The policy of the government aeronautical authorities with respect to domestic operations is to divide the country into separate zones, each zone being allocated to a certain airline. This eliminates all competition within zones. While the carriers do not have actual monoplies of operations in their zones they do have a prior right to offer any service. Theoretically long distance domestic routes crossing more than one zone may be approved but none has been offered as yet.

(d) Domestic airlines are protected against competition with foreign carriers by the barring of all cabotage operations by foreign lines. It has been the policy of the government to attempt to obtain international agreements whereby the international airline, FAMA, is protected against competition by requiring foreign carriers to limit flight frequencies (capacity) and routes.

(e) Air carriers are subsidized by guaranteeing all private stockholders a five percent interest on their capital. Airline losses are covered by deficits in the national budget. It is stated in the Five-Year Plan that the government's policy with respect to manufacturing is to encourage it in every possible way, including restrictions on imports and exchange differentials, and also by favoring national production in all cases where it is possible to obtain domestic material. The reasons given for this policy are the necessity, from the military point of view, of establishing a basic aeronautical industry, and the importance from the social point of view of ecouraging industries which afford employment and private income. It is the government policy to own all airports as well as aeronautical services of all kinds. Aeronautical education and training is being encouraged very actively. School children are given texts and material for the construction of model airplanes, prizes are offered for competitions in design and construction of these models, new courses are being offered in several of the government schools. In addition to the encouragment given to private pilots through the club program of training, cadets are offered military courses under extremely favorable circumstances, which in some cases include scholarships covering all the expenses of the training period. This ecnouragement is extended also to mechanics and other technicians. No advanced courses, however, such as the engineering courses at present offered in the United States are available in Argentina.

(f) It is the stated policy of the government as a feature of the Five-Year Plan, to develop transport Aircraft, including twin engine and possibly four engine types.

(g) Foreign aircraft are being used by the Argentine airlines. There are no restriction with regard to the nationality in such aircraft.

(h) Argentine policy insists on reciprocal treatment by any country with which it has a bilateral air agreement. This reciprocal treatment involves a mathematical division of the 3rd, 4th and 5th freedom traffics. In conformity with this policy, agreements have been reached with the governments of Great Britain, Portugal, and Spain. As a result of insistence on this policy, however, Argentina has failed to obtain agreements with Holland, the Scandinavian countries, France, Chile, Uruguay, Brazil, and Peru. Consequently, foreign airlines entering Argentina, either operate in accordance with one of the three formal agreements satisfactory to Argentina or under temporary air agreements which are also in accordance with Argentina policy. Argentina is in favor of a multi-lateral air agreement but does not believe such an agreement to be possible at the present time in view of the great diversity of views held by the numerous possible signatories to such an agreement. Argentina is a member of ICAO and FAMA is a member of IATA.

4. Civil air policy is greatly influenced by military air requirements and the Armed Forces are in absolute control of civil aviation in Argentina. It is believed that civil air transport is regarded primarily as a commercial activity of economic and political value although the military air potential is also very closely allied to these considerations. Economic considerations appear to outweigh the political aspects of civil air policy.

5. It has been Argentina's policy to sponsor the formation of a block of neighboring countries, making this block as large as possible, and within which the airlines of the member countries would have special privileges denied to outside the block operators. It was the intention of the Argentina authorities at one time to reserve all "regional cabotage" within this block to member countries. When this appeared impossible Argentina attempted to impose such restrictions as, for instance, rate differentials and the arbitrary division of 3rd, 4th and 5th freedom traffic. Since this policy is directly opposed to the policy followed by the United States and by a number of countries, including several which Argentina hoped to include in the Latin American block, Argentina runs the risk of isolation in air operations. It appears however, that Argentina's Policy has been influenced to a certain extent by these developments because she has accepted an agreement with the United States which is contrary to her basic policy, and now may find herself forced by circumstances to accept similar agreements with numerous other countries. If Argentina continued to reject such agreements she would run the risk of being unable to operate at all in the international field of aviation.

6. Although current expenditures on Argentine air transport operations are not known, capital investments in the airlines may serve as an indication of expenditures in this field. They are as follows: FAMA, the international

airline, is capitalized at 37.5 million dollars with government ownership of one-third and private ownership of two-thirds of the capital. The three domestic airlines, ALFA, ZONDA and AEROPOSTA, are each capitalized at 2.5 million dollars with a State participation of one-fifth and private participation of four-fifths of the capital.

Expenditures and capital investment in the government airline LADE are difficult to estimate, but it is known that LADE has frequently carried on more extensive operations than any single domestic airline.

Total capital investments in the Argentine airlines can be roughly estimated at 50 million dollars.

The government subsidy to private flying in powered aircraft for 1947, as advanced to the clubs up to August 31, amounts to $376,419 for expenses and $104,436 for the purchase of new material, (representing 50% of the cost). Subsidies to gliding clubs for the first three months of 1947 amount to $7,805. Total subsidies to the clubs for the first eight months of 1947 are expected to amount to $500,000. During the first eight months of 1947 private expenditures by motorized flying clubs amounted to $104,436, covering the purchase of new aircraft.

Private expenditures for training probably amounted through August 1947 to $75,000.

While expenditures on non-scheduled transport, aircraft manufacturing and research, and the training of technicians are not known, it is known that the government has nine technical schools with 748 apprentices, besides the regular army cadet pilot training schools.

The government aircraft factories have produced to date:

Approximately 500 "Boyero" 65-HP trainers
300 DL-22 (AT-6 type) trainers
30 "Pulques" (light bomber, imitation of Mosquito)
2 single jet pursuits
1 double jet pursuit (under construction)
30 "Indio" 600-HP radial engines
Sufficient number of "Gaucho" 450-HP radial engines for the DL-22 aircraft

One private firm has produced a prototype trainer powered with a 125-HP imported British engine. In the case of the "Boyero" the DL-22 and the "Gaucho" engines, it is likely that at least 30% of the total was produced prior to 1947.

The total value of aircraft and parts imported in 1946, according to official Argentine statistics, was four million dollars, an increase of about one thousand percent over the imports for the previous year. In 1947 imports of aircraft and parts will far exceed imports for 1946. U.S. exports of aircraft and parts to Argentina for the first five months of 1947, according to Department of Commerce statistics, total 7.3 million dollars, while

orders placed in the U.S. for eleven new airliners, said to be scheduled for delivery in 1947 will total approximately 6.4 million dollars exclusive of spares.

Data on imports from Great Britain for 1947 have not been available, but the cost of 20 "Vikings" alone is approximately 3.9 million dollars, while the cost of 20 "Doves" scheduled to be delivered during this year is approximately 2.7 million dollars.

Expenditures on airports, cartographical and meteorological services are known to be increasing greatly.

Thirty radio communication units were purchased from the airlines in June for 2-1/2 million dollars.

(a) The figures quoted below should be considered in relation to the 1947 national budget which amounts to 1099.2 million dollars and to the national income as computed for 1946 (last available data) which amounted to 1.256 million dollars.

(b) The national budget for 1947 provides for 38 million dollars to be expended on salaries and expenses of the Secretariat of Aeronautics and it is expected that this figure may be exceeded by a large margin (the same appropriation for 1946 amounted to 13.8 million dollars, but the actual expenditures finally amounted to 28.25 million dollars).

(c) Military aircraft on order from Great Britain are known to include 30 "Lincoln" bombers and 100 Gloster "Meteors", estimated to be worth respectively 15 million and 22.5 million dollars.

7. Private vested interests appear to exert no influence on civil air policy, which is apparently exclusively determined by the Army. The conclusion of the United States - Argentina air agreement, however, was contrary to Army policy and only resulted after decision by the Executive power.

8. The government sponsors, controls and subsidizes all formal aeronautical education in Argentina. As of August 31, 1947, there were fifty-nine flying clubs having:

80 instructors	(figure for 1946, 44)
140 mechanics	(figure for 1946, 70)
304 aircraft	(figure for 1946, 208)
310 parachutes	(figure for 1946, 190)
345 "A" pilots licenses were issued in 1947	(figure for 1946, 201)
76 "B" " "	(figure for 1946, 61)
65 "C" " "	(figure for 1946, 27)
44,572 total hours flown	(figure for 1946, 28,695)
804 civilian pilots taking training	
540 students receiving instruction.	

There were ten private gliding clubs as of August 31, 1947, which issued 144 new licenses (in 1946 the total was 118) and completed

20,400 flights (in 1946 the total was 30,200). There were as of August 31, 1947, 98 private model aircraft clubs. These private institutions are heavily subsidized and comply with programs determined by the government. In the case of motorized flying clubs this subsidy amounts to approximately

(a) 80 percent of the actual cost of flying instruction,
(b) 50 percent of the purchase price of approved materials
and (c) full salaries of certain ground personnel.

As of August 31, 1947, there were nine military apprenticed schools having 748 students below the rank of officers. The students are encouraged to enroll in the schools by the assignment of salaries, which are determined by their ranks and classes. The courses offered by these schools are designed to qualify students as:

Airborne radio operators
Airborne photographers
Bombardiers
Aerotechnical mechanics
Armorer "
Communications "
Aircraft "

The amount of advertising for candidates for the apprentice schools indicates that the government is particularly interested in this phase of training. The number of students enrolled in these activities depends on their own desire to join. No courses in aeronautical engineering are presently offered in Argentina.

9. The government operates its own aeronautical research and development facilities, and in this respect so far as is known does not subsidize private organizations. The Military Institute of Cordoba is carrying on a research program which has resulted in the building of four different aircraft types and several different engines including a 650 HP radial engine. It is understood that research work is being carried on for the development of a jet engine, and jet aircraft are actually being built. The extent of appropriations for these purposes are not known. The greatest emphasis is given by research in the direction of military material. Of the four types of aircraft and the various types of engines already developed, no purely civil model has been placed in production. Although it is true that the primary and basic trainers which have been developed are suitable for civilian use, these have to date only been used by military personnel. As far as is known, with the exception of two firms which are building aircraft, private institutions are not engaging at the present moment in aeronautical research on their own initiative.

10. The government is not extending any aid to private manufacturers or researchers at the present time, and all activities of this kind are conducted by the military institute.

D. GENERAL EVALUATION

1. The government's civil air organization, policies, rules and procedures are generally considered to be honestly administered. However

the civil airline FAMA has suffered from poor management and from conflict in authority between the Secretary of Aeronautics (an Army General) and the company manager. On the whole, the civil air organization is well adapted to the requirements of the country's commerce, industry and security. It supplements the railroad network, particularly in outlying sections such as Tierra del Fuego. The Argentine chosen instrument in its international operations is a source of national pride and is as efficiently operated as might be expected in view of the limitations imposed, over which it has no control.

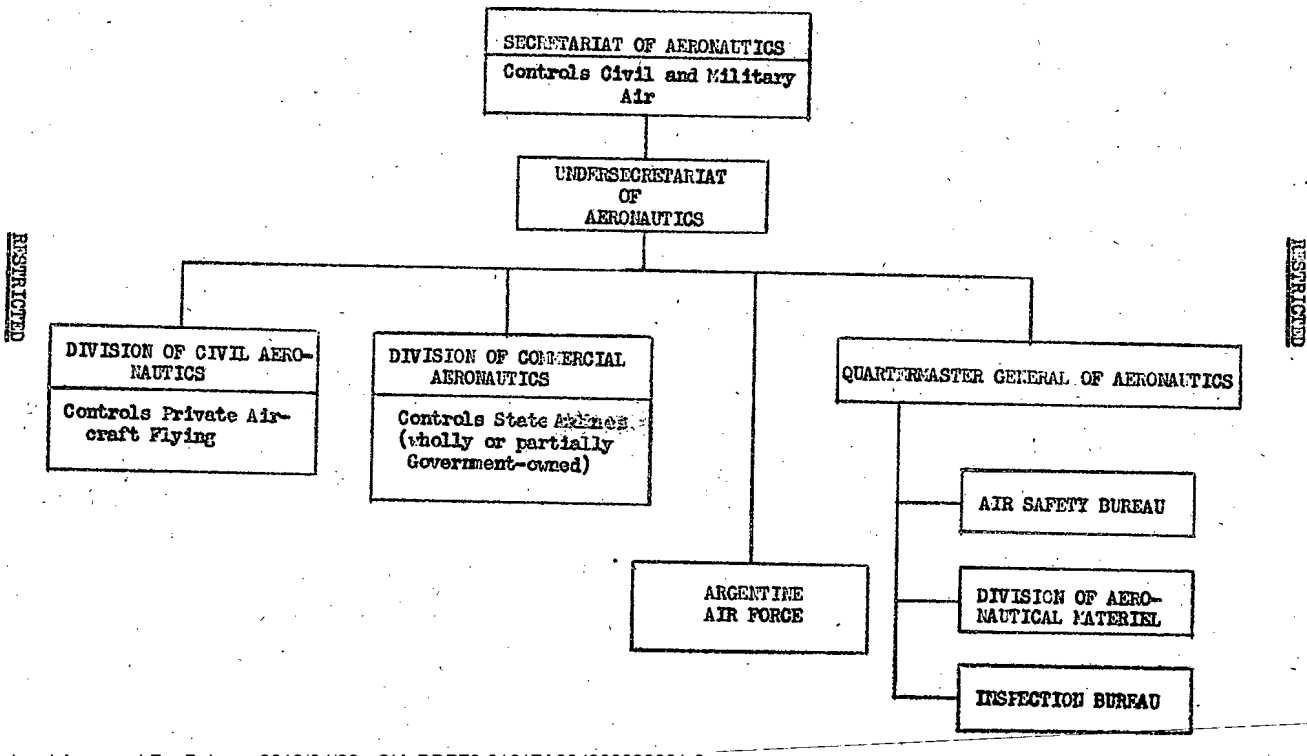
2. The Argentine air establishment is crippled by high level differences on policy and by the delegation of authority to subordinates, usually foreigners. Qualified experts have been employed, but due to lack of organization, maintenance facilities and radio aids, efficiency in air operations has been difficult to achieve. The problem has become increasingly difficult, due to the need for servicing the varied types of aircraft Argentina has recently acquired. During the war the only available sources of aircraft supply were the UK and the US. These countries, however, by a gentleman's agreement, placed an embargo on the sale of aviation equipment to Argentina, which has only lately been relaxed. As a result of this situation, Argentina, determined to maintain its position in civil aviation, has bought a large number of assorted aircraft. This has complicated the problem of maintenance, and operating and maintenance personnel, although experienced, was handicapped by this diversification of types. When to this drawback is added the lack of authority to make their knowledge effective, even a competent body of well-trained air and ground personnel find themselves powerless to strengthen Argentine aviation. Argentina did not share in the benefits of the American Republics Program (under the Hemisphere Defense Plan), either as to equipment or training of pilots and mechanics. All other Latin American republics were given the opportunity to send students to the US under the Inter-American Training Programs or to participate in military and naval pilot and ground training in the US. This training, denied to Argentina, has furnished a nucleus of trained personnel to other countries.

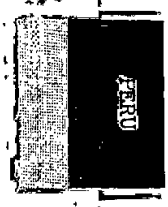
Since Argentina has no such reservoir to draw upon there are no civilian pilots or air crews capable of handling the modern planes acquired for use by FAMA, the Argentine national airline.

The strength of Argentine aviation lies in strong government support, ample capital available for investment in aviation and potential mechanical talent. The latter was demonstrated during the war, when despite the lack of spare parts and new equipment, Argentina commercial lines succeeded in maintaining operations practically without accidents.

CIVIL AIR POLICY

ARGENTINA





PERU

CIVIL AVIATION - PERU

A. CIVIL AIR POLICIES

1. Civil aviation is not regarded by Peru as an instrument of national policy nor is there any indication that it might become such, other than possibly to increase the prestige of Peru in the American countries served by its one existing international airline. The state, to a very minor degree, determines policy with respect to civil aviation, the principal determinant being the requirements and best interests of its own airline as well as the United States carriers currently serving Peru. Peruvian basic civil aviation policies closely parallel those of the United States in strong support of fifth freedom rights for all qualified countries, the early execution of a multilateral air transport agreement, and the standardization of regulations and practices through representation in and adherence to ICAO.

2. (a) The Government has promoted the development of international scheduled air transport by actively encouraging the formation of a Peruvian international air carrier and by the granting of reciprocal rights to two United States carriers, a British carrier, and other Latin American flag carriers. Its policy has also encouraged development of domestic air carriers by the granting of duty-free importation and other special considerations without discrimination.

(b) Non-scheduled air transport will probably soon be barred from Peru, according to recent statements by Air Ministry officials, due to recent objections by the scheduled international carriers that non-scheduled services represent unfair competition.

(c) Private flying is officially promoted by the encouragement of the formation of Aero Clubs throughout the country and by the granting of small subsidies to these clubs. However, private flying has not yet passed the embryonic stage in Peru.

(d) Aircraft manufacturing is no longer carried on in Peru due to a recent government decree prohibiting the use of single-engine aircraft for commercial work. This act forced a shutdown in the production of Faucett single-engine monoplanes manufactured in Lima.

(e) There is no research in Peru.

(f) There is no aeronautical engineering education in Peru.

(g) There is no organized civil pilot training in Peru. The Peruvian Government airport corporation, however, recently inaugurated training courses for airport operation and administration and an attempt has been made to encourage students from neighboring Latin American countries to attend these courses--so far, without results.

(h) The importation of aeronautical equipment is granted every possible facility. Almost all imports are from the United States, enjoying free entry for all commercial air purposes. The government exchange control provided dollars, despite the tight foreign exchange positions, which are necessary for such purchases.

(i) Airports are being improved and additional ones built under a program by the governmental Peruvian Airport Corporation (CORPAC); air navigation facilities are also being expanded and improved by the same corporation.

(j) Development of air navigation facilities is being carried on with the assistance of a CAA Mission from the United States.

3. (a) Peruvian authorities favor private ownership of air carriers, acknowledging that only private entities have the means and know-how necessary. Foreigners are permitted to own minor interests in Peruvian domestic and foreign airlines without discrimination. Although it is true that there has yet been no case in point, it is seriously questioned whether Peruvian authorities would approve majority control of a Peruvian airline by foreign interests. This was illustrated in the recently executed bilateral air transport agreement between Peru and the United States in which Peru insisted upon the acquisition of majority control by Peruvians within ten years.

(b) The aircraft manufacturing industry is no longer operative.

(c) Competition is permitted among domestic Peruvian carriers but is regulated to prevent ruinous competition over identical routes. Fare schedules must be approved, which effectively establishes uniform rates.

(d) No evidence has been encountered of the protection or favoring of national airlines in competition with foreign carriers.

(e) For budgetary reasons the Peruvian Government does not subsidize air carriers or manufacturing. While it expends considerable amounts for the improvement and administration of airports and the training of personnel for their operation, the Government expects to recoup its investment and thereafter continue on a non-profit basis by the expedient of charging the carriers for the use of their facilities.

(f) There is no development of transport aircraft in Peru.

(g) Foreign transport aircraft are used entirely in Peru. They have been exclusively of United States manufacture.

(h) It is the policy of Peru to encourage the operation of foreign airlines but only after a bilateral agreement, patterned on the Bermuda formula, has been executed with the government of the applying airline. Peru expressed its support of a multilateral agreement embracing the five freedoms at the ICAO conference in Montreal in May 1947.

4. Civil air policy is not influenced by military air requirements although actually the armed forces control civil aviation, to the extent that the directors of civil aviation have always been officers of the Peruvian Air Corps. Moreover, all Ministers of Aeronautics have been air corps generals, with one exception. This staffing of civil aviation agencies with military rather than with civilian personnel is due to the absence of non-military personnel with aviation training or background. There is no manufacturing industry whose needs might otherwise affect civil air policy.

5. The civil air policy of Peru is closely related to and strongly influenced by that of the United States. This is illustrated by the Peruvian defense of Bermuda principles in its bilateral agreements with other countries, its support of the proposed multilateral agreement, and by its recent refusal to enter into a bilateral agreement with Argentina which would have sacrificed fifth freedom rights for a restrictive traffic exchange. Moreover, the presence in Peru of a United States Civil Aviation Mission

making recommendations to Peruvian civil aeronautics authorities on development of policy, laws, regulations and procedures constitutes the strongest possible influence favoring the United States air policies and against those of nations in opposition.

6. Current government expenditures for the civil aviation activities mentioned in Paragraph 2 are limited to the administrative costs of the Directorate General of Civil Aeronautics, the budget for which is restricted information but, it is estimated, could not exceed the equivalent of $50,000 per year. The government airport corporation is currently budgeting about $100,000 in airport improvement activities and is considering the expenditure of another $100,000 in the acquisition and extension of radio communications and ground facilities. These amounts would correspond to considerably less than one per cent of the national budget. They are not, however, actually a government budgetary expenditure but a corporate activity reimbursable ultimately by the collection of service fees.

7. Vested interests have influenced the Peruvian civil air policy in only one recent instance. This involved the establishment of a Peruvian international air carrier wherein a bilateral air transport agreement was negotiated with the United States so as to enable the carrier to be accorded rights as a Peruvian carrier while the majority of its stock was not yet vested in Peruvian nationals. The execution of the agreement was to all practical purposes made contingent upon accepting the Peruvian viewpoint in this matter and attorneys for the Peruvian airline appeared then to be dictating Peruvian Government policy. However, since the agreement was signed there has been no further indication of influence on Peruvian air policy by this vested interest. Moreover, since the Peruvian carrier will continue to be managed and principally owned by United States and Canadian interest for the next ten years, such influence will probably coincide with United States interests.

8. The Peruvian Government has subsidized aeronautical education to a limited extent by conducting classes to train its communications and air traffic control personnel. This expenditure will also be ultimately reimbursed from operating fees. The Government controls the airport corporation in which training is given. The number of students is determined by the Government, but there is a scarcity of applicants with the necessary qualifications and initiative. The students are supported by the airport corporation with a small monthly allowance, barely adequate for subsistence purposes. As soon as a trainee becomes qualified, however, a modest salary is paid. About 90 students recently enrolled in day or night training courses but only approximately 25 qualified, and the training courses have now practically been eliminated since the personnel immediately required has been trained. Training has been limited to meteorology, operation of communications facilities and air traffic control. There is no aeronautical engineering training offered in Peru.

9. The Peruvian Government does not operate aeronautical research facilities or subsidize private organizations. Private institutions do not engage in aeronautical research.

10. The development of new types of aircraft and equipment is not subsidized or financed by the Peruvian Government since there is no manufacturing in Peru.

B. CIVIL AIR ORGANIZATIONS

1. The Ministry of Aeronautics determines policy for both military and civil aviation. Directly under the Ministry of Aeronautics and charged with

the responsibility of administering government policy in civil aviation is the General Directorate of Civil Aeronautics. This office is responsible for recommending the issuance of airline operating permits, both foreign and domestic, airman and aircraft certificates, and the promulgation of aviation law and regulations as well as the investigation and reporting on aircraft accidents. The Civil Aeronautics Consultative Board, made up of the Minister of Aeronautics and civil and military aviation officials, advises the Ministry of Aeronautics on important matters of air policy. The Peruvian Airport Corporation (CORPAC), a governmental corporation whose board of directors includes representatives of the Ministries of Finance and Aeronautics, administers and operates airports and ground facilities. Policy control of this corporation rests principally in the Ministry of Aeronautics.

2. (a) See 1.

(b) All the foregoing agencies were created and endowed with their present functions by recent appropriate legislation. The Peruvian Airport Corporation, for example, was founded in 1943. It was given an initial capital of 80 million soles, obtained by bond subscription, and is charged with the construction of airports, the establishment of airways and all necessary facilities. It has authority to assess fees for its services with the hope of ultimately becoming a self-sustaining but non-profit civil aviation service organization.

(c) The historical background of civil aviation with respect to the formation of the above organization, is as follows:

Pan American-Grace Airways inaugurated international service in 1928 and in pioneering the West Coast of South America made up its own rules and obtained the necessary government acquiescence. Formal blanket permits to cover its activities were obtained later. Similarly, the one important domestic airline pioneered internal air transportation in Peru, operating somewhat as a law unto itself. It was not until the onset of World War II that the Government attempted to exert any control over civil aviation. Even then the control was only the minimum necessary to coordinate civil aviation with the Peruvian Air Corps, which was actively cooperating with the United States Army Air Forces. Actually, until early 1946 the Directorate General of Civil Aeronautics consisted merely of a small office which issued identification documents and licenses and secured free entry for civil aviation supplies. In 1946 the Director General of Civil Aeronautics, who had just returned from six years as Peruvian Air Attache in Washington and who is now the Minister of Aeronautics, announced his determination to make his organization a civil aviation organization rather than a military one. Since his elevation to Minister of Aeronautics he has attempted to develop Peruvian civil air policy along lines paralleling that of the United States Civil Aeronautics Administration and Civil Aeronautics Board. At the same time he sponsored the present Civil Aviation Mission to Peru. CORPAC, the Peruvian Airport Corporation, was also further strengthened and expanded under his Ministry. It was given the necessary funds and authority to administer and improve all civil airports and to install up-to-date aids and facilities in line with CAA standards outlined by the Civil Aviation Mission.

3. The Directorate General of Civil Aeronautics and the Peruvian Airport Corporation are considered to be fulfilling a useful function in the public interest by fostering competitive but regulated civil air transportation.

4. The two above mentioned agencies do not overlap but do complement each other. Their functions are coordinated by the Minister of Aeronautics, who would resolve any conflicts.

5. There are no present plans for reorganization or abolishment of these organizations, or the creation of new ones.

C. PROCEDURES AND REGULATIONS

1. Air Routes

(a) Air routes are awarded to designated carriers by Supreme Resolutions. These are issued by the Minister of Aeronautics. The Resolutions bear Presidential approval.

(b) The granting of a route to a particular carrier is determined primarily by whether it would present unfair or ruinous competition to an existing carrier. The petitioning carrier's financial and technical ability to furnish the service is also considered.

(c) Conditions imposed upon the operator of a given route include compliance with local air regulations, payment of reasonable and non-discriminatory fees for the use of facilities, and the obligation to use only approved rates. Companies must also acquire from the Peruvian Airport Corporation sites at principal airports on their routes in Peru upon which services and maintenance establishments must be constructed within a certain time.

(d) International carriers must obtain permission from the Peruvian authorities to modify their routes but domestic carriers have so far been able to extend or vary the internal routes at will with the apparent acquiescence of the Peruvian authorities--that is, once their initial operating permit has been granted.

(e) New routes are established entirely on the initiative of the carrier.

(f) All carriers are entitled to apply for any proposed new route.

(g) Competition is permitted over identical or similar routes to the extent that it does not represent a financial hazard to the continued operation of the existing service.

(h) The carrier's certificate may be revoked for serious infringement of the air regulations or may be revised upon application by the carrier and recommendation by the Director General of Civil Aeronautics. Application may also be made for new conditions or new routes upon the expiration of an existing five-year operations permit.

2. Rates

(a) Rates are fixed by the carriers and approved by the Government.

(b) Rates are based upon economic and competitive considerations.

(c) See (a).

(d) Discriminatory rates are not permitted, but special rates may be authorized upon proper justification by the carrier.

3. Safety

(a) The issuance and enforcement of safety rules and regulations is a responsibility of the Directorate General of Civil Aeronautics.

(b) Safety regulations merely include requirements for licensing of personnel and inspection and licensing of aircraft. Both of these functions are at present limited to a mere rubber stamp approval. Additional regulations are under study.

(c) Any enforcement would be impartial.

4. Inspection

(a) Regulations for the inspection of aircraft have been issued by the Directorate General of Civil Aeronautics, which also requires that all pilots operating Peruvian registered aircraft be licensed in Peru. While no regulations exist for accident investigation, the Directorate General is given investigative authority in its enabling statutes and conducts investigations according to its own discretion.

(b) The regulations are presently inadequate and are totally unenforced due to lack of any personnel, either trained or otherwise.

(c) Fines can be imposed for failure to obey regulations but this authority has been used only as a threat.

5. Airports and Communications

(a) Regulations for use of the various airports are prepared by the Peruvian Airport Corporation and approved by the Civil Aeronautics Consultative Board.

(b) The Peruvian Airport Corporation, CORPAC, operates all civil airports.

(c) Communications have thus far been operated by the carriers themselves, who will furnish communications and meteorological services to individual aircraft for a relatively large fee. They have expressed their willingness to serve even competitive airlines until CORPAC takes over and operates communications. It is scheduled to do this during 1947.

(d) Two communications systems are now in operation, the international airways system operated by Panagra and the internal system operated by Pancett airline.

6. Reports and Forms

(a) All carriers are required to file special forms reporting their flights. These include statistics on passengers and cargo carried.

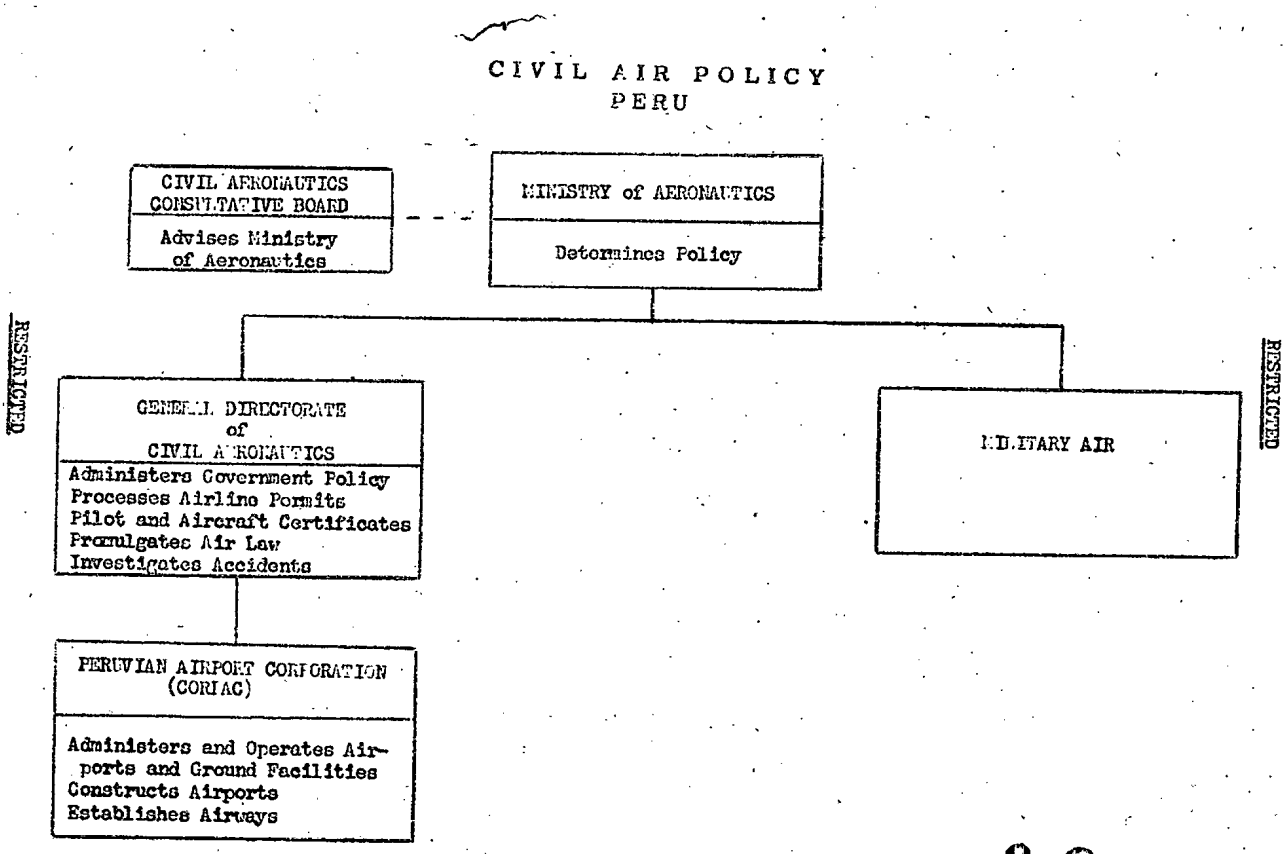
No forms are required for items (b) to (j) inclusive. Traffic report forms are submitted in duplicate to the Peruvian Airport Corporation, which retains one copy and forwards one to the Directorate General of Civil Aeronautics. These are utilized to compile traffic statistics.

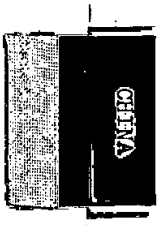
D. GENERAL EVALUATION

1. The Government's civil air organizations, rules and procedures, still in the formative state, may be expected to progress and to be honestly administered in tempo with the increase of Peruvian activities in international aviation. The civil air policies of the Peruvian Government are advanced and liberal, closely parallel to those of the United States, and should serve the best interests of Peru in commerce and industry.

2. Peru's strategic location at the western end of the Amazon Valley outlet gives her access to the northernmost air crossing of the South American continent, which is the lateral continental route nearest to the Panama Canal. While her geographic position, almost directly south of Miami, Florida, gives her a certain advantage in north-south traffic, as far as distances is concerned, this advantage is largely outweighed by the fact that the large centers of population in South America (Rio, Buenos Aires, Sao Paulo and Montevideo) are concentrated on the East coast. Air connections to the north pass primarily through Brazil. The impelling force toward aviation development within Peru is the fact that scattered population areas, cut off by a high mountain range and unexplored jungle, depend upon air lines for communications. Peruvians are perforce air-minded, and the principal domestic carrier operates profitably. The principal weakness of civil aviation in Peru is the almost complete lack of trained civilian pilots and non-military technicians. The absence of purely civilian talent in Peruvian civil aviation, moreover, is evidenced by the fact that practically all members of civil aviation control bodies are Army Generals.

CIVIL AIR POLICY
PERU





CHINA

CIVIL AVIATION - CHINA

A. CIVIL AIR POLICIES

1. It is significant to note that the Chinese Government has not promulgated a comprehensive body of laws and regulations for the control and regulation of civil air transport. The few laws and regulations which have been enacted are not policed or strictly enforced. Moreover, the Chinese Government has not yet developed a coordinated policy in civil aviation. The Ministry of Communications has attempted to support the development of civil aviation, but its efforts have been hampered by the civil war and unfavorable economic conditions. Also due to the civil war, there has been a constant struggle between the Ministry of Communications and the Chinese Air Force for the control of civil aviation, resulting in a state of internal confusion under which civil aviation cannot thrive. The Chinese Air Force is in control of practically all the desirable airports and has been able in many cases to force the Ministry of Communications to direct the operations of the civil airlines in accordance with the desires of the CAF.

   In matters concerning international air transport the Chinese Government has exhibited a tendency to press for rate controls and limitation of frequencies and capacity, especially with regard to matters affecting regional international operations. This attitude has recently become more pronounced. It has been evidenced in the negotiation of agreements with France, Siam, The Netherlands and the United Kingdom.

   Civil aviation is regarded by China as an instrument of national policy. China is extremely jealous of its sovereign prerogatives.

   All matters of importance affecting civil air transport policy are referred to the highest authorities for consideration and final approval. The largely government-owned civil air carriers must obtain from the State its prior approval of proposed policies and procedures.

2. (a) The Chinese Government determines the routes which the largely government-owned airlines will operate and the tariffs they will charge. To a very limited extent the Government regulates the carriers with a view to assuring safety. The Government has established weather minimums and traffic procedures under which the civil air carriers will operate, but does not as yet police and actively enforce these regulations. Largely due to scarcity of competent personnel available to it, the Civil Aeronautics Administration has been unable directly to supervise the operations of the civil air carriers. Matters such as aircraft maintenance and supervision of flight personnel are controlled by the airlines according to their own

standards and executed without government supervision. In other matters of similar importance, the airlines determine standards of operation and implement these determinations.

The Government, largely due to the civil war, is unable to appropriate funds for the development and expansion of the scheduled carriers, and hence has not been able to develop a broad program of promotion, development and expansion of scheduled air transport. Scheduled air transport in China is limited to two carriers, the China National Aviation Corporation and the Central Air Transport Corporation. The China National Aviation Corporation is 80% government-owned with a 20% participation by the United States carrier, Pan American Airways. The Central Air Transport Corporation is understood to be wholly owned by the Chinese Government.

Recently the Ministry of Communications has actively supported the civil airlines in their requests to other government agencies for sufficient foreign exchange to procure essential maintenance equipment and for increased allocations of gasoline. While the Ministry has been able to influence other government agencies to allocate to the civil airlines urgently required foreign exchange and gasoline, oil, etc., to maintain minimum operations, the needs of civil aviation can generally be said to be subordinate to government requirements for the prosecution of the civil war.

(b) The Government does not promote, nor in any manner support the development of non-scheduled air transport services. On the contrary, it would appear that the Chinese Government will not permit operations of this type, reserving all carriage for the two scheduled operators. An exception to this is the China National Relief and Rehabilitation Air Transport Company, largely financed by UNRRA-CNRRA, which is permitted to carry revenue passengers and cargo on its return trips from inland points following inland movement of relief cargoes.

(c) While there is no law in China which prohibits private flying, the Ministry of Communications has not thus far approved any applications for permission to fly private aircraft. The newly formed Civil Aeronautics Administration has not yet drafted regulations to control private flying or established a functioning division which could examine and license private pilots and planes and regulate private flying. The Chinese Air Force has in the past vigorously opposed private flying. Col. Tai, Administrator of the Civil Aeronautics Administration, is now engaged in drafting a regulation which will permit and control private flying. He plans to establish flying clubs under the direct supervision and control of the Civil Aeronautics Administration. While a Chinese citizen, under Col. Tai's

proposal, could own a private personal plane, he would have to make it available to a Civil Aeronautics Administration club for the use of all of its members. Col. Tai has indicated dissatisfaction with this approach to the establishment of private flying within China, but has stated that due to the civil war and the attendant unsatisfactory economic conditions, he would have to settle for "what he could get", indicating that under his proposals, private flying would at least get a limited start in China.

(d) There are believed to be two small aircraft plants in China, in which the Chinese Government is manufacturing its own training planes for military purposes. These planes are constructed under the supervision of the Bureau of Aircraft Industries of the Chinese Air Force. The first plant, at Kunming, has thus far produced one prototype AT-6 under a license acquired from Boeing Aircraft. In another plant, located in Formosa, China expects to produce a Boeing trainer plane by late November. The aircraft produced at these plants will be used for military purposes.

(g) The training of pilots and other technicians is largely conducted by the Chinese Air Force, assisted by the United States Army Advisory Group. Practically all of the Captains flying planes on the civil airlines are foreigners (Americans or Canadians). Native Chinese fly as co-pilots. The Chinese technicians of Chinese National Aviation Corporation and Central Air Transport Corporation, the major Chinese civil carriers, are supervised by Americans. The Government does not directly supervise the training of pilots or other technicians for civil pursuits, nor does it directly sponsor civil aviation training programs. No grants are believed to be made to foreigners.

(h) China does not export aeronautical equipment, and imports practically all of its civil airline equipment from the United States. Due to the extensive requirements of the military, it is only with considerable difficulty that the civil airlines are able to obtain sufficient foreign exchange from government sources to import essential maintenance requirements.

(i) China has not developed a long-range plan for construction of essential airports. Practically all of the desirable airports in China are controlled by the Chinese Air Force. The Civil Aeronautics Administration, however, with limited funds, has been able to construct a stop-gap international airport at Shanghai. Recently there has been some evidence that the Chinese Air Force will relax its control of certain airports and that the Government may make available to the Chinese Civil Aeronautics Administration sufficient funds to reconstruct these airports and render them suitable for civil operations.

(j) The air navigation facilities of the country are inadequate to meet its present needs. Chinese National Aviation Corporation, Central Air Transport Corporation, CNRRA Air Transport, and the Chinese Air Force all have their own navigation facilities and while the Civil Aeronautics Administration has attempted to coordinate the activities of the agencies operating these facilities and establish a network under its control, due to lack of funds and insufficient competent personnel it has been unsuccessful.

3. (a) The two domestic scheduled air carriers are largely owned by the Government. The Central Air Transport Corporation is understood to be 100% Government owned, and the Chinese National Aviation Corporation is 80% Government owned. The United States carrier, Pan American Airways, owns 20% of the stock of the Chinese National Aviation Corporation. It is thus apparent that government ownership is favored, while foreign participation is permitted. The non-scheduled relief carrier, CNRRA Air Transport Corporation has been financed two-thirds by UNRRA-CNRRA and one-third by private capital.

It is a matter of record that the Great China Aviation Corporation, which purchased equipment with which to start scheduled operations in China, and received a license from the Ministry of Communications on October 1, 1945, to operate scheduled services, was not permitted to initiate operations. The permit which it had obtained from the Ministry of Communications was subsequently declared null and void by the Executive Yuan without explanation. It would thus appear that China will not permit, at least for the present, substantial private ownership of scheduled civil air carriers.

(b) The Government, through the Bureau of Aircraft Industry of the Chinese Air Forces, owns the two small aircraft manufacturing plants which are known to exist. Due to lack of natural resources and skilled personnel — supervisory, administrative and technical — China will probably find it difficult to attract private capital and "know-how" to manufacture aircraft here.

(c) The competition between the two national carriers is as severe as could be expected between private air lines. Facilities, equipment and stations are duplicated throughout the country.

(d) The Government endeavors to protect the national airlines against competition from foreign carriers (see 3. (h)).

(e) The only known direct subsidy extended to the national airlines has been granted to the Central Transport Corporation in the operations of its route from Lanchow to Tihwa. The Government was forced to subsidize this

operation for political as well as economic reasons because contact by air with this northern area must be retained, in the absence of an alternative mode of transportation. As all gasoline used on this route north of Lanchow must be flown in, the route could not be operated without the subsidy.

No subsidy is known to be extended to aircraft manufacturers.

Thus far, CN$50,000,000,000 has been appropriated by the Civil Aeronautics Administration for its use, the major portion of which was expended in the improvement of one international airport at Shanghai. While the Civil Aeronautics Administration has requested of the Government additional appropriations for the further development of civil airports, funds have not as yet been made available.

(f) There is no Chinese transport aircraft industry, nor does it appear that China contemplates such a development in the near future.

(g) Transport aircraft used throughout China are of United States manufacture. They have been obtained largely from United States surplus sources.

(h) Philippine Airlines operates one schedule each week from Shanghai via Hongkong and Manila to the West Coast of the United States.

Air France operates a fortnightly service, Shanghai-Saigon-Paris.

Pan American World Airways operates two flights weekly east from Shanghai; one via Tokyo and Honolulu to San Francisco, and one via Guam and Honolulu to San Francisco.

Pan American World Airways also operates one flight in a westward direction via Hongkong, Bangkok, Calcutta, London to New York.

Northwest Airlines operates two flights weekly to the United States over the northern route.

The Sino-Soviet Aviation Corporation operates intermittently between Alma-Ata, USSR and Tihwa, Sinkiang Province, China (see 5.).

In its relations with other countries in matters affecting civil air transport, China invokes what appears to be a policy of reciprocity. However, in one particular situation, the Chinese Government has embarked on a policy which might be classed as discriminatory. In the bilateral air agreement which China recently concluded with the United Kingdom, China unilaterally insisted that the United Kingdom restrict the capacity which its designated airlines would offer on the Shanghai-Hongkong segment of its route to fifty passengers in each direction each week. China further extended this policy of discrimination in its

negotiation of the draft agreements which it has initialed with Siam and with The Netherlands. It is provided in these initialed draft agreements that Siam and The Netherlands are precluded from carrying Shanghai-Hongkong traffic unless another nation other than the United Kingdom is permitted to carry such traffic. This discriminatory policy vis-a-vis Hongkong-Shanghai traffic may be explained by the fact that China regards Hongkong as a part of China and the Chinese Government intends to endeavor to reserve as much as possible of this traffic for its own carriers. In the agreement which it has concluded with the United States the Chinese Government has granted the right to the United States to carry traffic between Shanghai-Hongkong. This right which the US obtained through the Sino-American bilateral agreement, when exercised, will place the Chinese government in a difficult and embarrassing position vis-a-vis the policy it is endeavoring to establish on Hongkong-Shanghai carriage, because as soon as Pan American Airways commences regular movement of Shanghai-Hongkong passengers, it would appear that the Dutch and Siamese will have the right to request the Chinese Government to permit them to engage in this movement.

Due to its weak position in international air transport, the Chinese Government appears to be developing a policy of protecting its own carriers, which becomes more pronounced in matters affecting regional international operations. In the bilateral agreement which the Chinese Government concluded with the United States, no unusual restrictions were imposed on the operations of United States international carriers into and through China.

However, in the agreement China has concluded with the United Kingdom, through an arrangement to be made between the designated airlines, it is provided that the number of passengers which the United Kingdom may move between Hongkong and Shanghai shall be limited to fifty per week in each direction. The provisional agreement which China concluded with the French provides that China cannot embark passengers at Saigon for third country destinations, and reciprocally, the French cannot embark passengers at Shanghai for onward movement to third country destinations. The draft agreement which China has concluded with The Netherlands provides that the Dutch may not carry Hongkong-Shanghai traffic unless a third country other than the United Kingdom is permitted by China to participate in this movement.

A similar provision has been inserted in the initialed draft of a Sino-Siamese agreement. The Sino-Siamese agreement also provides that frequency of operation over the route specified shall be limited to once per week in each direction by each of the two contracting parties.

The Chinese Government has indicated that it is not satisfied with the principles relating to capacity, rates, etc.,

which were established at the Bermuda Conference on February 11, 1946. China does not feel that these principles protect its own carriers adequately. It has been indicated that China would not be satisfied with a multilateral agreement which incorporated the Bermuda principles. As a reason for this position it has been mentioned by Chinese officials that China is seriously considering the termination of its international services to the United States, due to the effect of competition from foreign carriers and also the lack of traffic originating in China at international points. China cannot absorb the loss such an operation will involve. China will also not accept in a multilateral agreement an article permitting foreign carriers to import into China, duty free, equipment required for maintenance of their operations, as China is not a producer of such equipment and cannot reciprocally benefit from such an arrangement.

China has been a member of the International Civil Aviation organization since its inception and has been actively represented therein. The Government has evinced a keen interest in participating in the development of policies and procedures through the ICAO which will govern international air transport operations. The China National Aviation Corporation is a member of the IATA and representatives of the company actively participate in meetings, conferences, etc. The Central Air Transport Corporation has indicated that it intends to join the IATA.

4. Due to the civil war, civil air policy is unquestionably influenced by military air requirements. There has been some indication recently, however, of a limited relaxation of the influence which the Chinese Air Force exerts through its control of practically all airports (see 2. (i)). Civil air transport is regarded as a commercial activity of economic and political value. The civil air carriers appear not to have been used extensively as a reinforcement of the military air potential, and cannot be considered as being primarily a reinforcement of the military. There is no manufacturing industry of importance.

5. China has thus far followed the United States lead in the development of its civil air policies. The principles developed and supported by the United States which are not considered by China to be in direct conflict with or adverse to China's own national interest, receive Chinese support. There has been no evidence that any foreign power has exerted, or attempted to exert, its influence on Chinese civil aviation with the following exception.

Under the terms of the agreement governing the Sino-Soviet Aviation Corporation and under which this company established a regular air service between Hami in Sinkiang Province and Alma-Ata in the USSR, the Ministry of Communications of the National Government of China is permitted to nominate three

members to the Board of Directors of this "joint company". The USSR nominates the other three members. This Board of Directors is empowered to elect the President and Vice President of the company. Actually, the Board of Directors of this "joint company" has not convened since 1941, and it is understood that the Soviet Manager of the company has from its inception filled all positions except that of Vice Manager with Soviet personnel. While China was not in a position to object to this procedure until the end of the war with Japan, some time ago China informed the Soviet Government it wanted to have its appropriate representation in the operation of the line, as provided by the agreement. However, as the Board of Directors has failed to meet, nothing has been accomplished by China in this direction. It is understood that the only Chinese engaged in an administrative capacity in the company is the Commissioner of Foreign Affairs of the Provisional Government of Sinkiang. However, while holding the title of Chairman of the Board, he is not permitted to exercise any authority. The company, therefore, appears to be completely dominated by the Soviets.

It is further understood that when China originally proposed that this Soviet air monopoly in Sinkiang be relaxed sufficiently to permit Chinese planes to operate to Tihwa and to South Sinkiang, the Soviets countered with a proposal that three Soviet-built transport planes of the Sino-Soviet company be permitted to operate south to Lanchow. In any case, the Central Air Transport Corporation now runs a bi-monthly service to Tihwa which indicates some relaxation of the Soviet monopoly over airline operations in the Sinkiang area.

6. There are no published or other readily available data regarding public or private expenditures devoted to the specific activities mentioned in 2 nor are there any reliable estimates of national income in China. Moreover, the concept of a "national budget" is almost meaningless under present conditions of constantly accelerating hyper-inflation. Generally accepted statements assert that (a) 80 - 85% of the so-called budget expenditure is devoted directly to military uses; (b) the "budget" itself has been twice increased in 1947 (from 9 trillion to 15 trillion to 20 trillion), and (c) there are at all times substantial "extra-budgetary" expenditures.

7. Available evidence does not indicate that vested interests exert influence on civil air policy, or that any agency concerned with civil aviation is dominated by such interests.

10. China is not developing new types of aircraft and equipment.

B. CIVIL AIR ORGANIZATIONS

1. The agencies concerned with civil aviation are:

Executive Yuan
Ministry of Communications
Ministry of National Defense
Legislative Yuan
Law Courts
Police Organs
Customs House
Post Offices
Board of Temporary Imports

2. (a) The functions of each agency are:

The Ministry of Communications:

- The inspection of aircraft.
- Issuance of air carrier and flight permits
- Designations, facilitation and construction of airports
- Issuance of pilots' licenses and examination of qualifications of flight and ground personnel
- Establishment of air traffic control regulations, designation of routes and fixing of rates.
- Registration of aircraft and flight personnel
- Supervision of navigational and communication facilities
- Supervision of trial and survey flights

According to law, all the foregoing functions shall be performed by the Ministry of Communications, but in fact, such as are performed are performed by its subordinate organs, the Department of Navigation and Civil Aviation, and the Civil Aeronautics Administration.

The Ministry of National Defense:

- Designation of forbidden areas for aviation
- Granting of permission for the use of military air fields
- Search of civil aircraft when martial law is proclaimed.

Legislative Yuan:

- Enactment of laws to control civil aviation

Law Courts:

- Adjudication of civil and criminal cases in connection with civil aviation

Police Organs:

- Maintenance of necessary protection
- Search of passengers, crews and cargoes of civil aircraft when deemed necessary

Customs House:

- Search for contraband on board civil aircraft
- Determination and collection of customs duties on goods moving on civil aircraft.

Post Offices:

- Despatch of mail carried by civilian carriers. (Under Chinese law airlines are required to render this service).

(b) All of the above mentioned agencies came into being in accordance with the respective organic law which were promulgated when the National Government of the Republic of China was created.

(c) Due to the continuing expansion of civil aviation activities in the country, the Department of Navigation and Civil Aviation and Civil Aeronautical Administration of the Ministry of Communications were established separately in January, 1947, under the Ministry of Communications. Their establishment was designed to meet civil aviation requirements and demands which had developed since the war with Japan.

3. All of these agencies are working in the public interest, but due to existing conditions cannot be said to be functioning efficiently.

4. The functions of the various agencies overlap one another. For instance, both the Police and Customs authorities search civil aircraft for contraband and smuggled goods. While the former endeavors to unearth contraband which might endanger the public safety, the latter conducts a search for smuggled goods or contraband which, according to the regulations set forth by the Ministry of Finance, are not permitted to be imported or exported. All the activities of the agencies interested in civil aviation are coordinated by the Executive Yuan.

5. There are no indications that existing agencies will be changed in the future.

C. PROCEDURES AND REGULATIONS

1. Air Routes

(a) The Ministry of Communications awards air routes.

(b) Local air carriers may petition the Ministry of Communications, which can designate them to operate a certain route or routes. There are no extensive hearings, similar to the procedures of the United States Civil Aeronautics Board. The initiative for the establishment of routes comes from the carriers. The Government is inclined to accept the carriers' recommendations as to the economic necessity for routes as well as their economic feasibility.

(c) The Ministry of Communications, in general, only imposes conditions with respect to maintenance of schedules and submittal of monthly reports on operations.

(d) Air carriers must operate the routes designated by the Ministry of Communications. However, in practice they appear to be permitted to determine the routes which they will fly, subject to the approval of the Ministry.

(e) New routes are established largely on the initiative of the carriers.

(f) As one carrier is wholly owned by the Government and the other is 80% owned by it, both scheduled carriers are permitted to apply for any proposed new route.

(g) There is extensive operation by both carriers over identical or similar routes.

(h) Under Chinese law, when a carrier fails to follow the requirements of the Ministry, its certificate can be revoked. It is not likely, however, that this will occur, as they are largely Government-owned and thus directly subject to control.

2. Rates

(a) Rates are fixed by the Ministry of Communications. Due to the increasing inflation, continuing vigorous pressure is exerted by the carriers on the Ministry for the establishment of realistic and economic rates.

(b) Rates are based mainly on economic considerations.

(c) A table of rates is prepared by the Ministry of Communications, but a request for revision may be submitted by the carrier. The carriers, due to the inflation, are continually petitioning for upward revisions. No lengthy formal procedures and methods are followed.

(d) No discrimination is shown among carriers on rates or among classes of travellers or freight.

3. Safety

(a) In principle, the Legislative Yuan is the only qualified organ to issue rules and regulations concerning safety. In practice, the Ministry of Communications either issues them independently or promulgates them in the name of the Legislative Yuan.

(b) Such regulations as do exist regarding safety are highly inadequate and are not effectively policed or enforced. In addition to the regulations issued by the Ministry of Communications regarding safety, the provisions of the Chinese Civil and Criminal Codes apply. While they are not strictly enforced, their legal force and effectiveness is evidenced whenever there is a specific action in a court of law.

(c) The few safety regulations which are enforced are enforced impartially.

4. Inspection

(a) The Chinese Civil Aeronautics Administration has not yet established adequate regulations and procedures to govern the inspection of airline equipment, personnel and accidents.

(b) Inspection of equipment and personnel is conducted by the carriers under standards and procedures established by them. Accidents are investigated by Government personnel. Reports on accidents are also made by the carriers to the Ministry of Communications, but there are no known formal procedures which by law must be followed by the carriers in making these reports. Carriers are not supervised by Government inspectors.

(c) There is practically no Government enforcement of regulations of this type.

5. Airports and Communications

(a) The Chinese Civil Aeronautics Administration has recently drafted a regulation on air traffic control. However, only one station has thus far been established (at Lunghwa Airport, Shanghai). This is due to the fact that the Chinese Government lacks the necessary equipment, and does not have competent personnel. The Chinese Air Force has its own regulations governing the use by civil air carriers of its airports. The Civil Aeronautics Administration has its set of regulations governing the use of Lunghwa Airport, Shanghai. At other airports CNAC and CATC each have their own regulations.

(b) The Chinese Air Force operates practically all the airports in China.

(c) China National Aviation Corporation, Central Air
(d) Transport Corporation and CNRA Air Transport own and operate their independent communications system. The Chinese Air Force has its own communication system. The Civil Aeronautics Administration has recently acquired and is operating the SACO weather and communication system which was formerly operated by the United States Navy. There is no coordination in the use of these facilities.

6. Reports and Forms

While there is no formal procedure which the airlines must follow, the airlines do submit monthly reports to the Ministry of Communications containing data on a, b, g, h, and i. These reports are forwarded through channels to the Planning, Policy and Business Division of the Civil Aeronautics Administration which uses the data in annual reports on the operations of the Chinese airlines.

D. GENERAL EVALUATION

1. The Government's general civil air policies rules and procedures, while equitably and honestly administered can be considered to be ineffective and inadequate and not adapted to the capacities and requirements of the country's commerce, industry and security.

2. The salient features of China's civil aviation are points of pronounced weakness, due largely to conditions which the country at present, due to the civil war, is unable to control. The main points of weakness are as follows:

The aircraft which are flown on the civil airlines have practically all been obtained from United States Army surplus sources. Many of these planes, due to shortage of spare parts and attendant lack of adequate maintenance, should soon be retired;

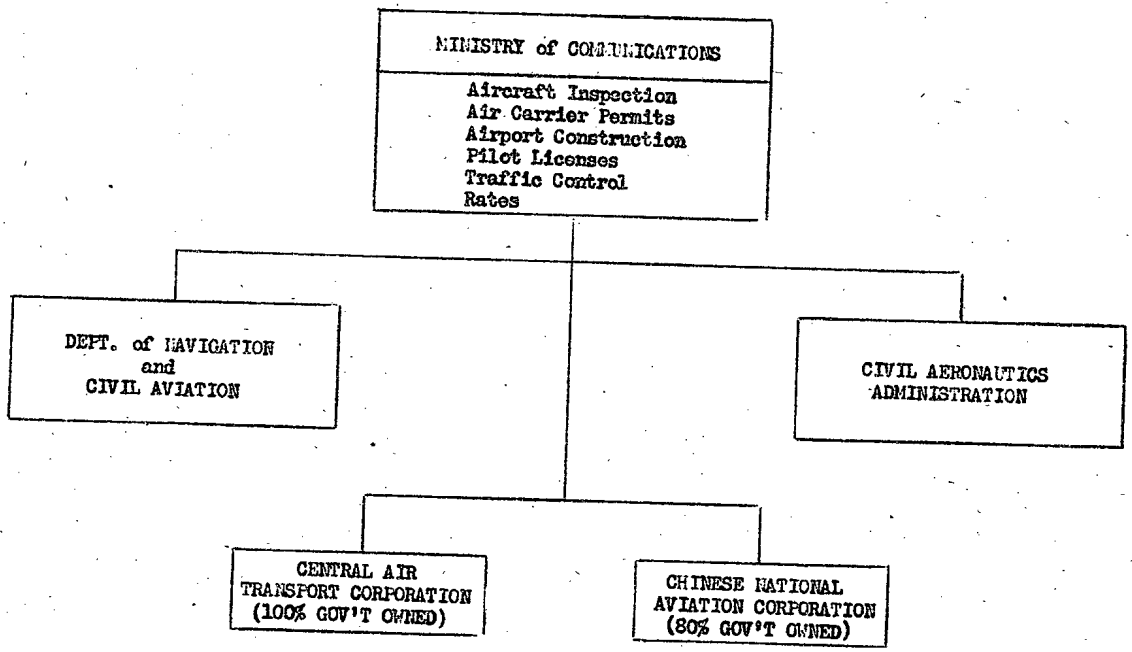
There are six different systems of air communication in China: China National Aviation Corporation, Central Air Transport Corporation, CNRRA Air Transport, United States Army, Civil Aeronautics Administration and Chinese Air Force. These systems are not coordinated;

There are five agencies collecting weather data: Ministry of National Defense, Chinese Air Force, Central Weather Bureau, China National Aviation Corporation, and the Central Air Transport Corporation. While some progress has been made in the coordination and dissemination of weather data collected by these agencies through the efforts of the United States Army, much still remains to be accomplished;

The Chinese Air Force is in control of practically all of the desirable airports in China. Only a limited number of these are made available for the use of the civil air carriers, and

There is no extensive Government control of civil aviation. There is no close supervision and regulation of the civil air carriers to guarantee high standards of maintenance and operation.

CIVIL AIR POLICY
CHINA



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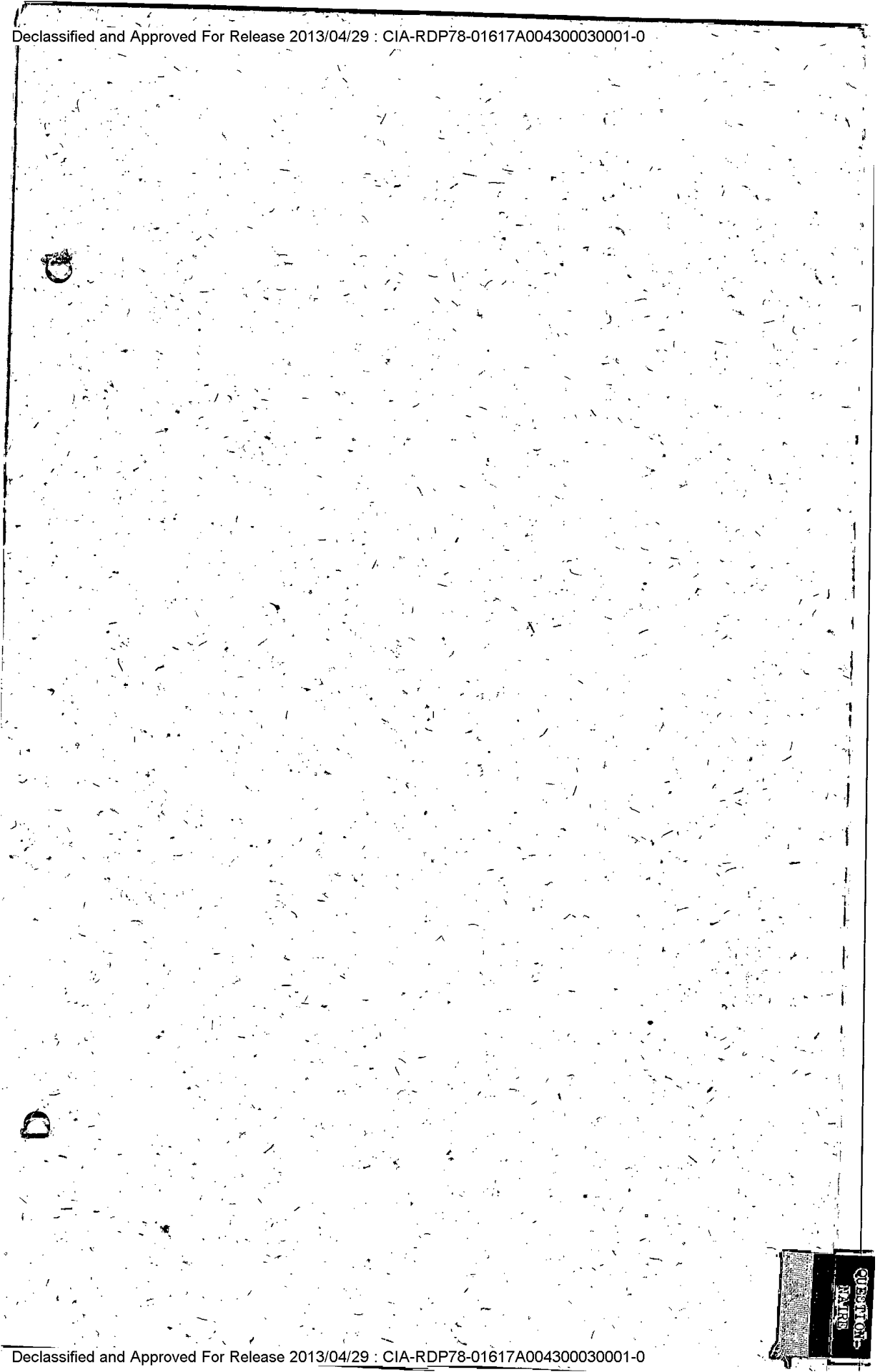

RESTRICTED

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Questionnaire on

CIVIL AVIATION

To be used in conjunction with this study

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QUESTIONNAIRE ON CIVIL AVIATION

A. Civil Air Policies

1. What are the basic policies of the country with regard to civil aviation? Is civil aviation regarded as an instrument of national policy? To what degree does the state determine policy with respect to it?

2. To what extent, by what means, and for what reasons does the government promote (or restrict) the development and expansion of (a) scheduled air transport, (b) non-scheduled air transport, (c) private flying, (d) aircraft manufacturing, (e) research, (f) aeronautical engineering education, (g) the training of pilots and other technicians, including grants to foreigners, (h) export and import of aeronautical equipment, (i) airports, (j) air navigation facilities.

3. Indicate policies, and reasons therefor, with regard to:
   (a) Ownership of air carriers: Is private or government ownership favored, and for what reasons? Are foreigners permitted to own controlling or minor interests?
   (b) Ownership of aircraft manufacturing industry
   (c) Competition among national carriers
   (d) Protection of national airlines against competition with foreign carriers
   (e) Subsidization of air carriers, manufacturing, airports, education and training
   (f) Development of transport aircraft
   (g) Use of foreign transport aircraft
   (h) Operations of foreign airlines, bilateral and multilateral agreements, international organizations

4. Is civil air policy influenced by military air requirements? To what extent do the armed forces control civil aviation? Is civil air transport regarded primarily as (a) a reinforcement of the military air potential, (b) a justification for the maintenance of a manufacturing industry, or (c) a commercial activity of economic and political value. If the answer is (c), to what extent do (a) and (b) receive consideration?

5. How are the country's civil air policies related to or influenced by those of other countries? Is the country closely associated with, or dominated by, any foreign power in matters of civil aviation?

6. What are the current government and private expenditures for each of the activities mentioned in (2), and what is the relationship of these expenditures to (a) the national income, (b) the national budget, and (c) the military air budget?

7. What vested interests exert influence on civil air policy and what is the nature of such influence? Are any agencies of the government dominated by these interests?

8. Does the government sponsor, control or subsidize aeronautical education? If so, does it operate or control the institutions in which the education is given? Is the number of students determined by the government, or left to the initiative of the students themselves? To what extent are the students self-supporting or supported by the government? What is the total enrollment in such studies? On what phases of aeronautical education does the government lay greatest emphasis? What is the situation with respect to aeronautical engineering education specifically from the foregoing points of view?

9. Does the government operate its own aeronautical research and development facilities, or subsidize private organizations? How extensive a research program does the government support? How much money is appropriated for such purposes? Are such appropriations increasing? To what phases of aeronautical research is greatest emphasis given? To what extent do private institutions engage in aeronautical research on their own initiative?

10. Is the development of new types of aircraft and equipment by manufacturers subsidized or financed by the government? If so, what control does the government have over manufacturers, and in what manner is the financial aid granted? To what extent do manufacturers engage in research on their own initiative?

B. Civil Air Organizations

1. List all agencies of the government concerned with civil aviation, including legislative and judicial, as well as executive and military agencies, and agencies connected with manufacturing, research and scientific development, exports and trade, procurement, education, training, airports and communications, and appropriations, as well as agencies related directly to scheduled and non-scheduled air transport and private flying.

2. (a) Describe the functions of each of these agencies as they relate to civil aviation.
(b) Indicate when and by what legislative or administrative actions these agencies came into being.
(c) Indicate the reasons for the establishment of civil air agencies in the manner in which they are now organized, and the circumstances under which civil air functions were assigned to, or assumed by agencies not directly or exclusively concerned with civil aviation. Show the influence of historical, political and economic conditions and of vested interests (private, official, military) on the determination of the existing organizational structures, and indicate the reasons for the abandonment or revision of previously existing organizations.

3. To what extent are each of these agencies considered to be fulfilling a useful function efficiently and in the public interest, or the contrary, by (a) aviation interests, (b) competitive forms of transportation, (c) political parties, (d) the armed forces, and (e) the general public?

4. To what extent do these agencies duplicate or overlap each other? How are resulting conflicts resolved? Are their activities coordinated on a higher level by any central group?

5. Is any consideration being given at present to abolishing, reorganizing, or combining existing agencies, or creating new ones? If so, what are the objectives of such proposed changes?

C. Procedures and Regulations

1. Air routes
   (a) What agency (if any) awards particular air routes to designated carriers?
   (b) What considerations determine the granting of a route to a particular carrier?
   (c) What conditions are imposed on the carrier in the operation of the route?
   (d) What freedom do carriers have to determine the routes they will or will not operate?
   (e) Are new routes established on the initiative of the government or the carrier?
   (f) Are all carriers entitled to apply for any proposed new route?
   (g) Is competition permitted over identical or similar routes?
   (h) Under what circumstances can the carrier's certificate be revoked or revised?

2. Rates
   (a) Are rates fixed by the government or the carriers?
   (b) Are rates based on economic, competitive, political, or social considerations?
   (c) If rates are fixed by the government, what procedures and methods are followed, and by what agencies?
   (d) Are discriminatory rates permitted among carriers, or among classes of travellers or freight?

3. Safety
   (a) How and by what agencies are rules and regulations concerning safety issued and enforced?
   (b) Are such regulations adequate? Are they competently and strictly enforced?
   (c) Are safety regulations enforced impartially, or are they used as a means of showing favoritism to certain carriers?

4. Inspection
   (a) What regulations and procedures govern the inspection of equipment, personnel and accidents?
   (b) Are these regulations adequate? By whom, and to what degree are they enforced?
   (c) What penalties are imposed for failure to obey regulations?

5. Airports and Communications
   (a) What regulations govern the use of airports?
   (b) What organizations operate airports?
   (c) What procedures are followed with regard to communications?
   (d) What organizations operate the communications systems?

6. Reports and Forms
   For the purpose of administering civil air policies, enforcing regulations, granting financial aid, and assuring adequacy, safety and efficiency of operations, what types of periodic or special reports, examinations, or forms does the government require concerning:
   (a) Traffic
   (b) Expenses, revenues and rates
   (c) Educational standards and accomplishments
   (d) Research activities and technical development
   (e) Physical and mental condition of pilots and other employees
   (f) Technical qualifications of pilots and other employees
   (g) Aircraft flight operations (including required meteorological reporting)
   (h) Aircraft inspections
   (i) Accidents
   (j) Others

   To what agencies are the reports submitted? How are they processed and what uses are made of them?

D. General Evaluation

1. Are the government's civil air organizations, policies, rules and procedures generally considered to be sound, progressive, equitable, honestly administered, and well adapted to the capacities, aims, and requirements of the country's commerce, industry and security? If there are marked differences of opinion in this regard, what is the nature of, and the reasons for disagreement?

2. What are the principal points of strength and weakness in civil aviation? To what extent are they due to conditions over which the country has no control, or to conditions for which the government and/or industry are responsible?