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45TH
ANNUAL
REPORT

of the Secretary
of Commerce

U. S. DEPARTMENT
OF COMMERCE

1957



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of Commerce



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1957

U. S. DEPARTMENT OF COMMERCE

Creation and Significance

The Department of Commerce was designated as such by the act of Mar. 4, 1913 (37 Stat. 736; 5 U. S. C. 611), which reorganized the Department of Commerce and Labor, created by the act of Feb. 14, 1903 (32 Stat. 826; 5 U. S. C. 591), by transferring out of the former department all labor activities.

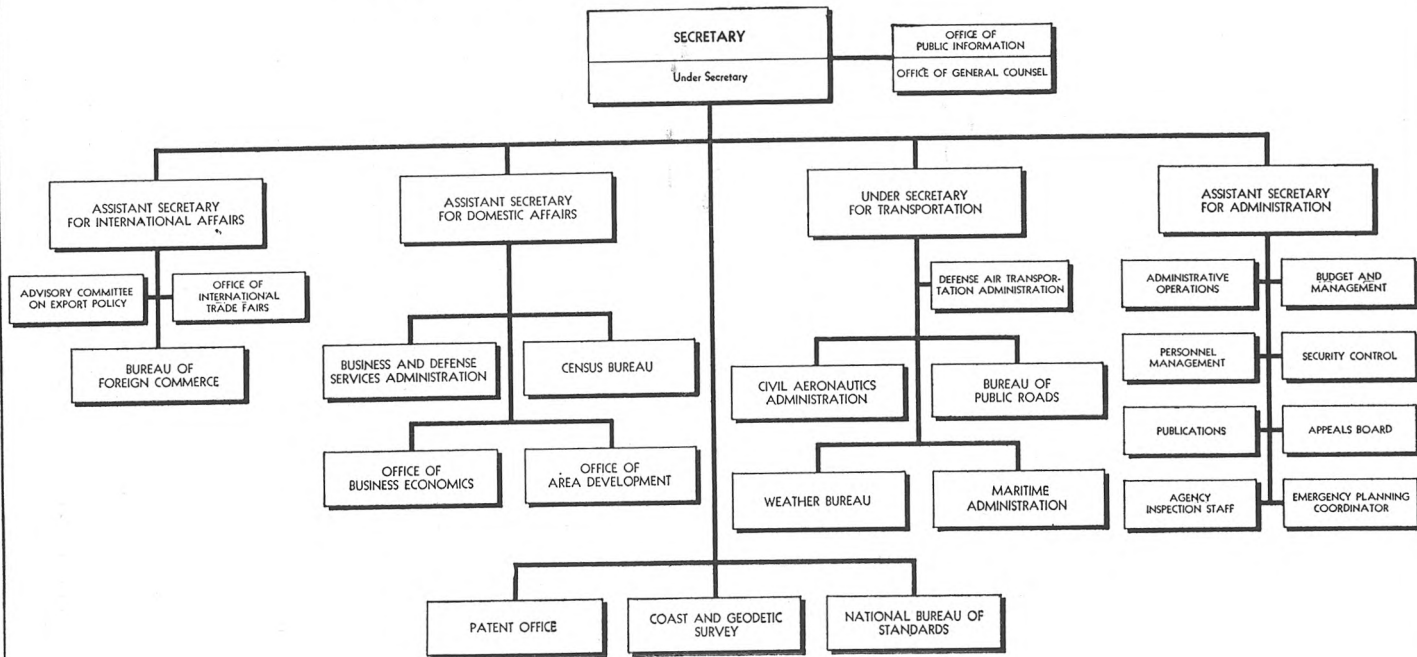
The Department seal of blue and gold is crested by the American bald eagle denoting the national scope of the Department's activities; the ship symbolizes commerce; the lighthouse represents guidance from the darkness, translated as commercial enlightenment; the blue denotes uprightness and constancy; and the gold denotes purity.

The statutory functions of the Department are to foster, promote, and develop the foreign and domestic commerce, manufacturing, shipping, and transportation facilities of the United States. Related functions subsequently have been assigned to or removed from the Department from time to time by legislation or Executive order; however, the purposes have remained substantially the same as those for which the Department was established.

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ORGANIZATION OF THE U. S. DEPARTMENT OF COMMERCE



OFFICIALS OF THE DEPARTMENT

As of June 30, 1957

Secretary of Commerce.....	SINCLAIR WEEKS
Special Assistant.....	HAROLD B. CORWIN
Special Assistant.....	WILLIAM S. KILBORNE
Under Secretary of Commerce.....	WALTER WILLIAMS
Under Secretary of Commerce for Transportation.....	LOUIS S. ROTHSCHILD
Deputy Under Secretary of Commerce for Transportation.....	BRADLEY D. NASH
Assistant Secretary of Commerce for Administration.....	GEORGE T. MOORE
Director, Office of Administrative Operations.....	WILLIAM M. MARTIN
Director, Agency Inspection Staff.....	GRISWOLD FORBES
Chairman, Appeals Board.....	FREDERIC W. OLMSTEAD
Director, Office of Budget and Management.....	OSCAR H. NIELSON
Emergency Planning Coordinator.....	ERNEST V. HOLMES
Director, Office of Personnel Management..	CARLTON HAYWARD
Director, Office of Publications.....	DONALD R. BURGESS
Security Control Officer.....	JOHN W. PHILLIPS
Assistant Secretary of Commerce for International Affairs.....	H. C. MCCLELLAN
Deputy Assistant Secretary of Commerce for International Affairs.....	MARSHALL M. SMITH
Assistant Secretary of Commerce for Domestic Affairs.....	FREDERICK H. MUELLER
Deputy Assistant Secretary of Commerce for Domestic Affairs.....	CARL F. OECHSLE
General Counsel.....	FREDERICK C. NASH
Deputy General Counsel.....	J. ALLEN OVERTON, JR.
Director of Public Information.....	ALBERT N. LEMAN

Heads of Bureaus and Offices Reporting to—

UNDER SECRETARY OF COMMERCE:

Director, Coast and Geodetic Survey.....	H. ARNOLD KARO
Commissioner, Patent Office.....	ROBERT C. WATSON
Director, National Bureau of Standards....	A. V. ASTIN

UNDER SECRETARY OF COMMERCE FOR TRANS-
PORTATION:

Administrator, Civil Aeronautics Administration.....	JAMES T. PYLE
Administrator, Defense Air Transportation Administration.....	THEODORE HARDEEN, JR.
Chairman, Federal Maritime Board.....	CLARENCE G. MORSE
Administrator, Maritime Administration...	CLARENCE G. MORSE
Federal Highway Administrator.....	B. D. TALLAMY
Commissioner of Public Roads.....	C. D. CURTISS
Chief, Weather Bureau.....	F. W. REICHELDERFER

ASSISTANT SECRETARY OF COMMERCE FOR

INTERNATIONAL AFFAIRS:

Director, Bureau of Foreign Commerce.....	LORING K. MACY
Director, Office of International Trade Fairs.....	HARRISON T. McCLUNG

ASSISTANT SECRETARY OF COMMERCE FOR

DOMESTIC AFFAIRS:

Director, Office of Area Development.....	VICTOR ROTERUS
Administrator, Business and Defense Services Administration.....	H. B. McCOY
Director, Office of Field Services.....	GUY E. WYATT
Director, Office of Technical Services....	JOHN C. GREEN
Director, Office of Business Economics.....	M. JOSEPH MEEHAN
Director, Bureau of the Census.....	ROBERT W. BURGESS

45th ANNUAL REPORT OF THE SECRETARY OF COMMERCE

Transmittal and Statement

DEPARTMENT OF COMMERCE

OFFICE OF THE SECRETARY,

Washington, December 31, 1957.

SIRS:

I have the honor to report to you the services and information provided to industry and business by the Department of Commerce during the fiscal year ended June 30, 1957.

The Coast and Geodetic Survey commemorated its first century and a half of service to the Nation, which is a landmark in the history of any governmental agency. A highlight of the Bureau's activity during the year was its preparation for the International Geophysical Year in the fields of geomagnetism, seismology, geodesy, and oceanography.

The Patent Office successfully completed the first year of its 8-year program to reduce the backlog of pending patent applications. According to plans, by the end of fiscal 1964 the number of pending applications will be reduced to about 100,000, at which level the Patent Office will be able to take action within 3 months after receipt of an application or amendment. A concurrent program for modernization of the classification system was inaugurated. Important advances were made toward the development of feasible mechanized systems for patent searching.

Applications for trademark registration continue to be received in almost unprecedentedly large numbers, reflecting the sustained vigor of our national economy in producing new goods entering competitive markets in interstate commerce and foreign trade.

The National Bureau of Standards continued to conduct research in the field of measurement and standards. Outstanding achievements during the past year were: Contributions by Bureau physicists to the reversal of the long-held theory of "nuclear parity"; progress in research on stored chemical energy in frozen unstable chemical molecules; progress in research

on dimensional precision; and significant advances in new modes of radio communication.

There was greatly increased activity in all major programs of the Civil Aeronautics Administration. Excellent progress was made in the first year of the 6-year Federal Airway Plan toward providing a modernized air traffic control system to handle adequately the ever-increasing air traffic and the jet aircraft expected by 1959. A progress report published on the many operational problems to be met with the introduction of commercial jets indicates that much of the public concern which has existed about their civil use is being dispelled. Aid to communities in providing and maintaining an adequate national system of airports continued at a high level.

Considerable progress was made in the development of a progressive, modern, and efficient United States merchant fleet able to meet the needs of the country in event of national emergency. Design and planning of the world's first nuclear-powered merchant ship proceeded steadily. Over \$1¼ billion of work was on the order books of the American shipyards for construction of oceangoing merchant ships, and programs contemplated by subsidized lines for replacement of their fleets indicated the building of nearly 300 additional ships in the next 20 years at an estimated cost of \$3 billion.

Responsive to nationwide needs for improved highway transport serving motorists, commerce, industry, and defense, the Bureau of Public Roads engaged in a wide range of engineering, administrative, and research activities designed to aid the States in planning and developing adequate, modern highway systems. During the year \$1,036 million of Federal funds was used to construct 23,979 miles of highway. The Bureau also was very active in launching the vast new roadbuilding program for the National System of Interstate and Defense Highways authorized by the Federal-Aid Highway Act of 1956.

There has been a further strengthening of the basic weather services provided by the Department of Commerce Weather Bureau to citizens in every corner of our country. Progress was made in the development of more detailed weather forecasts, in the issuance of more timely storm and flood warnings, and in the provision of more useful climatological services.

Through expanded meteorological research and new techniques of technological advancements—such as storm detection radar and the electronic weather computer—the Weather Bureau now is providing weather services to more people in more places than ever before in its long history.

The Office of International Trade Fairs programed 23 official United States exhibits throughout the world. Noteworthy in this increased 1957 schedule was the United States Government's participation at two Communist Trade Fairs—Yugoslavia and Poland. Approximately 10 million foreign visitors toured the American displays of consumer-industrial

products staged under a cooperative and successful plan of participation by both Government and private business firms.

We strengthened and improved our basic services to business, including analysis of current and prospective trends in important industries, as well as refinement of our mobilization preparedness programs for industry. Part of the latter has included expediting delivery of materials for the missiles programs.

The Office of Area Development was established as a primary unit of the Department during fiscal 1957, following recommendations by the President and the Joint Committee on the Economic Report that the area development services of the Department be expanded. During the year, the Office served as the focal point in the Federal Government for handling State and community requests for assistance on unemployment and economic distress problems.

Our program of collecting technical reports growing out of the more than \$2.5 billion of research conducted annually for the Government and making them available to the Nation's scientific and industrial laboratories and business enterprises showed a marked increase in acquisitions of new reports and in sales, reflecting a wider service. Over 58,000 more copies of reports were purchased by science and industry than during the previous year, and total sales exceeded 240,000 copies.

Through the monthly magazine *Survey of Current Business*, prepared in the Office of Business Economics, the Department has kept the business community fully informed on all significant developments in the national economy. In addition to its statistics and periodic reviews of the business situation, the Office of Business Economics published more than a score of analytical special articles containing the results of its intensive research on various aspects of the economy's structure and operation. The national income and product accounts have been maintained, and are now generally regarded as the most important indicators available for the determination of both private and Government economic programs.

The Bureau of the Census provided advance information from the 1957 Census of Governments; issued many final publications for the 1954 Censuses of Agriculture, Business, Manufactures, and Mineral Industries; and started groundwork and planning for the 1958 censuses covering industry and trade and the 1960 censuses covering population, housing, agriculture, irrigation, and drainage. Current programs continued to supplement the major censuses with up-to-date information, both monthly and annual. Among these current surveys, the national housing inventory taken during the year is notable as the first measurement of the Nation's housing supply since the 1950 Census of Housing—a period of significant national growth for which Bureau figures showed a gain in population of nearly 20 million persons.

Following a general description of the condition of our national economy and developments in foreign trade, there is attached a full report of the Department's accomplishments and expenditures for fiscal 1957.



Secretary of Commerce.

THE PRESIDENT OF THE SENATE.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

THE NATIONAL ECONOMY IN FISCAL 1957

The Nation's economy continued to expand in fiscal 1957, with output, employment, and income establishing new records. The pace of the advance was moderated by contractions in some areas of final purchases, notably in expenditures for nonfarm housing. A slower rate of inventory accumulation, reflecting a closer gearing of production to current sales, was also a significant factor in the overall change from the previous fiscal year.

Gross national product advanced to \$425 billion in fiscal 1957, as compared with \$404 billion in the preceding year. Roughly, two-thirds of this increase in dollar value reflected the advance in prices which stemmed from the strong overall demand in the economy combined with generally increasing costs of production. The wholesale price indexes for crude and intermediate materials, supplies, and components showed little movement in the latter half of fiscal 1957. However, prices of consumer goods and services and of most other final products continued to rise.

Of the increase in the gross national product, consumer purchases of goods and services accounted for more than half. Business outlays for new plant and equipment also showed further marked expansion. At the same time, our export trade advanced briskly and contributed significantly to the high level of business activity. Public expenditures also continued to expand, with increases about equally divided between the Federal and the State and local governments.

The national income measure of total production rose to \$353 billion in fiscal 1957, about 5½ percent higher than in the previous year. Among the major types of income, corporate profits did not advance, despite expanding sales; this was in contrast to the continued increase registered by employee compensation and most other forms of earnings. The income of farm operators leveled off in fiscal 1957 following 4 consecutive years of decline. There was a further appreciable rise in net interest, and moderate increases occurred in the earnings of nonfarm proprietors and in rental income of persons.

An expanding flow of personal income continued to be a potent market factor in fiscal 1957. The 6 percent rise stemmed for the most part from

income generated in current production, but this was augmented by a sizable advance in Government transfer payments. Such payments, which had shown a relatively gradual growth in recent years, rose sharply in the latter half of fiscal 1957 as a result of the extension of coverage which became effective under the amendments to the Social Security Act.

Overall employment rose to a new record high, and unemployment remained low. In the nonagricultural industries, average monthly figures for fiscal 1957 registered over 1 million more persons at work than in the preceding year. The further increases occurred in the nonmanufacturing industries, with trade and services accounting for a major part. Average employment of production workers in manufacturing showed little change on a year-to-year basis, but edged downward—along with average hours of work—in the latter half of the 1957 fiscal period. The payroll effect of this decline in production worker man-hours, however, was largely offset by the further advances in hourly earnings, and by the continued growth in salary disbursements to administrative, clerical, and research personnel.

Inventory fluctuations had a marked influence on the short-term movement of the gross national product over the course of the 1956-57 period. In the half-year interval ending in June 1957, nonfarm business inventories were being accumulated at an annual rate of \$1 billion, on a seasonally adjusted basis, as contrasted with a \$5 billion rate in the corresponding period of 1956. In the more recent period, not only was the rate of accumulation reduced in industries which were still increasing their stocks, but there were swings from accumulation to moderate liquidation in many areas of the economy. These changes reflected the more cautious inventory policy of business, the easing of supply pressures, and the effect of the increased costs of carrying stocks associated with the tight credit situation.

UNITED STATES FOREIGN TRADE DEVELOPMENTS

United States foreign trade soared to record heights in the fiscal year ended June 30, 1957. The ratio of nonmilitary exports to gross national product rose to 4.5 percent as the percentage increase in exports outstripped that in GNP. The corresponding ratio for imports remained near 3.0 percent, as import expansion lagged slightly behind that of GNP.

Nonmilitary exports, climbing at accelerating rates in the past several years, advanced nearly one-fourth in value to \$19.2 billion in fiscal 1957. The upward movement in exports reflected not only continued economic growth abroad and some further liberalization of foreign restriction against dollar imports, but also the temporary effects of the Suez Canal closing.

Imports rose 4 percent to \$12.7 billion in the year ended June 1957. This rate of increase was substantially below that in the preceding period and in part reflected the somewhat lower rate of expansion of United States manufacturing production.

The major part of the export gain represented a larger volume of goods shipped abroad, as export prices averaged only slightly higher. The import advance was about evenly divided between volume and price increases.

Exports

Agricultural exports—one-fourth of total nonmilitary shipments to foreign countries—expanded by over one-third to \$4.7 billion in fiscal 1957. Sales of United States government surpluses for foreign currencies, increased wheat import requirements in Western Europe following poor harvests there, and the reduction of United States cotton export prices to internationally competitive levels, all contributed to the rise in United States foreign agricultural sales. Cotton shipments of \$1.1 billion were triple those of fiscal 1956, when the United States fiber had moved sluggishly in world trade, and showed an increase of almost two-thirds even by comparison with fiscal 1955. Wheat and flour exports rose nearly three-fifths to \$0.9 billion, while those of other agricultural foodstuffs, on the average, advanced about 7 percent to \$1.7 billion.

Exports of nonfarm products swung upward by \$2.3 billion, or almost one-fifth, to \$14.3 billion. Sales of crude petroleum and petroleum products doubled, reflecting the temporary substitution of United States supplies in Western Europe during the period when the oil flow from the Arabian States was interrupted. Coal shipments, mainly to Europe, increased conspicuously for the second consecutive year, and exports of iron and steel-mill products and of nonferrous metals also showed outstanding gains.

Sales abroad of machinery, by far the leading United States export category, jumped 16 percent to \$3.7 billion, with the major part of the advance in construction and mining and other industrial machinery. Shipments of motor vehicles, parts, and accessories, on the other hand, barely held to the fiscal 1956 level of \$1.3 billion. There were substantial increases in truck deliveries, but foreign sales of United States passenger cars fell off sharply.

Western Europe took almost one-third of total United States nonmilitary exports in fiscal 1957. Shipments to that area rose 31 percent to \$6.1 billion, with most of the dollar gain coming from goods sent to Germany, Italy, France, and the United Kingdom. Shipments to the Far East expanded even more sharply. In the main, their 47 percent rise, to about \$3.2 billion, reflected much greater exports of cotton, metals, and other industrial raw materials to Japan, and of surplus agricultural products to India.

In trade with the Latin American area, United States sales moved upward by 18 percent to \$4.2 billion. There were sizable gains in exports to Venezuela, Cuba, Mexico, and Brazil, but shipments to Colombia fell steeply. Canada also purchased \$4.2 billion of United States goods, 10 percent more than in the previous 12 months, while shipments to Africa and the Near East remained near the \$1.0 billion level of fiscal 1956.

Imports

Most of the import expansion in fiscal 1957 was concentrated in manufactured goods, and especially in those of Western European origin. Total imports of finished manufactures rose to \$2.7 billion, over one-fifth above the level a year earlier. Prominent in this advance were shipments of foreign automobiles, which more than doubled in value; of finished steel products, which advanced by over one-half; and of machinery, which rose more than one-fifth.

Total United States purchases of raw materials from abroad increased only about 3 percent to \$6.9 billion. The inflow of crude petroleum and residual fuel oil rose by 22 percent to \$1.3 billion, and imports of ferro-alloying ores and metals, iron ore, and newsprint also advanced substantially. Expenditures for crude rubber, on the other hand, dropped 25 percent to \$0.3 billion, and those for raw wool and sawmill products also sagged.

The value of foodstuffs arriving from foreign countries was slightly below the \$3.2 billion level of fiscal 1956. Coffee purchases were reduced to \$1.4 billion, and cacao bean imports also declined, while sugar receipts remained about the same.

Imports from Europe, amounting to about \$3.0 billion, showed a greater rise than those from other areas in fiscal 1957. The rate of increase, however, was only about 10 percent, in contrast to almost 40 percent the year before. Over half of the rise stemmed from larger United States purchases of British and German goods.

The value of imports from Canada rose by about 5 percent from \$2.8 billion in fiscal 1956, while imports from Latin America and the Far East, valued in that latter period at \$3.6 billion and \$1.9 billion, respectively, showed little increase. In the former area there was a substantial advance in imports from Venezuela but a sharp decline in those from Colombia. In the Far East imports from Japan rose appreciably, but receipts from the major rubber suppliers—Malaya and Indonesia—decreased. Imports from the Near East and Africa, reflecting mainly the drop in petroleum imports from the Middle East, fell by over 10 percent from the \$0.9 billion level of fiscal 1956.

Immediate Office of the Secretary

BUSINESS ADVISORY COUNCIL

The Business Advisory Council, completing 23 years of service to the Department of Commerce, met during the year with the Secretary of Commerce and other senior United States governmental officials at five scheduled meetings. There was an exchange of views on the state of the economy, peaceful uses of the atom, manpower problems, labor policy, foreign trade and aid, and many other topics of primary interest to the Department. A number of special subcommittee meetings were also held.

Eight new members were added and five members were lost by death. As of June 30, 1957, the active membership was composed of:

- *Eugene Holman, Chairman, New York, N. Y.
- *S. D. Bechtel, Vice Chairman, San Francisco, Calif.
- *Ernest R. Breech, Vice Chairman, Dearborn, Mich.
- *T. V. Houser, Vice Chairman, Chicago, Ill.
- *Devereux C. Josephs, Vice Chairman, New York, N. Y.
- Robert B. Anderson, New York, N. Y.
- *John D. Biggers, Toledo, Ohio
- *James B. Black, San Francisco, Calif.
- Roger M. Blough, New York, N. Y.
- *Harold Boeschstein, Toledo, Ohio
- Fred Bohen, Des Moines, Iowa
- Kenneth C. Brownell, New York, N. Y.
- Paul C. Cabot, Boston, Mass.
- James V. Carmichael, Atlanta, Ga.
- Walker L. Cisler, Detroit, Mich.
- *Lucius D. Clay, New York, N. Y.
- John L. Collyer, Akron, Ohio
- Charles E. Daniel, Greenville, S. C.
- *Donald K. David, New York, N. Y.
- Paul L. Davies, San Jose, Calif.
- Charles D. Dickey, New York, N. Y.
- Marion B. Folsom, Washington, D. C.
- William C. Foster, Washington, D. C.
- Elisha Gray II, St. Joseph, Mich.
- Joseph B. Hall, Cincinnati, Ohio
- Robert March Hanes, Winston-Salem, N. C.
- F. R. Kappel, New York, N. Y.
- E. H. Lane, Altavista, Va.
- *Fred Lazarus, Jr., Cincinnati, Ohio
- Barry T. Leithead, New York, N. Y.
- Donald B. Lourie, Chicago, Ill.
- George H. Love, Pittsburgh, Pa.
- J. Spencer Love, Greensboro, N. C.
- Roswell Magill, New York, N. Y.
- J. W. McAfee, St. Louis, Mo.
- L. F. McCollum, Houston, Tex.
- Neil McElroy, Cincinnati, Ohio
- Earl M. McGowin, Chapman, Ala.
- Aksel Nielsen, Denver, Colo.
- C. H. Percy, Chicago, Ill.
- A. Q. Petersen, New Orleans, La.
- T. S. Petersen, San Francisco, Calif.
- Paul Pigott, Seattle, Wash.
- Gwilym A. Price, Pittsburgh, Pa.
- William E. Robinson, New York, N. Y.
- D. J. Russell, San Francisco, Calif.
- Charles Sawyer, Cincinnati, Ohio
- C. R. Smith, New York, N. Y.
- *J. P. Spang, Jr., Boston, Mass.
- A. E. Staley, Jr., Decatur, Ill.
- *Frank Stanton, New York, N. Y.
- *Robert T. Stevens, New York, N. Y.
- R. Douglas Stuart, Chicago, Ill.
- Gardiner Symonds, Houston, Tex.
- Charles Allen Thomas, St. Louis, Mo.
- Juan T. Trippe, New York, N. Y.
- *John C. Virden, Cleveland, Ohio
- Thomas J. Watson, Jr., New York, N. Y.
- John Hay Whitney, London, W.1, England
- Langbourne M. Williams, New York, N. Y.

*Member of Executive Committee.

OFFICE OF THE GENERAL COUNSEL

The Office of the General Counsel, using its key officials on a preemptive basis, serves as legal counsel to the Secretary of Commerce, the Under Secretary of Commerce, the Under Secretary of Commerce for Transportation, and the Assistant Secretaries of Commerce as well as to the heads of offices, bureaus, and administrations who provide policy guidance to their respective units of the Department.

The General Counsel, as the chief legal officer of the Department, has general over-all responsibility for the supervision of the conduct of legal affairs throughout the Department, including those constituent units which support comprehensive legal staffs. This leadership is exercised directly, and all key officials of such staffs are considered to be members of the Office of the General Counsel of the Department.

Since it is the mission of the Department of Commerce to foster, develop, and promote foreign and domestic commerce, the Office of the General Counsel concerns itself in detail with legal aspects of all Federal programs relating to business and industry to be able to advise and give counsel to the Secretary and to other policy officials to the Department with respect thereto.

Legislative Activities

The Office of the General Counsel has direct responsibility for all legislative services, including legislative liaison with the Congress and within the Executive Branch, for the Department and all its constituent units. However, legislative service for fiscal matters of budget significance have been assigned to the Assistant Secretary of Commerce for Administration.

In connection with the discharge of these responsibilities, the General Counsel's office handled over 11,000 requests for congressional services during fiscal 1957.

The Congress requested the views of the Department on 915 items of pending legislation. Other agencies of the Executive Branch directly consulted the office with respect to 224 items of legislative significance.

Domestic Affairs

The Domestic Affairs Division performed all legal work for the Business and Defense Services Administration, Office of Business Economics, Bureau of the Census, Office of Technical Services, Coast and Geodetic Survey, and National Bureau of Standards. For the Patent Office it performed legal work in matters other than the issuance or denial of patents and registrations of trademarks.

The Division was especially occupied with the administration of the current priorities system under the Defense Production Act, facilitating timely delivery of needed materials and products for the Department of Defense and the Atomic Energy Commission; the preparation of plans, supporting

regulations, and orders to insure availability of essential materials and facilities in the event of future emergencies; and the perfecting of a comprehensive legislative proposal relating to foreign trade statistics and of legislation to provide Federal assistance to areas of substantial and persistent unemployment.

International Affairs

The International Affairs Division performed the legal work falling within the responsibilities of the Assistant Secretary of Commerce for International Affairs, including the Bureau of Foreign Commerce and the Office of International Trade Fairs. This work related mainly to legal problems involved in the administration and enforcement of the Export Control Act, the Department's foreign trade promotion activities, and its program of participation in international trade fairs abroad.

Export control legal work for the Bureau of Foreign Commerce chiefly comprised: The handling of administrative proceedings for the denial of export privileges, and assistance to the Department of Justice in the preparation and prosecution of criminal cases; and assistance in the preparation of regulations and interpretation of regulations, and review of procedures for licensing officers and the export trade for conformance to regulations.

In the export control enforcement field, investigative reports on 78 violations cases were received and reviewed. During the period 16 charging letters were issued to institute proceedings, and 20 orders were issued denying export privileges following the conduct of hearings in which the Division presented the Department's evidence. In addition, 32 warning letters were issued, after review by this Division, for minor infractions. Four cases were brought to the attention of the Justice Department for criminal prosecution.

Trade fair legal work included: Preparation of contracts with American firms and individual specialists for design, architectural, and other related services for construction and acquisition in this country and abroad of exhibit materials; and assistance in making arrangements for display at the fairs of items furnished by private firms. This program, which had been undertaken late in 1954 on an emergency basis, was authorized on a more permanent basis in the enactment of the International Trade Fair and Cultural Participation Act of 1956. The Division assisted in drafting this enabling legislation and in its presentation to the congressional committees concerned.

The Division also furnished certain legal services in the course of the administration of the Foreign Trade Zones Act, the China Trade Act, and the so-called British Token Import Plan.

Transportation Division

The Transportation Division performed all legal work falling within the responsibilities of the Under Secretary of Commerce for Transportation with respect to the Bureau of Public Roads, Civil Aeronautics Administra-

tion, Defense Air Transportation Administration, and the Maritime Administration.

The Division was especially occupied with the preparation and coordination of proposed legislation providing for the appointment of a Federal Highway Administrator and encouraging the control of advertising along the National System of Interstate and Defense Highways. The Division was also concerned with legislation implementing recommendations of the Presidential Advisory Committee on Transport Policy and Organization.

General Legal Services

The General Legal Services Division reviewed all contracts entered into by the Department which must be approved by the Secretary or submitted for legal approval pursuant to Department order. Contracts, leases, bonds, agreements, and similar contractual matters which the Division prepared or reviewed totaled 219. The Division also prepared or reviewed 68 requests from agencies of the Department for opinions of the Attorney General or Comptroller General and other matters submitted to these officials, including reports on litigation. Legal opinions and other legal memoranda rendered totaled 375; miscellaneous legal matters, 323.

This Division reviewed for legal effect all Department orders; received and processed applications for free use of Government-owned patents; maintained legal liaison with the appropriate administrative divisions concerned with personnel, budget, and appropriation problems; reviewed matters arising under the Federal Tort Claims Act; and rendered day-to-day legal consultative services to the various administrative divisions.

OFFICE OF PUBLIC INFORMATION

The Office of Public Information, maintaining its "open door" policy on departmental news, aided correspondents, editors, and other representatives of the private communications media in bringing Commerce activities to public notice. Through the medium of news conferences, radio and television appearances, background briefings, addresses, statements, and magazine articles, factual information on Commerce programs in promoting national economic welfare was transmitted to the business community and the general public.

Editorial research was intensified to provide additional up-to-date material for use in speeches and statements by top officials in their appearances before business and community groups. A survey of information activities by field offices was begun to improve liaison between OPI and the field.

Circulation and distribution procedures were further refined, with the cooperation of the various bureaus and offices, to assure more efficient coverage of outlets for the Department's informational services.

Office of the Assistant Secretary for Administration

The Assistant Secretary of Commerce for Administration serves as the principal assistant to the Secretary on all matters of departmental administration and management. The primary responsibility of this Office is to assure the effective administration of the Department's programs and proper departmental representation before other Government agencies. The Assistant Secretary also provides policy direction to the activities of the Agency Inspection Staff, Appeals Board, Emergency Planning Coordinator, and the Offices of Budget and Management, Administrative Operations, Personnel Management, Publications, and Security Control.

Administration of the Department's programs for fiscal 1957 required a total expenditure of \$1,484,417,056. Total paid employment in the Department on June 30, 1957, numbered 52,250.

The staff of this Office works constantly with the bureau heads and their staffs toward the solution of management problems to assure that technically sound, effective, and economical management programs are installed and maintained.

During the year special emphasis was placed on better utilization of manpower, reduction of paperwork, improved communications, coordinated warehousing, charges for certain services, and advances in financial management.

A more detailed statement of the accomplishments within this Office is cited in the separate reports of its component units which follow.

OFFICE OF ADMINISTRATIVE OPERATIONS

The Office of Administrative Operations is responsible for staff management and direction of the administrative activities of the Department, including space, motor vehicle, procurement, property, records, safety, and library service programs. In addition, it provides the Office of the Secretary, Business and Defense Services Administration, Bureau of Foreign Commerce, and Office of Business Economics with all administrative services.

During the year a review of telephone services resulted in savings through: Elimination of equipment, \$1,740; installation of private lines, \$20,000; prorating charges among bureaus for long distance calls, \$7,370; and elimination of telephone call slips and their subsequent audit, \$1,000. More than \$13,000 a year was saved by arranging for exporters to pay for wire messages approving export licenses.

All of the Department's real property holdings, located at 578 installations throughout the world and valued at \$501,562,000, were reviewed and items or transactions found nonessential were eliminated. Through a

consolidation of operations, seven separate warehouses were merged into two.

Excess personal property valued at \$2,419,900 was appraised and \$351,300 of it reissued. Total new-value of personal property declared surplus to General Services Administration (GSA) amounted to \$6,300,000.

In the area served administratively by the Office, 7,300 purchase transactions involving \$1,604,500, were completed. By making cash purchases, the Office reduced paperwork in about 25 percent of these transactions.

Over 110,400 cubic feet of records were removed from operating space in the Department. This released for reuse or reassignment personal services, equipment, and space worth \$345,550.

Following a survey of the Department's fleet of about 5,100 motor vehicles, 1,100 were transferred to GSA. Improvements in management of the remaining 4,000 vehicles reduced the cost of operations about \$60,000 annually. By the end of the year and for the first time in the history of the Department, each major bureau was operating under its own formal motor vehicle management program. About 1,000 operators of vehicles under jurisdiction of the Department were given road-test examinations.

While the total cost of accidents did not decline, owing to three fatality payments, the cost of other injuries dropped 12 percent. The issuance of uniform standards for hazard control is gradually lowering the cost of medical and compensation payments.

At the end of the year the departmental library's cataloged collection totaled 382,000 volumes and the law collection 27,780 volumes. Over 117,900 books and periodicals were loaned, representing a slight increase over the preceding year's activity. Some 21,880 reference requests were handled, and 52,000 readers used the reading rooms. Resumption of publication of the *Library Reference List* of selected acquisitions and continued progress on the serial records project increased the value of the library as a work tool for the staff.

APPEALS BOARD

The Appeals Board of the Department of Commerce serves as an impartial body to make final decision on certain appeals from the public when adversely affected by orders, regulations, or administrative actions of the Department in connection with export control matters, importation of foreign excess property, or other statutory authority of the Department. It also hears appeals relating to contracts of the Bureau of Public Roads, and other appeals specifically assigned to it by appropriate authority.

During the past fiscal year the Board disposed of 38 appeals involving nine formal hearings.

OFFICE OF BUDGET AND MANAGEMENT

The Office of Budget and Management is the central staff facility for the direction of the Department's financial affairs and organizational development. It develops departmental policy within its area of responsibility,

reviews budget estimates, establishes procedures for the control of all funds, reviews organizational structures, develops organizational plans, and makes continuing studies of functional and organizational relationships.

The Office reviews departmental administrative and operating practices, procedures, and methods; evaluates the Department's programs in terms of efficiency of management and economy of operations; promotes participation in the Department's management improvement program and governmentwide joint program for improvement of accounting; furnishes a central fiscal advisory service to all bureaus; and assists the Assistant Secretary of Commerce for Administration in providing staff support to top management.

Budget Activities

The Office of Budget and Management considered regular annual budget estimates for the fiscal year ending June 30, 1958, and after review and analysis by the Office, the Secretary of Commerce approved \$891,456,000 for transmittal to the Bureau of the Budget. The President's budget, transmitted to the Congress in January 1957, included \$803,790,000 for the Department of Commerce.

In addition to the regular annual budget estimates, supplemental appropriation requirements for fiscal 1958 of \$38,456,000 were reviewed and approved by the Secretary for transmittal to the Bureau of the Budget. The President approved this amount for transmittal to the Congress, which appropriated \$16,533,000.

In addition to the regular appropriations for the Department, the Congress appropriated \$1,690,000,000 from the Highway Trust Fund to finance the Federal-aid highway program for fiscal 1958.

Summary of Balances, Appropriations, and Expenditures, Department of Commerce, Fiscal Year Ended June 30, 1957

	Unexpended balance June 30, 1956	Appropriation fiscal year 1957	Total (columns 1 and 2)	Expenditures fiscal year 1957
General accounts:				
General Administration.....	¹ \$4, 316, 143	\$2, 450, 000	¹ \$6, 766, 143	¹ \$1, 116, 935
Bureau of the Census.....	3, 230, 548	10, 375, 000	13, 605, 548	12, 112, 107
Civil Aeronautics Administration.....	70, 798, 255	245, 425, 136	316, 223, 391	179, 999, 640
Coast and Geodetic Survey.....	688, 018	14, 600, 000	15, 288, 018	10, 876, 504
Business and Defense Services Administration.....	601, 079	6, 975, 000	7, 576, 079	6, 809, 788
Bureau of Foreign Commerce.....	395, 347	5, 400, 000	5, 795, 347	5, 132, 748
Office of Business Economics.....	68, 120	960, 000	1, 028, 120	945, 892
Maritime Administration.....	261, 307, 285	242, 910, 000	504, 217, 285	181, 206, 343
Patent Office.....	1, 651, 945	17, 000, 000	18, 651, 945	16, 618, 854
Bureau of Public Roads.....	80, 116, 340	39, 425, 000	119, 541, 340	54, 496, 061
National Bureau of Standards.....	8, 233, 981	10, 130, 000	18, 363, 981	11, 566, 863
Weather Bureau.....	12, 175, 602	37, 900, 000	50, 075, 602	38, 028, 587
Total General Accounts.....	443, 582, 663	633, 550, 136	1, 077, 132, 799	518, 910, 322
Highway Trust Fund.....		1, 050, 000, 000	1, 050, 000, 000	965, 506, 734
Total Department of Commerce.....	443, 582, 663	1, 683, 550, 136	2, 127, 132, 799	1, 484, 417, 056

¹ Includes Inland Waterways Corporation in liquidation.

Funds in the amount of \$4,136,798 were withdrawn as of June 30, 1957, under the provisions of Public Law 798, 84th Congress, which requires the withdrawal of funds unobligated at the close of each fiscal year.

Management Activities

The Office continued to direct its efforts toward advancing and strengthening the management activities of the Department. The examples appearing below serve as a measure of the progress made.

The Office participated in the promotion, at the departmental and office level, of a vigorous manpower utilization program. This program has resulted in numerous organizational, operational, and procedural actions to make better use of manpower available to the Department. Examples of results include shifting to lower-graded personnel certain work which had been performed by professional employees, the installation of labor-saving devices, improvement of administrative procedures, and wider application of production standards.

During October the Office promoted and coordinated "Operation Paperwork-1956"—a concentrated effort to eliminate unnecessary paperwork, and procedures that result in the unnecessary generation of more paper. Accordingly, the entire Department reviewed all its forms, reports, files and records, directives, classified material, and correspondence.

Indicative of the success of this operation are the following representative statistics on results. A total of 1,371 forms was eliminated; 30,399 cubic feet of old and obsolete material were destroyed; 12,210 cubic feet of files and records were transferred to lower-cost storage at Federal records centers; the equivalent of 4,411 four-drawer filing cabinets was released of which about 865 cabinets were scheduled for transfer to General Services Administration as surplus; 148 reports were eliminated and 103 revised; 1,162,565 classified documents were destroyed, thereby releasing 685 safes and safe cabinets; 10,170 pages of procedural instructions were eliminated, with another 15,706 pages being revised and simplified. It is expected that additional and continuing benefits will result from Operation Paperwork.

Adoption of electric accounting machine techniques enabled the Accounting Operations Branch to provide more timely and detailed accounting information to management.

The Office studied existing practices for recovery of cost in providing special services to private individuals or groups as contrasted to the services furnished the public in general. Resulting from this study, an aggressive long-range user-charge program was initiated to recover the cost of providing special services to individuals or groups. This program will assure greater equity in the provision of the Department's services; reduce pressure for special services; provide a yardstick to evaluate future legislative and

program requirements; and increase the Treasury Department's receipts by many millions of dollars each year, thereby reducing the financial burden on the general taxpayer.

A system of central review of proposed contracts was installed to assure top management that such contracts are consistent with approved programs and available funds.

The Commerce Operating Budget in Brief was developed and published as an aid to top Department officials in coordinating and reviewing the financial and management aspects in the execution of approved programs by its 12 major bureaus and several staff offices. The initial development of concise statements covering the wide range of Commerce programs and activities lent itself to subsequent comparison and analyses of program progress, detection of changes in plans, and fiscal status appraisal.

A directory of field offices and facilities was developed and published to facilitate handling Congressional, Governmental, and private inquiries concerning them. This comprehensive listing provides a central source of reference not previously available.

A new manual of administrative instructions was developed and issued for use in the Office of the Secretary and organization units serviced by it. The manual contains procedures and instructions for the efficient and economical management of administrative activities common to the organizations served. It eliminates duplication of administrative rules and regulations which heretofore were issued by several organization units of the Department.

Under authority of Public Law 863, approved August 1, 1956 (an act to improve governmental budgeting and accounting methods and procedures) and a Bureau of the Budget directive requiring the development of a program to improve financial management, the Office assumed the liaison and leadership functions in effectuating such a departmental program.

Plans have been developed, with related target dates for implementation of this program, involving maintenance of accounts on the accrual basis, including the use of adequate inventory and property records; development of cost-based budgeting practices; review and appropriate revision of budget and accounting classifications for consistency and synchronization with organization units to the extent possible; and development of supporting information by organizational units where budget classifications do not coincide with the organization of the agency.

The program of improved financial management should provide information and controls that are clearly related to the levels of assigned executive responsibility and decision-making; be an integral part of total management—that is, provide balanced support to overall management responsibilities; and permit management control of funds through the fiscal system.

EMERGENCY PLANNING COORDINATOR

The Emergency Planning Coordinator is responsible for the development and coordination of emergency planning to insure continuity of the Department's essential functions in time of a defense emergency. During fiscal year 1957 he continued the development and coordination of essential functions, memoranda of understanding between the Federal Civil Defense Administration and certain bureaus, the establishment of emergency agencies, and a radiological defense course for Department employees.

In addition, he planned for the Department's participation in Operation Alert 1957; provided housekeeping services for emergency agencies; conducted a full demonstration of the Department's trained teams in first aid, light rescue, and other civil defense activities for National Civil Defense Week; coordinated the Department's disaster assistance program; planned for and participated in three problem exercises under the direction of the Office of Defense Mobilization; and planned for the development of an emergency communication system.

OFFICE OF PERSONNEL MANAGEMENT

The major responsibility of the Office of Personnel Management is to direct and supervise the administration of personnel management throughout the Department of Commerce.

Employment in the Department increased from 47,175 on June 30, 1956, to 52,250 on June 30, 1957, principally because of improvements in airway service and facilities and the expansion of the public highway system.

During the fiscal year the Office:

Issued 13 administrative orders prescribing, revising, or strengthening the regulations and policies of the Department and 69 information bulletins clarifying various aspects of the laws, regulations, and instructions relating to personnel management.

Initiated a program in bureau personnel officers for periodic review of the classification of all positions throughout the Department to insure that positions are classified properly and that employees are compensated properly for the work performed.

In cooperation with the Civil Service Commission, developed occupational standards to serve as guides in establishing the salary levels of approximately 17,000 positions in the Department of Commerce and similar positions in other Government agencies.

Coordinated pay adjustments in connection with the transfer of some 400 employees of the former Alaska Road Commission from the Department of the Interior to the Bureau of Public Roads.

Devoted increased attention during the year to screening proposed and new appointees for suitability, and to rejecting or separating those who were found, upon investigation, not to meet the Department's standards.

Provided assistance to bureau personnel offices in evaluating their personnel programs through issuance of a suggested self-appraisal plan for personnel management activities and a basic checklist for a survey of employee attitudes concerning agency personnel management.

Employee suggestions, totaling 6,979, increased from 83 per thousand employees in 1956 to 145 per thousand in 1957. Of the total received, 1,226 were approved. The total estimated value of employee contributions in the 1957 incentive awards program was \$329,270.

OFFICE OF PUBLICATIONS

The Office of Publications is responsible for central review and control of publications, promotion of publication sales, and formulation of publications distribution policy. It also supervises printing done in and the procurement of printing done for the Department. An expanded program of forms control was established in the Office during the 1957 fiscal year.

Sales of the Department's published materials rose by nearly \$700,000 to \$3,875,000. Sales of publications through the Superintendent of Documents system alone increased by \$278,000 to \$1,579,000, accounting for 25 percent of his sales—again the largest of any Department.

The Publications Division reviewed proposals for 169 publications with estimated printing costs of \$370,000. Of these, 119 were approved as presented, 39 were approved with provisions, and 11 were disapproved or withdrawn.

With no increase in personnel, the Printing Division's plant produced the equivalent of 143 million standard pages in fiscal 1957 as compared to 133 million in 1956. This record reflected continuing gains from reorganization and modernization of equipment that have held prices to the 1951 level despite steadily rising costs. A survey of the plant by a consultant from the Rochester Institute of Technology found it operating efficiently. Production on two of the three types of presses has consistently bettered the commercial standard known as PAR, adopted following the survey.

The Office began issuance of the looseleaf *Handbook of Publications and Printing* to improve quality and efficiency in the entire publications process. A Department Printing Council was established to encourage further economies.

Office of the Under Secretary

The Under Secretary of Commerce serves as the principal deputy of the Secretary in all matters affecting the Department of Commerce and exercises general policy direction over its bureaus and offices. In addition, he gives particular attention and policy guidance to the Coast and Geodetic Survey, the Patent Office, and the National Bureau of Standards, which are directly responsible to him.

The Coast and Geodetic Survey completed surveys in the United States and Alaska to implement its basic program of charting the coastal waters and providing geodetic control for mapping and engineering in the interior. Of special significance during the year was the beginning of a resurvey of the important Georges Bank in support of the New England fishing industry, utilizing the most advanced electronic methods of hydrographic surveying. A new format with a rearrangement of predictions was designed for the annual tide and current tables to serve the user's needs better. The magnetic survey of the United States was carried forward; recent observations disclosed a pronounced and unexpected shift in the rate of change of magnetic declination in the southeastern part of the United States and the Caribbean area. The seismic sea wave warning system for the Pacific area operated effectively on March 9, 1957, when a large seismic wave, generated by a strong earthquake in the Aleutian Islands, struck the Hawaiian Islands 2 hours after a general alert had been posted. The Bureau issued more than 54 million copies of nautical and aeronautical charts, a greater volume than in any previous year in its history.

The Patent Office is engaged in a systematic and determined effort to carry out a plan for achieving a condition of workload to make it possible to act upon all patent applications within 3 months of receipt. The crux of this plan lies in reducing the backlog of pending patent applications to about 100,000—less than one-half the present number on hand. The backlog reduction is expected to be achieved through increased productive effort resulting from enlargement of the patent examining staff, utilization of the more experienced and productive examiners in overtime work, acceleration of training to hasten the productive efficiency of new examiners, and improvement of methods and conditions under which examining work is conducted. The ultimate goal is planned to be attained over 8 years ending June 30, 1964. Annual gains within this period are programed for purposes of budgetary planning, management direction to insure the best utilization of available resources, and progress evaluation. The Patent Office 8-year backlog reduction program has the endorsement of the Administration and was supported by Congress in appropriating funds to the Patent Office for both 1957 and 1958.

At the end of the first year of operation under the 8-year program, the backlog of patent applications was less than the number forecast in the plan for that time; the number of applications awaiting action by the examiners was lower than in any recent year; the proportion of the total backlog of applications which awaited the examiners' attention was the lowest in at least the past 10 years; and the amount of time elapsing between receipt of applications and action upon them was significantly improved from the condition of the preceding year.

The Patent Office inaugurated a program for modernizing its system of classification which is to be carried out concurrently with the 8-year program for backlog reduction. Important steps were taken toward providing a basic classification structure satisfying the major requirements of the examination process.

Operations of the Patent Office concerned with the registration of trademarks showed no marked change from last year. Although new applications for registration continue to be received in almost unprecedentedly large numbers, the condition of work in the examining divisions remains about the same. All applications were being acted upon within 5 months of receipt.

Encouraging developments were realized in the continuing effort of the Patent Office to create both the system and the apparatus for mechanically searching the vast and growing amount of information which must be reviewed for anticipatory matter in the process of examining applications.

The National Bureau of Standards' principal activity was the development and improvement of standards and methods of physical measurement. The progress of technology and the advancement of research are dependent upon the continuous effort of the Bureau to extend measurement principles to new and unexplored areas. The demand for Bureau services by industry and science has increased. To meet this demand, the Bureau is concentrating more of its effort on its basic responsibilities and transferring its personnel from "other-agency" work to basic Bureau problems. The Bureau is seeking to extend its usefulness to the technological economy by providing needed services to professional and technical organizations.

COAST AND GEODETIC SURVEY

Fiscal 1957 marked the 150th anniversary of the passage by the Congress of the act of February 10, 1807, which recognized surveying and charting of the coastal waters as a Federal responsibility. The agency then established is known today as the Coast and Geodetic Survey.

This historic event has been commemorated during the year. The Bureau has reviewed the practical contributions it has made in a century and a half to the safeguarding of life and property on land, on sea, and in the air and to scientific knowledge in the various fields of its responsibility.

The basic work of the Bureau provides the essential data for the compilation of nautical and aeronautical charts, for the surveying and mapping needs of other governmental and nongovernmental agencies, and for many uses by science and industry. In addition, widespread preparations were made in fiscal 1957 for participation in the International Geophysical Year, the greatest peacetime mobilization of scientific effort on a world-wide, coordinated basis.

Hydrography, Topography, and Tides

Surveys of coastal waters were initiated or continued by 17 vessels and 4 field parties in widely scattered areas along the Atlantic, Gulf, Pacific, and Alaska coasts and in the Hawaiian Islands. More than 150,000 square miles of hydrography were completed.

Of special interest is the resurvey of Georges Bank in support of the New England fishing industry. The most advanced electronic methods of hydrographic surveying have been used on this project. The last comprehensive survey of the area was made in 1930-33.

Another project helpful to shipping is the resurvey of Tampa Bay, Fla., in response to the growing commerce of that port.

Other hydrographic surveys were in progress or completed along the coasts of Maine and Massachusetts; in Narragansett and Chesapeake Bays; along the coast of North Carolina; around Key West, Cape Canaveral, and the west coast of Florida; and in a number of small harbors in California, Oregon, and Washington. In Alaska, surveys were carried on in Southeast Alaska, Prince William Sound, along the Alaska Peninsula, in the Aleutian Islands, and around Amak Island in the Bering Sea.

The electronically controlled offshore hydrographic survey in the Pacific Ocean, sponsored by the Department of the Navy, was extended to the area north of the Hawaiian Islands; 87,000 square miles of hydrography were completed.

Coast pilot investigations were underway along the Gulf coast for a new edition of the *Coast Pilot* for that area to supplement the information shown on nautical charts. Similar investigations were in progress along the Atlantic and Pacific coasts.

Topographic mapping by photogrammetric methods was continued along the coastal areas of the United States and Alaska as part of the Bureau's charting program. These surveys serve many collateral needs, such as the study and control of coastal erosion and boundary line determinations of waterfront property.

Special topographic maps of the low areas of Atlantic City, N. J., and Charleston, S. C., were prepared for the Federal Flood Indemnity Administration as part of a program for the prediction of flood damage from a given rise of the water level, and to aid in the establishment of graduated storm damage insurance rates.

Under the airport mapping program, photographs were taken of 60 airports, and field surveys were completed for 48 airports. Thirty-eight existing airport obstruction plans were revised and nine new plans published, bringing the number issued to 521.

The Bureau maintained its system of control tide stations at selected locations to provide basic observational data for tide predictions, for the establishment and maintenance of tidal datum planes, and for other uses. New stations were established at Texas Tower No. 2 on Georges Bank,

Providence, R. I., Reedy Point, Del., Myrtle Beach, S. C., Timbalier Island, La., and Mokuoloe Island, T. H. Tide records for 41 places in Latin America were received through cooperative arrangements with the Inter-American Geodetic Survey.

Observations of the tidal current were obtained at 33 locations in the waters of Massachusetts, Chesapeake Bay, Florida, Washington, and Alaska and at two Atlantic coast lightships. A special 15-day series of observations was made in the Cape Cod Canal to provide better daily predictions of the tidal currents.

Advance information on the rise and fall of the tide and the ebb and flow of tidal currents was published in the annual *Tide Tables* (4 volumes) and *Current Tables* (2 volumes) for use in marine navigation and coastal development. A new format employs a larger page and a rearrangement of the predictions to facilitate their use. Special tide tables of the Arctic were prepared for the Navy. A revised edition of *Tidal Current Charts, New York Harbor* was published.

Requests for tidal information were the greatest in the Bureau's history, due in part to their extensive use by Federal agencies for storm surge forecasting, hurricane damage studies, and model basin projects.

Geodesy, Magnetism, and Seismology

Geodetic operations were limited primarily to the continental United States and consisted of area triangulation and area leveling to provide more accessible geographic positions and elevations for the local engineer and surveyor. In all, 2,701 new geographic positions were determined and elevations were established for 11,654 benchmarks. There are now more than 150,000 adjusted triangulation points and about 346,000 benchmarks available in the United States and Alaska. Several small triangulation and leveling projects were started for some of the States as part of the Interstate Highway program.

A high-accuracy survey of an electronic and optical range was completed for the Rome, N. Y., Air Development Center. Space coordinates were determined over a distance of some 40 miles, utilizing triangulation, geodimeter measurements, precise leveling, and astronomic observations. Not only was the curvature of the ellipsoid of reference taken into consideration, but also the separation of the geoid from the ellipsoid.

Astronomic operations were continued along the 35th parallel geoid profile for 850 miles. The gravity area survey was extended northward into Minnesota and adjacent States, adding 14,000 square miles to the net.

The magnetic survey of the United States was extended to new areas to provide information on the magnetic elements for navigation, for surveyors and engineers using compasses, and for various scientific purposes. Observations were made at 7 observatories and at 27 field stations in the United States and Alaska, 5 of the latter being in the "repeat station" net for

measuring the secular change rate. Recent observations have disclosed a pronounced and unexpected shift in the rate of change of magnetic declination affecting the southeastern part of the United States and the Caribbean area.

As the world's leading agency in earthquake investigation, the Bureau has long engaged in the location of earthquake epicenters. It uses data from its own 7 seismograph stations, from 13 others operated in cooperation with universities and other institutions, and from several hundred independent stations throughout the world. This program furnished information on 1,277 earthquakes.

The Bureau's strong-motion program provides fundamental data to engineers on the nature of ground motions, foundation factors, and building reactions. Sixty-six strong-motion seismographs were operated in the six western States where destructive earthquakes are most likely to be experienced. The strongest shock occurred on March 22, 1957, when activity along the San Andreas fault caused a tremor in suburban San Francisco.

The seismic sea wave warning system for the Pacific area was continued in cooperation with civil and military agencies. On March 9, 1957, a large seismic sea wave was generated as a result of a severe earthquake south of Adak Island in the Aleutians. A general alert was issued at Honolulu two hours before the wave struck the Hawaiian Islands. Although the destruction of coastline structures could not be prevented, there was no loss of life directly traceable to the sea wave. This was in striking contrast to the 165 lives lost and 163 seriously injured during the *tsunami* of April 1, 1946, before the seismic sea wave warning system had been developed.

Nautical and Aeronautical Charts

To meet the varying needs of the navigator, the Bureau was called upon to produce during fiscal 1957 more copies of charts than ever before. More than 54 million copies were issued, one-fourth more than in the previous year. A total of 807 different nautical charts at various scales and 1,437 aeronautical charts were on issue at the end of the year.

The program of reconstructing and modernizing the Bureau's nautical and aeronautical charts to meet the more exacting demands of present-day navigation was carried forward. Four new nautical charts were issued. The change in format of the instrument approach and landing charts was completed, accounting for a large part of the increase in the issue of charts.

Reconstruction of the radio facility charts also was begun. Eighteen charts on different scales covering the United States will replace a series of 10 charts. The larger number is necessary to show the increase in the number of radio facilities now in use on the Nation's airways.

Technical Improvements and International Cooperation

The Bureau conducts research and development in instrumentation, equipment, and techniques and makes use wherever possible of new de-

velopments in private industry. Significant improvements were made in almost every branch of the Bureau's activities, resulting in greater accuracy, increased output, and reduced costs. Among these were the following:

- Modernizing a number of old echo-sounding instruments to replace those worn out in field use; design of a new current meter recorder incorporating a more complete monitoring system and providing for longer, unattended periods of observation.

- Acquisition of an 18-foot launch for testing and developing echo-sounding and other marine instruments.

- Purchase of a tellurometer, a precise, electronic, distance-measuring device that may revolutionize geodetic operations.

- Further development and testing of aerotriangulation techniques with photographs of a controlled area.

- Simplification of the airways system and its components on aeronautical charts for clearer presentation.

- Conversion to photographic type for chart work.

- Development of a new method for preparing gradient tints.

Under provisions of existing international cooperation acts and other arrangements, 13 training grants were awarded to 11 countries, 16 trainees of previous grants continued through this year, and 75 visitors from 17 countries consulted with Bureau personnel and observed operations for periods of 1 to 15 days. In addition, 14 participants from other training agencies or universities received short-period instruction. A technical mission was sent to Ethiopia to establish geodetic control in the Blue Nile River Basin, preliminary to the development of the natural resources of the area.

International Geophysical Year

A highlight of the Bureau's activity was its work in connection with the International Geophysical Year. Observational work in geomagnetism, seismology, gravity, latitude and longitude, and oceanography, as well as in the maintenance of the World Data Archive Center, has been assigned to the Bureau.

Twenty-four special magnetic recording stations and seven seismograph stations were installed in Alaska, in the United States, on Pacific islands, and in Antarctica; 16 new field employees were trained to operate these stations.

An important byproduct of the IGY participation has been the Bureau's development of a new system of magnetic field observations by means of a differential magnetograph. This is expected to shed important light on the causes of certain phases of geomagnetic activity.

For astronomic observations, a station will be operated near Honolulu. A high-precision astrolabe will be used to detect possible continental drift of 10 feet or less and to provide data on the variation of the earth's axis of rotation. A dual-rate moon camera will furnish highly precise time by observing with great accuracy the moon's motion among the stars.

In oceanography 10 tide gages have been made available to oceanographic and geologic institutions for use in the study of changes in sea level.

The existing tide stations of the Bureau on islands and outer coasts will supply data for this project.

Plans and Recommendations

The Bureau's future plans include a continuation of the surveys of Georges Bank and Tampa Bay and the initiation of a survey of the lower Columbia River; an acceleration of geodetic work under the Interstate Highway program; land subsidence surveys in the San Joaquin Valley, Calif., and in the Houston-Galveston, Tex., area; an aeromagnetic survey of the United States; development of methods for utilizing the nuclear magnetometer and other modern geophysical instruments; expansion of engineering-seismology investigations in the western earthquake regions; investigation of methods for speeding up the processing of tide and current data; and development of a remote recording system for use with a pressure tide gage located on the ocean floor several miles from shore.

The rapid development of civil aviation and the modernization of the Federal airways system will necessitate additional planning and research to enable the Bureau to keep its aeronautical charting program abreast of these developments.

The concentration of industry in important harbors, with attendant pollution of the waters from wastes, has created a need for special circulatory surveys to develop the flow patterns. The increasing use of the Bureau's tidal data in the settlement of waterfront boundary disputes has emphasized the need for water-level studies in bodies of water where the tidal range is small in order to establish better criteria for the determination of tidal datum planes.

Plans are being developed for a replacement program of surveying vessels as they reach obsolescence and for the procurement of modern hydrographic and oceanographic equipment.

PATENT OFFICE

The Patent Office was established to administer the patent laws enacted by the Congress under the provisions of Article I, Section 8, of the Constitution. The first of these laws was enacted April 10, 1790. The current law became effective January 1, 1953. In addition to the patent laws, the Office administers the Federal trademark laws, the latest of which was approved July 5, 1946.

The primary functions of the Patent Office are the examining operations, to determine whether a patent should be granted on a patent application or a certificate of registration should be issued on a trademark application. The requirement that examinations be conducted is embodied in law and constitutes a fundamental characteristic of the operation of the Patent Office. Examination of patent applications involves searching of prior

patents and printed publications for disclosures similar to the disclosures contained in the applications, evaluating the similarities and differences between the disclosures of the past and the application on which a patent is sought, and considering critically the language in which the invention is being claimed in its relation to this evaluation.

The patent and trademark examining functions are performed independently by separate examining groups.

Patent Examining Operation

The Patent Office received 73,783 applications for patents and disposed of 75,039 applications during fiscal year 1957. The disposals consisted of 30,457 applications abandoned and 44,581 allowed for the issuance of patent, contingent upon payment of the final fee. There were 45,102 patents granted during the year. On June 30, 1957, allowed applications on hand awaiting payment of final fees before issuance numbered 15,408, and an additional 4,797 were in the process of patent issuance subsequent to such payment.

There were 215,535 patent applications pending on June 30, 1957. The systematic reduction of this backlog is the objective of an 8-year program of the Patent Office for which the Congress appropriated funds for fiscal years 1957 and 1958. This program contemplates reducing the number of applications on hand to approximately 100,000 by 1964. With such a reduction in backlog, the Patent Office should be able to act on patent applications within 3 to 6 months of the receipt of a new application or amendment, thus restoring the full effectiveness of its operations.

In fiscal 1957, the first year with an expanded examining corps under the 8-year plan, the backlog was reduced by 2,000 applications. While this reduction was smaller than predicted, the backlog at the end of the year was lower than forecast in the original plans of 1955 because fewer new applications were received in 1957 than had been anticipated.

Principal reasons why the number of disposals in 1957 fell short of the number contemplated follow:

An unusually large proportion of the applications acted upon during fiscal 1957 were not in disposable condition. During the preceding year, preferential treatment had been given to applications which previously had been acted upon two or more times. This enlarged the number of disposals during 1956 and reduced the volume of applications potentially disposable during 1957.

The staff of examiner assistants was not enlarged to the planned level. This deficiency amounted to 40 man-years, due largely to the shortage of engineers available for employment as examiners in the electrical arts.

Nearly 200 examiners left the Patent Office. This loss of experienced personnel was felt not only in its direct effect on the examining operation but also because it reduced the number of examiners qualified to train new examiners and increased the number of new examiners to be hired and trained.

The amount of the planned overtime work did not materialize. As only experienced examiners are employed in the Saturday overtime examining program, the loss of experienced examiners also affected this program adversely.

The work of the examining corps achieved several important gains. The number of applications awaiting action by the examiners was reduced from 121,622 to 106,390, a decrease of 15,232. Thus, at the end of the year only 49 percent of the applications comprising the total backlog required attention by the examiners. This compares with 56 percent and 63 percent, respectively, at the close of the two preceding fiscal years. It is clear, therefore, that a large part of the backlog of applications is work awaiting response or abandonment by the applicant rather than work pending before the examiners.

The length of time an applicant awaits action from the Patent Office examining divisions was cut down significantly. On amended applications the maximum waiting time was reduced from 28 to 18 months and the average time from 6 to 5 months. On new applications, most of the examining divisions were taking action within 9 months of receipt, the average waiting time having been reduced from 8 to 5 months during the year. On June 30, 1957, the oldest application awaiting first action had been on hand 14 months.

There were 4,675 applications for design patents received in the Patent Office during fiscal 1957. With a staff of 13 examiner assistants, three fewer than in the preceding year, the design divisions disposed of 4,549 applications. The result was a small increase in pending applications, which on June 30, 1957, numbered 6,757.

The Patent Office is modernizing its classification system as an adjunct to the 8-year program to reduce the backlog. The production rate of the examining corps is materially affected by the adequacy of classification, which is requisite to effective search. In the past year, under the combined reclassification-examining operation inaugurated in 1956, an average of 70 examiners were assigned to the classification group, compared with 51 for the preceding year. With about 63 percent of their time devoted to reclassification tasks, the examiners reclassified nearly 50,000 patents according to their primary ("original") classification and established over 80,000 cross-references. This work resulted in the establishment of four new classes and 617 new subclasses within existing classes. It is estimated that on June 30, 1957, over 1,200,000 patents were in need of reclassification to provide a basic classification structure satisfying the major requirements of the examination process.

Trademark Examining Operation

The Trademark Examining Operation conducts the functions of the Patent Office relating to the registration of trademarks. Its duties were enlarged during the year to include work previously performed elsewhere in the Patent Office in connection with the printing of registered trademarks and the preparation and issuance of certificates of registration. Both the Patent Office and registrants benefited from this change as well as from

other improvements in methods, forms, and procedures instituted during the year.

New applications for the registration of trademarks continued to be received at the same level as in the preceding 2 years. There were 21,581 such applications filed during fiscal 1957. Over the same period, the staff, which averaged 31 examiner assistants, took over 44,000 actions on pending applications, disposing of 22,799 of them. Thus at the end of the year the backlog was 19,663 applications, of which 8,626 awaited action by the examiners, nearly 1,000 less than at the beginning of the year. All applications were being acted upon within 5 months of receipt.

Research and Development

There were several encouraging developments in the continuing effort of the Patent Office to create both the system and apparatus for mechanically searching the vast and growing amount of information which must be reviewed for anticipatory matter in the process of examining patent applications.

The Office of Research and Development, which carries on this work, programed a data-processing machine (SEAC) for a general search and conducted successful tests for it in an application to the chemical arts; designed and had constructed an experimental punched card machine (ILAS) for test use in developing specific types of search systems; advanced to test stage several universal systems utilizing statistical logic; and sought further developments through contracts for research both with and through the National Bureau of Standards.

Use of Funds

The operating cost of the Patent Office for fiscal 1957 was \$16,612,775, or 97 percent of the \$17 million made available by the Congress. Net income was \$6,829,885, or about 41 percent of operating costs. This sum, which was deposited in the general fund of the Treasury, exceeded by almost \$300,000 the previous record amount of fiscal 1956.

A Summary of Services

The Patent Office conducts several activities by which its records, or reports based upon its records, are furnished upon the order of persons or organizations needing them. There follows a summary of the nature and extent of these activities. During fiscal 1957 the Patent Office:

Produced and supplied 1,977,289 photographic copies of records, patents, drawings and related materials, a substantial part of which was furnished for fees which totaled \$459,625.

Prepared 29,158 reports and abstracts based on searches of assignment records and recorded 53,526 instruments conveying ownership of patents and trademarks or applications for them.

Supplied 10,697,831 printed copies of patents and trademarks of which over 60 percent were sold, producing revenue totaling \$1,351,439.

Provided 47,622 certificates attesting the authenticity of records furnished on order.
Provided drafting services required in preparing or correcting a total of 13,485 sheets of patent drawings.

NATIONAL BUREAU OF STANDARDS

During the past year the National Bureau of Standards placed increasing emphasis on strengthening basic Bureau research programs related to its primary mission. As part of this effort, attention was given to the achievement of a balanced technical program through (1) increasing the level of basic research, and (2) conversion of staff personnel from "other-agency" work to Bureau basic activities. Included in this conversion were increases in the Bureau's programs of development in the field of standards, measurement, and instrumentation. Programs were initiated in the fields of rheology, temperature standards, and radio standards.

Accomplishments

Accomplishments for fiscal 1957 may be summarized as follows:

STANDARDS AND MEASUREMENT: Operation of a cesium beam spectrometer and an ammonia beam spectrometer as potential atomic standards with a precision of one part in a billion; completion of an absolute determination of the ampere in terms of the mechanical units of length, mass, and time; development of an interferometric comparator that makes routine comparisons of length to the nearest ten-millionth of an inch; completion of a number of international comparisons of fundamental standards.

PROPERTIES OF MATTER AND MATERIALS.—Initiation of the "free radicals research" program, which is a comprehensive fundamental approach to understanding the behavior of highly unstable molecular fragments; contributions to the reversal of the long-held physical theory of "nuclear parity"; completion of studies of the effects of radiation on certain polymers; successful electrodeposition of several protective alloy coatings from organic solutions.

DATA PROCESSING SYSTEMS.—Conversion of SEAC from operating as a computer to a research facility for data processing applications; simulation of a complex man-machine system; progress in the research on mechanizing patent searching.

INTERNATIONAL GEOPHYSICAL YEAR.—Bureau participation includes collection of data on upper atmospheric physics and radio propagation; studies of radio noise and radio interference; operation of two airglow observing stations; and operation of the IGY Worldwide Communication Network.

RELOCATION AND CALIBRATION CENTER.—During the year the Bureau selected and purchased a new site for its relocation near Gaithersburg, Md. Plans for developing the new site are under way. The NBS Boulder Laboratories saw the completion of a new wing which will house the

Bureau's Electronic Calibration Center to service the master instruments and gages of the Department of Defense and other organizations.

Looking Ahead

Plans for the future include: Continuation of plans toward relocation at the new Bureau site, including completion of design and specification; continued strengthening of basic Bureau programs to meet current demand; initiation of studies toward obtaining a nuclear research reactor; construction and operation of a high energy nuclear accelerator; and continued conversion of professional staff from "other-agency" work to basic Bureau programs.

Office of the Under Secretary for Transportation

The Under Secretary of Commerce for Transportation serves as the Secretary's principal adviser on transportation matters and is responsible, by delegation from the Secretary, for coordinating over-all transportation policy within the executive branch. In addition, he provides policy direction for the transportation agencies of the Department and coordinates their programs and activities. These agencies are: Bureau of Public Roads, Civil Aeronautics Administration, Defense Air Transportation Administration, Maritime Administration, and Weather Bureau.

Sustained economic progress, population growth, technological advancements, and continuing world tensions have made necessary a national transportation system capable of more and better services and in a high state of mobilization readiness. As a result, there has been in the past few years a considerable expansion in programs administered by the Department's transportation agencies for the promotion of highways and airports, for the provision and operation of airways, for promotion of the merchant marine through subsidy and other aids, and for the provision of weather services, many of which have special significance to transportation.

To accommodate rising highway traffic levels, the Federal-Aid Highway Act of 1956 provides funds for the modernization of the 41,000-mile National System of Interstate and Defense Highways over the next 13 to 16 years. This system is designed to handle highway use in 1975 when 100 million vehicles are expected to be registered. The Federal Government is to assume 90 percent (\$25 billion) of the total cost. The act also made further increases in Federal participation in the construction of primary, secondary, and urban highway systems eligible for Federal aid.

Progress on these programs was substantial during this fiscal year and proceeded in accordance with planned schedules. Comprehensive studies on highway costs, taxation, safety, and other matters which were directed by the 1956 act also moved along according to schedule.

During the year the Federal Airway Plan, designed to provide a modernized system of air navigation and air traffic control, was enlarged and extended through fiscal 1962. Now well under way, this 6-year program of work is estimated to cost \$810 million. Of \$92.5 million available during fiscal 1957 for the establishment of air navigation facilities, \$75.7 million was obligated by the year's end.

Under the 1957 Federal-Aid Airport Program, \$51.9 million in Federal funds was allocated for 368 projects. Under the 1958 program, released during fiscal 1957, \$55.0 million in Federal funds was allocated for 334 projects.

Merchant shipbuilding was at a high level throughout the fiscal year. At the close of the year there were 119 ships under construction, conversion, or on order in the United States shipyards representing over \$1¼ billion in contracts. On the basis of contracts executed and negotiations in progress during the year, it is expected that about 278 ships, estimated to cost \$3 billion, will be constructed by the subsidized lines over the next 20 years to replace their present fleets.

The disposition of all of the 35 Government-built mariner ships was completed by the sale of nine ships to United States citizens at a total amount of \$49 million. Sale of these ships has returned to the Treasury more than \$146 million, with five vessels remaining in the custody of the Navy Department.

Progress continued in the several programs for the development of new ship and propulsion designs, especially with respect to planning for a nuclear-powered merchant ship.

The Government continued to provide aid to both ship operators and builders to assist them in meeting foreign competition, but wherever possible the Government encouraged private enterprise to take full initiative in developing the shipping business and in solving maritime problems.

The Weather Bureau continued its steady progress in improving its storm and flood warning services, in developing weather services to meet the changing requirements of our economy, and in expanding its meteorological research programs to insure even better forecasts and warning services in coming years. Improved methods of detecting and tracking severe storms, improved forecasting techniques based on detailed storm analysis and research, better communication facilities and procedures, and an intensified public information and educational program have strengthened the severe-storm and flood-warning services provided by the Weather Bureau.

New procedures designed to improve in-flight weather services to aviation were tested successfully. Other important steps have been the modernization of climatological services, the development, testing, and acquisition of modern meteorological equipment, and the development of techniques for using high-speed electronic computers in forecasting weather and in meteorological research. The Weather Bureau also has participated actively in the International Geophysical Year in connection with its assigned responsibilities for carrying out the United States meteorological program.

The Office gave close consideration to the large number of legislative proposals affecting transportation which were pending during the first session of the 85th Congress. The Department resubmitted its bill, with minor modifications, to implement recommendations of the Presidential Advisory Committee on Transport Policy and Organization. The Office also assisted the Committee on Interstate and Foreign Commerce, House of Representatives, in preparing a digest of the extensive Congressional testimony on the Advisory Committee legislation proposed by the Department during the 84th Congress.

During the year plans were prepared for the mobilization of the Nation's transportation resources in the event of an emergency.

The Office regularly participated in many interdepartmental and international deliberations by various organizations on key transportation problems and policy issues. These organizations include the Air Coordinating Committee, National Advisory Committee for Aeronautics, International Civil Aviation Organization, Telecommunication Advisory Board, Advisory Committee for Weather Control, and Advisory Committee on Federal Public Works. Progress was made in all areas. A noteworthy example is the agreement reached by the Air Coordinating Committee on the adoption of a common civil and military system for automatic determination of position and distance on air traffic in-flight. This agreement led to the development and completion of basic designs for integrating TACAN (tactical air navigation) and VOR (very high frequency omni-directional radio) into a common facility designated VORTAC.

CIVIL AERONAUTICS ADMINISTRATION

Operations of the Civil Aeronautics Administration were streamlined during fiscal 1957 to carry out more efficiently the agency's primary function of moving the ever-increasing volume of air traffic safely and quickly. To this end, six program offices were established with responsibility for the control of air traffic, adequate air navigation facilities, flight operations and airworthiness of aircraft and airmen, an adequate system of airports, the international cooperation program, and technical development.

The 1957 fiscal year saw the airways modernization program move into

high gear and other major programs go forward at a faster pace, as the result of an obligational authority of \$278,425,136 compared with \$197,300,000 in fiscal 1956. Necessitated by the expanding programs, full-time employment increased by 4,559 during the year to a total of 21,085 as of June 30.

Air Traffic Control

The demands on the air traffic control system again increased during fiscal 1957. Aircraft operations reported by CAA traffic control towers numbered 23,728,374, a rise of 16 percent over fiscal 1956. The number of fix postings (aircraft position reports to CAA centers) increased 22 percent over the previous year to a total of 27,987,192.

The Office of Air Traffic Control increased its staff and expanded and accelerated its programs to improve the air traffic control system to meet current demands and to improve the system for handling the jet aircraft expected in civil use in 1959.

Approximately 1,400 new personnel were recruited and given basic air traffic control training at the Aeronautical Center in Oklahoma City, and about 800 new employees were recruited and assigned to field facilities for on-the-job training. In addition, some 3,000 personnel received advanced air traffic control training in the field. Training plans for fiscal 1958 include the establishment of air traffic control training schools at 32 air route traffic control centers and 27 airport traffic control towers throughout the six regional areas of the CAA. This training program is essential to maintain an adequate number of trained personnel to operate some 600 field facilities required to control air traffic.

Plans were developed for the control of all airspace above 15,000 feet so that aircraft operating above that altitude will fly on instrument flight rules under air traffic control. The first phase of the high altitude control plan, which will designate as control area all airspace at and above 24,000 feet, was to go into effect about December 1, 1957. The second phase, lowering the floor to 15,000 feet, was expected to be effective about April 1, 1958.

Twelve new transcontinental airways were designated during fiscal 1957. At the end of the year there were 67,049 miles of low medium frequency airways, a decrease of 673 miles compared with the previous year, and 93,970 miles of VOR (very high frequency omnidirectional radio range) airways, an increase of 8,566 miles.

Air Navigation Facilities

The Federal Airway Plan to provide a modernized air traffic control system was revised and extended through fiscal 1962. The revised plan covers 6 years of work at an estimated implementation cost of \$810 million. Emphasis in the plan is on improvements in radar for traffic control; communications; and implementation of VORTAC (VOR

combined with tactical air navigation) as the common-system azimuth/distance navigation system.

For the establishment of air navigation facilities, as the first stage of the Federal Airway Plan, \$92.5 million was available during 1957. This represents a tremendous increase over the modest 1956 program. A concentrated effort resulted in actual obligations in the amount of \$75.7 million by the end of the year. The even larger program for fiscal 1958 was ready for release to CAA procurement offices by the start of the new year.

Major elements of the 1957 program included: 26 long-range radars; 18 secondary radars; 22 circular polarization units for radar; 17 air traffic control towers; 82 VOR's; 252 peripheral communications facilities; and 5 aircraft for use in flight checking facilities at medium altitudes.

CAA installed circular polarization equipment to eliminate interference with radar images caused by rain or snow.

Good progress was made during the year on the high altitude and peripheral communications program which will provide direct voice communication between the controller in the Air Route Traffic Control Center and the pilot in the aircraft. It is designed to give UHF/VHF communication coverage of airspace down to 15,000 feet over the entire country.

The decision of the Air Coordinating Committee that TACAN (tactical air navigation) be integrated into the Common System of Air Navigation called for development of designs of the best methods of combining TACAN and VOR into VORTAC to provide azimuth and distance. The initial VORTAC at Philipsburg, Pa., provided the basic design of the integrated facility. The design for VORTAC facilities has now been completed and installation of the system is expected to proceed on schedule.

Five Convair C-131E aircraft were purchased for intermediate altitude flight inspection of air navigation facilities from 10,000 to 20,000 feet. One was delivered and the other 4 were to be delivered in fiscal 1958. Two B-57 jet aircraft, on loan from the Air Force, were fitted with specialized electronic and multichannel recording equipment for flight inspection from 25,000 to 50,000 feet where the new jets will fly.

Successful maintenance of the Federal airways system continued. CAA maintains 2,913 facilities along these airways to serve the flying public.

Flight Operations and Airworthiness

There was increased activity in both general and air carrier aviation during the year. The rapid progress in jet aircraft and engines called for much preparatory work in the field of flight operations and airworthiness of aircraft and airmen. The first Boeing 707 is scheduled for delivery in December 1958. Both CAA and the industry are giving much time and thought to preparing for major increases in traffic densities and the early advent of the jets.

Two transports, four helicopters and thirteen small aircraft were given type certificates during fiscal 1957. One of the latter was a roadable airplane which can be used both on the highway and in the air. In addition to the Boeing 707 and Douglas DC-8 jet transports, on which certification work was started last year, applications were received and work started on the Convair 880 and three executive jet transports. Type certification applications on six foreign aircraft were received during the year and 17 other foreign aircraft were still in process of certification. Forty-nine engines were approved, including the Pratt and Whitney JT3-C and JT4-A jet engines. Type certifications were also issued on 44 propeller models.

The Department of Agriculture project to eradicate the gypsy moth in Northeast United States has been utilized as a training ground for CAA inspectors specializing in the aerial application of insecticides, fertilizers, and seeds. This type of work has continued to increase and every effort has been made to insure the safety of such operations. It was found necessary to prohibit the use of single-engine airplanes for this work over congested areas unless open spaces are provided for emergency landings.

Airports

There was an increase in demands for advisory service from industry, Government, and individuals concerned with airport development.

Development of tentative standards for the design and construction of heliports to meet the requirements of large single-engine transport-type helicopters was completed and will be published early in fiscal 1958.

The 1957 National Airport Plan published during the year indicates the need for the construction or improvement of 1,930 airports for general aviation, 762 airports for air commerce, 89 heliports, and 94 seaplane facilities—a total of 2,875 aircraft landing facilities.

Under the Federal Aid Airport Program, \$63 million is available for each of the fiscal years 1957, 1958, and 1959. The program for 1957, released on June 12, 1956, allocated \$51,863,177 in Federal funds for 368 projects. The 1958 program, released on April 2, 1957, allocated \$55,035,226 in Federal funds for 334 projects. Federal aid was limited to airports having the highest national priority.

Washington National Airport, which the CAA operates, set alltime records during fiscal 1957 for the volume of passengers and aircraft using the airport. Scheduled airline passengers totalled 4,201,197, a number equal to the first 6 years of operation and an increase of 10.1 percent over the previous fiscal year. Total aircraft movements amounted to 269,197, establishing a new record for the sixth consecutive year. On a peak day during the year, 1,054 aircraft landed or took off in the 24-hour period.

The new business-type accounting system put into effect by the airport at the start of the fiscal year shows total operating costs of \$2,915,711 and total income of \$2,981,745, for a net realized profit of \$66,034. Credit for

an additional \$81,942 in unrealized revenues representing the value of unreimbursed services provided to other Government agencies results in a combined profit from operations of \$147,976.

International Cooperation

During the year the Office of International Cooperation was created to succeed the International Region. At year's end, OIC was administering the safety certificates of 15 United States international air carriers and 38 foreign air carriers operating to or through the United States and supervising 31 repair stations holding United States certificates, of which 26 were foreign.

Technical assistance to foreign countries continued. In fiscal 1957 nearly \$6 million was made available to CAA by the International Cooperation Administration for the purchase of aeronautical equipment for 15 countries.

As of June 30, 1957, United States technicians were giving technical assistance to 26 countries and 257 foreign trainees were receiving training in the United States.

Planning and Development

The CAA Jet Planning Group reports that intensive study of jet operational requirements cut many jet problems down to more proper perspective and resulted in a more practical attitude and approach to the forthcoming civil jet operations. A report of progress and developments as of July 1957 was published.

During the year, the Planning and Development Office furnished information and assistance to the working groups preparing material for the Special White House Study on Aviation Facilities Planning (Curtis Committee).

Varied programs were carried on at the CAA Technical Development Center in Indianapolis. The application of simulation techniques using the Center's dynamic air traffic control simulator to study present air traffic control problems and test future concepts indicated that simulation will continue to be an increasingly valuable tool in the development and improvement of air traffic control. Several new display systems, including SPANRAD (Superimposed Panoramic Radar Display), using radar or television techniques, were developed which promise to increase the traffic-handling capacity of the radar controller.

Other Activities

Technical training at the CAA Aeronautical Center in Oklahoma City expanded rapidly. Graduates during the year totaled 2,604, a 74-percent increase over the previous year. To meet the demands upon CAA inspectors brought about by the rapid advances in aircraft and engine design, the first jet pilot training course was established at the Center for personnel

who will be concerned with certificating jet aircraft and jet air carrier operations. Construction was started during the year on the complete new plant which is designed to accommodate the greatly expanded operations of the Center.

The Press and Publications Staff was established in September 1956, replacing the Office of Aviation Information. It concentrated on informing the public of CAA's preparations for the jet age, including the rapid expansion and improvement of the air traffic control system, and on assisting in recruiting the thousands of new personnel required for this job. Booklets, films, and exhibits were prepared to tell various aspects of the CAA story.

There were 2,324 cases involving violations of the Civil Air Regulations during the year. Of these, 1,838 were completed.

DEFENSE AIR TRANSPORTATION ADMINISTRATION

The planning and directing for the mobilization of the United States civil aviation resources in wartime is the primary function of the Defense Air Transportation Administration (DATA).

From the Defense Production Act and related orders, priorities and allocation authorities with regard to air transportation facilities are delegated to the Secretary of Commerce and redelegated to DATA. This allocation of airlift is made between the Civil Reserve Air Fleet (CRAF) for the direct support of the military in time of war, and the War Air Service Pattern (WASP), which is the continued commercial operation to carry war-essential traffic under an air priorities system. There is a periodic adjustment for changes in the Nation's war plans, essential industry needs, and also for changes in the inventory of aircraft.

The CRAF includes approximately one-third of the total airlift of the civil airlines, to be operated under contract in direct support of the Military Air Transport Service (MATs) on 48-hour notice, using civil aircraft, personnel, and maintenance facilities. As a result of the joint efforts of DATA, MATs, and the airlines, there are now in being detailed operational plans and essential stockpiles as embodied in a military emergency war plan.

The WASP is that part of the total airlift of the civil air carriers which would be required for a war economy. Plans have been made to carry only essential air traffic, based upon an air priorities system with policies jointly determined by DATA and the Department of Defense and with administration within the office of the Secretary of Defense. Under the system, priority traffic requires certification as to both essentiality and urgency.

A critical requirement for mobilizing civil aviation is highly skilled aviation manpower. DATA is continuing its work with the industry and with military representatives to devise methods for reducing the estimated

shortage of skilled manpower. The Administrator of DATA serves as chairman of the Interdepartmental Aviation Manpower Committee established by the Office of Defense Mobilization to consider broader aspects of these problems.

DATA has produced plans for the civil-defense use of scheduled and nonscheduled airline aircraft, and noncarrier transport-type aircraft. Such requirements for airline and military transport aircraft would be met through the air priorities system; private and corporate-owned transport-type aircraft will be utilized through the National Emergency Defense Airlift plan.

The Administrator of DATA serves as the United States representative on the Civil Aviation Planning Committee (CAPC) of the North Atlantic Treaty Organization (NATO). A DATA staff member is United States representative on the Transport Planning Group of CAPC.

MARITIME ADMINISTRATION

The Maritime Administration is responsible for fostering an American merchant marine sufficient to carry the waterborne commerce of the Nation and capable of serving as a naval auxiliary in time of emergency or war. Its functions include the construction, repair, and operation of merchant ships, administration of operating- and construction-differential subsidy programs and other Government aids to shipping, the designation of essential routes for waterborne commerce, the maintenance of reserve fleets and shipyards, the training of merchant officers, and the direction of maritime research and development programs.

During fiscal 1957 the Maritime Administration's efforts principally involved the administration of programs concerning (1) the planned construction of new and replacement ships to meet the Nation's current and future requirements; (2) the chartering of Government-owned vessels from the reserve fleet to private operators when required in the national interest; (3) development of new ships, including those involving nuclear propulsion to assure continued technological progress; (4) administration of operating- and construction-differential subsidy and other forms of Government aid programs to promote and assist the American merchant marine effectively; and (5) improvements in management and efficiency of the agency.

Construction

At the of the fiscal 1957 there were 119 ships under construction or conversion or on order in United States shipyards, providing in excess of \$1,250 million worth of work to the industry. Contracts executed or in process of negotiation with subsidized operators were expected to result in the construction of some 278 replacement ships during the years 1956 through 1977, at an estimated construction cost of \$3 billion.

Continued advance was made toward achieving a modern American merchant marine with increased efficiency and economy of operation through the development and utilization of new ship and propulsion designs. One pipeline tanker was under construction, and consideration is being given by a number of American ship operators to the utilization of variations of Maritime Administration ship designs in their replacement programs or under pending applications for ship mortgage insurance aid.

Steady progress was made by the Maritime Administration and the Atomic Energy Commission with respect to the design and construction of a nuclear powered merchant ship. The Congress appropriated \$21 million to the AEC for the reactor and the propulsion and pressure components and \$18 million to the Maritime Administration for ship construction, shore facilities, and basic crew training.

Six outside design contracts were awarded to determine economic and technical applicability of various reactor concepts to nuclear-powered merchant ships. A contract was executed for the design, development, and fabrication of a pressurized water reactor nuclear propulsion system at a fixed price of \$9,872,000. Another contract was entered into for the preparation of naval architectural and marine engineering contract plans and specifications of the nuclear ship.

The current Liberty ship conversion and engine improvement program was nearing completion with the fourth such vessel, the free piston ship *William Patterson*, scheduled for completion in September 1957. This program involved the installation of new propulsion equipment, including steam, diesel, and gas turbines; installation of modified cargo handling gear; and modification of hull lines to increase speed. Although evaluation studies of these ships are to continue during their operation in regular North Atlantic service, indications are that the objectives of the program are being met in terms of increased speed (in excess of $15\frac{1}{2}$ knots compared with a former speed of 10 or 11 knots), feasibility of ready upgrading in an emergency of some 1,500 Liberty-type ships now in the reserve fleet, and providing the basis of development of new types of propulsion equipment.

A settlement was effected with the American Export Lines, Inc., in the matter of the Comptroller General's exceptions to the construction subsidy allowance granted that company in connection with the construction of the SS. *Independence* and SS. *Constitution* and the reconditioning of four combination ships, providing for payment by the operator to the United States of \$2,791,501.

A construction-differential subsidy contract was executed covering conversion of one Mariner to a combination passenger-cargo vessel, and applications were approved for reconstruction of five Mariners and building of from 10 to 12 cargo ships. At the end of the year applications were pending for construction-differential subsidy for 6 oil/bulk cargo

vessels, 8 dry cargo ships, 3 passenger liners, 5 bulk dry cargo, and a roll-on-roll-off conversion.

There were executed during the fiscal year 10 contracts providing Federal insurance of construction and mortgage loans made by private lending institutions to private ship operators for the construction or reconstruction of 11 vessels at a total estimated construction cost of \$87.3 million.

Operating

Operating-differential subsidy agreements with Pacific Argentine Brazil Line, Inc., and Seas Shipping Co., Inc., were cancelled by mutual consent, and the operating-differential subsidy agreements with Moore-McCormack Lines, Inc., were amended to include these subsidized services.

An operating-differential subsidy contract was awarded to American Banner Lines, Inc., to cover operation of a combination passenger-cargo vessel, after completion of its conversion, between New York and ports in Belgium and the Netherlands.

At the close of fiscal 1957, applications for new operating-differential subsidy agreements were on file from the following companies: T. J. McCarthy Steamship Co., Isbrandtsen Co., Inc., United States Lines Co., and Corydon & Ohlrich Steamship Co., for operation on Trade Route No. 32 (Great Lakes to Europe); States Steamship Co., for operation on Trade Routes Nos. 29 and 30 (Pacific Coast to Far East); Isbrandtsen Co., Inc., for operation on round-the-world service (eastbound); States Marine Corp. for operation on Trade Routes Nos. 13, 29, 30, and Tri-Continent services; Isthmian Lines, Inc., for round-the-world westbound service and Trade Route No. 18; Matson Orient Line, Inc., for operation on Trade Route No. 12; Waterman Steamship Corp. for operation on 5 services; American Mail Line, Ltd., for continuation of operation on its existing services; Farrell Lines, Inc., for cancellation of their existing contract and execution of a new long-range contract.

At the close of the year, continued progress had been made in negotiations with Lykes Bros. Steamship Co., Inc. (53 ships) and Mississippi Shipping Co., Inc. (14 ships) for execution of new operating-differential subsidy agreements to become effective January 1, 1958.

The Federal Maritime Board authorized the charter to United States-flag operators of up to 223 Government-owned ships from the National Defense Reserve Fleet. The Maritime Administrator allocated 138 Liberty and Victory-type dry cargo ships to 27 American-flag operators. These actions provided the means for American-flag operators to acquire additional tonnage necessary to enable them to compete favorably with foreign operators in the total traffic movement and to assist in the transportation in United States-flag vessels of the sizable tonnages involved in the Department of Agriculture and International Cooperation

Administration aid programs and of cargoes financed under Export-Import Bank loans.

Ship Sales

Nine ships of the Mariner type were sold for a total of \$49,189,719 to United States citizens for operation in the foreign commerce of the United States. This completed the ultimate disposition of the 35 Mariner ships constructed to meet the shipping demands occasioned by the Korean emergency. They were disposed of as follows: 1 lost, 5 committed to the Navy Department, and 29 sold for a return in excess of \$146 million to the Treasury.

Late in 1956 the Maritime Administration sold six T2 tankers, through competitive bidding, for a total of \$13,458,426.

The SS. *Panama*, a passenger ship declared surplus by its owner, The Panama Canal Co., was sold by the Maritime Administration for \$5,704,000 to American President Lines, Ltd. Seventeen over-age former Army and Navy auxiliaries and one badly damaged Liberty ship from the reserve fleet were sold for scrap, returning \$5,227,697 to the Government. Seventeen small coastal cargo ships of the C1-M-AV1 type were sold to Philippine companies and to the Government of Brazil, as authorized by Congress, for a total of \$11,369,264.

Maritime Training

The United States Merchant Marine Academy completed its first full year of operation as a permanent institution under the provisions of Public Law 415, 84th Congress. During the fiscal year there was an average of 887 cadets, including 7 Latin Americans, enrolled in training at the Academy; and 233 cadets successfully completed the 4-year course of instruction. The State maritime academies graduated 220.

Reserve Fleets

The total number of ships at the 8 reserve fleet sites at the end of the fiscal year was 1,889. Among them were 230 Libertys loaded with approximately 53 million bushels of grain for the account of the Commodity Credit Corporation, Department of Agriculture. Since the inception of the surplus grain storage program in 1953, the reserve fleet has been utilized for the storage of approximately 115 million bushels of grain.

The acute tanker shortage caused by the closing of the Suez Canal resulted in the withdrawal of 29 tankers from the reserve fleet for assignment to the Navy Department. Of these, 17 were transferred permanently and 12 were transferred on a custody arrangement.

BUREAU OF PUBLIC ROADS

For more than half a century the Bureau of Public Roads has represented the Federal Government in matters relating to highways. Reflecting the

nationwide importance of highway transport for better living and for production, distribution, and defense, the Bureau's functions cover a broad range of engineering, administrative, and research activities. It supervises the expenditure of Federal funds granted the States for highway improvement and supervises road construction in national forests, parks, and parkways. On occasion it furnishes highway engineering aid to other Federal agencies.

A continuing and basic objective of the Bureau is to help the States plan and develop modern highway systems adequate to the Nation's growing motor transport needs. The general character of this cooperative relation is fixed by law, but long experience with highway problems in the 48 States has enabled the Bureau to focus its research and engineering efforts on the most essential aspects of highway improvement, design standards, and traffic control. A direct result of this long and close association has been the steady growth of the highway system concept, so well illustrated by the huge new interstate program embodied in the Federal-Aid Highway Act of 1956.

During the 1957 fiscal year the Bureau cooperated with the States in planning and carrying out a record volume of highway improvement. Attention and effort centered on the forward-looking program for the National System of Interstate and Defense Highways. This 41,000-mile network of multilane expressways will connect the 48 States and nearly all cities of more than 50,000 population. Designed to handle 1975 traffic, when 100 million vehicles are anticipated, the 13- to 16-year program proceeded on schedule during its first year.

On the National System of Interstate and Defense Highways, contracts were awarded for 561 projects involving construction on 1,532 miles of the most modern type of highway.

Apart from the nearly \$25 billion authorized for the Interstate System, the 1956 Act increased Federal aid for primary, secondary and urban highways. Prior authorizations for fiscal 1957 were increased \$125 million to a total of \$825 million; \$850 million was authorized for fiscal 1958, and \$875 million was authorized for 1959. These amounts are to be divided 45 percent for the Federal-aid primary system, 30 percent for the secondary system, and 25 percent to urban highways. To facilitate both the Interstate and regular Federal-aid programs, the 1958 Federal-aid highway funds, totaling \$2,550 million, were apportioned to the States on August 1, 1956.

The 1956 Act directed the Bureau to make several far-reaching studies on such matters as reimbursement for toll and free roads which may be included in the Interstate System, the equity of highway taxation, and a series of reports dealing with the cost of completing the Interstate System. All of this work was moving on schedule as the fiscal year ended.

Following passage of the new Act, the Bureau set a goal for fiscal 1957 of \$2,225 million in Federal obligations for surveys and plans, right-of-way

acquisition, and construction. At the year's end, actual obligations totaled \$2,223 million.

Under Title II of the Act, the Federal share of the multibillion dollar program is being financed from excise taxes on gasoline, tires, trucks, and other highway user levies which go into a highway trust fund. This fund is estimated to reach nearly \$38.5 billion in the 16-year period begun July 1, 1956.

Alaska is now included in Federal-aid apportionments, and functions of the Department of the Interior relating to highways in Alaska have been transferred to the Bureau.

In recognition of these increased Bureau responsibilities, subsequent legislation provided for a Federal Highway Administrator, appointed by the President.

Resulting administrative changes led to a reorganization of Bureau functions which permitted more efficient and economical operation. Additional responsibility and authority were delegated to the field offices, and ambitious but realistic goals were established for the States in order to keep the new program on schedule.

During the 1957 fiscal year both motor-vehicle registrations and urban and rural traffic volumes reached new peaks. Motor vehicles were expected to total 67½ million—a gain of over 2 million in 12 months. Mileage traveled on streets and roads increased 4.1 percent in the fiscal year.

Federal-Aid Highway Program

Progress of the Federal-aid highway program during the year reflected the first real impact of the greatly increased authorizations provided in the 1956 Act. The first apportionment to the States, made on June 29, 1956, totaled \$1,125 million, of which \$1 billion was for the Interstate System. On August 1, 1956, the 1958 funds were apportioned. These totaled \$2,550 million, of which \$1,700 million were for the Interstate System. With most of these interstate funds directed toward the largest highway projects ever undertaken, the obligation of more than \$2 billion in Federal monies during fiscal 1957 represented a tremendous cooperative effort by State and Federal officials.

Completions of all classes of Federal and Federal-aid projects during the year accounted for the improvement of 23,979 miles of roads. Included were 6,953 miles of highways and 1,458 bridges on the Federal-aid primary system outside cities; 1,176 miles of highways and 636 bridges on urban portions of the primary system; 14,715 miles of roads and 1,958 bridges on secondary or farm-to-market roads; and 1,135 miles of highways in national forests, parks and parkways, and on flood-relief projects. The long-range program of eliminating hazards at railway-highway grade crossings was further advanced by elimination of 230 crossings, reconstruction of 28 inadequate grade-crossing structures, and protection of

349 crossings by the installation of flashing lights or other appropriate safety devices.

In light of today's traffic volumes, merely to state the miles of highway completed during a year does not truly measure the highway facilities actually provided—a considerable mileage has more than 2 traffic lanes. The major portion of improvements financed from urban and interstate funds consists of 4- and 6-lane construction. The 22,844 miles completed in the Federal-aid program during the year included 1,737 miles of 4-lane highways and 138 miles with 6 lanes or more. Thus the year's Federal-aid completions were equivalent to about 50,000 miles of single-lane construction. These multilane facilities—expressways and thruways—are helping to relieve congestion in nearly all large cities.

Highway Design Standards

Passage of the Federal-Aid Act of 1956 emphasized the importance of design features for the Interstate System. Early in fiscal 1957 the American Association of State Highway Officials, with Public Roads cooperation, completed and adopted a revision of its Interstate System standards. These standards were approved by the Bureau on July 17, 1956, and immediately put into use.

The standards call for incorporation of all known features of safety and utility to provide for safe and relaxed driving, economy of vehicle operation, and pleasing appearance. Features required to accommodate traffic anticipated in 1975 are to be provided in the initial design, but construction may be accomplished in stages where desirable.

On all sections of the Interstate System, access will be controlled and facilities will be planned to enable vehicles to enter or leave the highway safely. Grade separations generally will carry cross roads over or under the routes of the system and specially designed structures will provide freedom of movement at interchanges. There will be no railroad grade crossings.

Detailed policy statements providing for effective execution of the Interstate System program have been prepared and these should be equally useful in the design of rural roads and urban highways apart from the Interstate System.

Research Activities

The Bureau carried forward its studies of highway finance, highway transport, and the broad array of physical problems that are associated with highway construction. The expanded highway program gives added importance to practices which will increase the durability of highways and related structures.

A striking example is the Bureau's active participation in a large-scale investigation of the performance of both rigid and nonrigid pavements,

and also the behavior of highway bridges, under controlled traffic by vehicles of varied weights. This extensive cooperative research, sponsored by the American Association of State Highway Officials, and directed by the Highway Research Board, is commonly known as the AASHO Illinois Road Test. Despite unavoidable delays, a great deal of work has been done on this project.

Over all, the Bureau continued to shape its many-sided research program to meet the actual and anticipated needs of modern highway practice.

WEATHER BUREAU

The United States Weather Bureau has national responsibility for the issuance of warnings of severe weather and for forecasting daily weather changes affecting all parts of the United States and adjacent waters, and for observing, recording, and reporting weather and river-stage conditions for the Nation's safety and economic welfare.

The high toll in life and property in recent years from particular hurricanes, tornadoes, or floods has drawn national attention to only a few of the hundreds of damaging storms that occur each year. Sudden and costly changes in weather are occurring somewhere over the United States and adjacent waters almost every hour of the day and night.

To keep the public continuously informed of coming weather conditions that affect the daily activities of millions of people the Weather Bureau daily issues several thousand forecasts. Most of these indicate the expected weather over a given community during the following 48 hours, but some cover longer or shorter time spans. Other forecasts and warnings cover such special weather conditions as hurricanes, tornadoes, thunderstorms, blizzards, flood-producing rains, and temperature extremes, and for important national interests like agriculture, aviation, and shipping.

Forecasts and Warning Services

One of the most significant accomplishments in recent years has been the improved accuracy of tornado forecasts issued by the Weather Bureau. Weather Bureau tornado forecasts and advance warnings have been credited with saving hundreds of lives. These improved forecasts and warnings have been made possible by a greater use of storm detection radar, by an expanded volunteer warning network, by improved forecasting techniques based on detailed storm analysis and research, and by faster telecommunication procedures for the dissemination of warnings.

A cooperative information and educational program also has proved effective in providing better understanding of possible storm damage and in reducing public apprehension concerning tornadoes. The new Weather Bureau film "Tornado," already seen by more than 41 million people, shows precautionary measures that can be taken by communities and indi-

viduals to reduce loss of life and property. One result of the thousands of showings made of the tornado film was the establishment of about 250 additional community tornado-warning networks.

Improvements in observation networks, aircraft reconnaissance, and telecommunications have brought a further strengthening of the Weather Bureau's hurricane warning service. New procedures for reporting tide-water heights along the gulf and Atlantic coasts were established. Two mobile weather units, equipped to take surface weather observations and transmit them to a nearby Weather Bureau station, were put into operation. These units are dispatched by forecast centers to appropriate areas threatened by hurricanes and severe storms.

A start was made on the establishment of a supplementary network of cooperative hurricane reporting stations to stretch along the gulf and Atlantic coasts from Portland, Maine to Brownsville, Tex. This network of additional substations, together with existing Weather Bureau installations, will mean that storm observation points soon will be located along the gulf and Atlantic coasts at distances no greater than 25 miles. Thus, detailed local weather data will be available for making more precise forecasts of the approaching storm's movement and intensity.

A series of hurricane preparedness meetings was held by the Weather Bureau in cities along the Atlantic and gulf coasts to secure wider participation in storm protection activities by the public and by local and State safety agencies. Highlighted in these meetings was an intensive public information and education campaign designed to increase awareness on the part of all safety officials and the public regarding the potentially serious threats to life and property that exist in coastal areas subject to hurricanes.

A new Weather Bureau film, "Hurricane Watch," was released for public distribution and has been seen by millions of people along the coasts. Prints of this film were sent to Weather Bureau stations and State film depositories to encourage frequent showings before civic groups, schools, clubs, and private organizations.

The phenomenal growth of aviation in the past decade and the advent of jet flying are creating requirements for new and different types of aviation weather services.

Early in 1957 the Weather Bureau began an operational test of an improved weather warning service for aircraft-in-flight which was designed to meet some of these greatly increased requirements. Under this new system, "flash advisories" about hazardous flying weather are issued by the Weather Bureau forecasting centers for immediate broadcast over Civil Aeronautics Administration communication stations. With this in-flight weather service, both civilian and military pilots will receive up-to-the-minute warnings of the sudden development of storms, dangerous ice

conditions, low clouds, widespread fogs, and other serious weather changes that might endanger their flight.

Although this flash weather advisory program is still only in its test stage, the response by pilots throughout the country already indicates that it is an important contribution to aviation safety.

The establishment of automatic weather telephone facilities at San Francisco brought the number of such facilities in major cities to a new total of 11. This cooperative service project between the Weather Bureau and the 11 local telephone companies provides an immediate source for the latest weather forecast information to hundreds of thousands of people each day. During stormy weather several cities have set individual records of more than 300,000 telephone calls for weather information in a 24-hour period.

Local public teletypewriter circuits that enable Weather Bureau offices in major cities to provide weather information to all users directly and simultaneously were established at 4 more cities, bringing the number of such public service weather information teletypewriter loops to a new total of 60 cities.

On June 1, 1957, with little disruption to daily weather services, a major change was made in the standard times for surface and upper air observations in the United States so that our times of observations coincided with the observation times followed in most countries of the world. Extensive planning and coordination was required with other agencies, governments, and users of weather data everywhere, and resulted in a complete reshuffling of teletypewriter and chart facsimile schedules.

Experimental local flash-flood warning systems were established along six small rivers subject to sudden damaging floods. Further studies also are being made to extend this valuable service to hundreds of additional rivers subject to flash floods.

The new River Forecast Center established in 1955 at Hartford, Conn., modernized the river forecasting techniques previously used in New England and took over river forecasting obligations for the Hartford, Concord, and Albany River Districts. The new River Forecast Center established at Augusta, Ga., assumed river forecasting responsibility for the Charleston, Columbia, and Macon River Districts.

The use of radar storm detectors in flash-flood warning work was further developed through pilot projects established at Oklahoma City and Des Moines. Investigations in the use of radar for rainfall estimation and flood forecasting were continued at the University of Miami and at Texas Agricultural and Mechanical College.

Extensive studies were completed and published on maximum precipitation over selected States and drainage basins. These studies are expected to have great value in the planning of flood control and other public works.

Climatological Services

As part of the Weather Bureau's modernization program in the field of climatology, 28 climatologists have been appointed to devote full time to the special climatological problems of their respective 28 States.

Modern machine methods of handling and processing climate data have been developed with the cooperation of the National Bureau of Standards and the Bureau of the Census. With support from the Navy, the Office of Climatology has finished the Atlantic, Pacific, and Indian Ocean sections of a new *Marine Climatic Atlas of the World* and is now preparing three more sections.

An important publication on radioactive fallout probabilities, valuable in defense planning, was prepared for 41 major United States cities in cooperation with the Office of Civil Defense. These climatological data are contained in the Civil Defense Technical Bulletin, *Probability of Fallout Debris Deposition* published in June 1957.

Modern Meteorological Equipment

An important start was made this year in providing the Weather Bureau with the most modern meteorological observing equipment. Among the many instruments now being procured for later installation are the following:

Thirty-one sets of specially designed high-powered storm detection radar equipment to replace or supplement short-range modified military surplus sets now used in areas subject to tornadoes and hurricanes. This storm detection radar equipment also will permit earlier warnings to people in the path of severe storms and floods.

Forty-two sets of automatic tracking radio-theodolites for obtaining soundings of the atmosphere to high levels. These instruments also will permit more accurate forecasts of weather conditions important in jet aircraft operations.

One hundred and seven continuous wind-recording sets to obtain more representative surface wind observations. These wind reports also will be useful in general forecasting activities as well as for use in the issuance of storm warnings.

Seventy-five sets of continuous cloud-height and visibility measuring equipment to be used at the Nation's busiest airports. These accurate and continuous reports are of critical importance to pilots and will contribute to passenger safety.

Three automatic teletypewriter weather reporting stations, installed at Troutdale, Oreg.; Joliet, Ill.; and Worcester, Mass. These ingenious mechanical observers and automatic messagesenders provide needed weather reports from areas which would otherwise require employment of additional personnel.

The Instrument Division of the Weather Bureau has developed and is now testing the following new meteorological instruments:

Lightweight radiosonde signal-receiver systems that can be installed in suitcase-type carrying cases for use in upper-air sounding observations made from merchant ships.

Radar beacons which can be used to obtain rainfall observations from remote, unattended observation sites utilizing the Weather Bureau's existing storm detection radar equipment.

Lightning-strike counter that can be used with the automatic weather observer and teletypewriter reporting station.

Total precipitable water indicator that measures the amount of precipitable moisture in a vertical column of the atmosphere over one station.

Radar microwave link which will provide a television connection allowing radarscope data to be transmitted from a remote point.

Large auto-positive cameras that will permit the taking of suitable photographs of radarscope information for transmission to the nearest Weather Bureau District Forecast Center.

Research Activities

Intensified programs of research have been undertaken by the Weather Bureau in several important service activities. Some of these programs would not have been possible without the use of newly developed electronic equipment.

The National Hurricane Research Project, now based at West Palm Beach, Fla., and in its second year of operation, has continued its work in what has been hailed as the most concentrated and ambitious research attack ever made on hurricane formation and development. A major effort is being made, through the use of specially equipped aircraft provided by the Air Force, to collect great quantities of weather data needed to study the formation, intensification, movement, and dissipation of hurricanes.

As most hurricane activity takes place in areas remote from the United States, it was necessary to establish observational facilities over wide areas adjacent to the West Indies. This extensive observation program was accomplished through the cooperation of many governments. Many new stations in the hurricane formation areas now are providing regular observations of atmospheric pressure, wind, temperature, and humidity at all levels from the ground to the stratosphere.

Detailed analysis of the storm data obtained during the 1956 hurricane season continues, and many new features of hurricane structure have been discovered by scientists of the National Hurricane Research Project. Research has also continued in the Weather Bureau on forecasting the dangerous storm tides produced by high winds, which cause the heaviest loss of life in hurricanes.

During the past year the study of severe local storms, including tornadoes, squall lines, and intense thunderstorm activity, has continued with emphasis on the development of instability in the upper air leading to severe storm outbreaks, as well as on the detailed "meso-analysis" of surface and upper air conditions associated with storm situations.

A great deal of attention has been given also to the changes taking place in the three-dimensional structure of the atmosphere before, during, and after the occurrence of squall lines and other severe storms. This work has included detailed studies of the temperature, moisture, and wind distributions, and their changes with time in the region of severe storm outbreaks. Much effort is now being made in relating observed conditions to the kinetics and dynamics of the atmospheric flow patterns, and in particular to the

vertical motions which lead to the development and subsequent release of instability.

In the "meso-analysis" of severe storm occurrences, meteorologists have made use of the "fine mesh" network of surface measuring stations which has been established in the Texas-Oklahoma area. Studies indicate that heavy thunderstorms and tornadoes often are associated with rapidly developing "meso lows" and "meso highs" within a general area of severe storm occurrences. Such disturbances are so small that they will normally escape detection by the regularly available meteorological observations. As a result of these and earlier studies, meteorologists now are giving much more attention to the "meso" scale of meteorological events.

During two tornado seasons a specially instrumented F-51 airplane has been employed as an observational platform for providing some of the much-needed supplemental facts about the causes and characteristics of tornadoes and their environmental conditions. Operating under the direction of the Weather Bureau's Severe Local Storm Forecast Center at Kansas City, Mo., the F-51 aircraft has been dispatched into tornado and squall-line zones of activity to obtain temperature and humidity readings over, within, and around the critical storm areas. Analysis of these collected data has led to a better understanding of upper air structure associated with severe local storms.

Further programs already have been developed for research activities directly concentrated on the tornado problem in our central States.

Perhaps the most striking development in meteorology in the last few years is the use of high-speed electronic computers for the numerical computation of future weather conditions. This last year the Joint Numerical Weather Prediction Unit, operated jointly by the Weather Bureau, Air Force, and Navy, has made significant progress in the development of daily weather forecasts and is undertaking important research programs that promise a much deeper understanding of the basic and complex atmospheric changes that foretell future storm development.

International Geophysical Year

The United States National Committee of the IGY assigned to the Weather Bureau the responsibility for carrying out this country's meteorological program. As part of this widespread activity covering both hemispheres, six weather stations were planned in the Antarctic in conjunction with the Navy. A Weather Bureau meteorologist was to be attached to the Russian Antarctic Base at Mirny for an extended period on an exchange basis.

The Weather Bureau, working closely with the State Department, also planned five cooperative upper air stations in Chile, Peru, and Ecuador. Local governments were to supply quarters and observing staffs, while

the Weather Bureau was to provide equipment, supplies, skilled electronic technicians, and technical assistance.

At the other side of the world, Weather Bureau specialists are afloat on two drifting ice floes in the Arctic Ocean, where observing stations were set up in May 1957.

Special high-altitude radiosonde balloons were made for use at selected stations in the United States, Canada, Alaska, the Arctic, and South America to obtain data to significantly higher heights during the International Geophysical Year. Through the use of these new balloons, observations of wind speed and direction will be taken up to heights of more than 65,000 feet and observations of temperature, pressure, and humidity will be taken at heights well over 100,000 feet.

United States weather data will be collected, checked, and recorded by the Weather Bureau's National Weather Record Center at Asheville, N. C. The collected data later will be sent to the World Meteorological Data Center in Geneva for further analysis.

Cooperation With Other Agencies

The Bureau's program of meteorological support to the Atomic Energy Commission has increased in scope and has been featured by the establishment of a research operational meteorological unit located at the Nevada Test Site. More than 20 Weather Bureau meteorologists are conducting a program of research and forecasting to integrate weather facts with the activities of the Nevada Test Site. Special stations have been established to take measurement of upper-air winds and temperatures in support of this test program.

Research continues on possible effects of nuclear explosions on general weather conditions, but no significant relationship has been determined. Techniques previously developed by the Weather Bureau for evaluating the transport and diffusion of radioactive material by the atmosphere are being further tested and expanded.

The Weather Bureau continued to work closely with the Federal Civil Defense Administration on the utilization of meteorological upper-air data for predicting areas of radioactive fallout in the event of a nuclear attack. Meteorological liaison and consultant services are provided to FCDA national and regional offices and to State civil defense organizations. The Weather Bureau now prepares twice each day "fallout forecasts" for all areas of the United States.

Future Work Plans

Many of the new activities of the Weather Bureau will be devoted to improving the forecasts and warnings of hurricanes, tornadoes, severe storms, and floods. Immediate service improvements are expected to

result from the establishment of additional observing and telecommunication facilities. Further improvements are expected from intensified research programs on the basic causes of storm development.

Plans are being made to meet demands for new and specialized services for jet aircraft operations and to meet demands for further in-flight protection to all private, commercial, and military aircraft from the hazards of sudden changes in weather conditions.

The use of storm detection radar in the provision of daily weather services and in storm analysis and research should increase greatly in coming years.

Further developments in meteorological telecommunications will receive much attention in the next few years as the Bureau seeks to overcome existing bottlenecks in the exchange of weather information among its key stations throughout the country.

Office of the Assistant Secretary for International Affairs

The Assistant Secretary of Commerce for International Affairs acts as principal adviser to the Secretary for the development and implementation of international trade policies and in this connection participates in inter-agency committees either as the Secretary's alternate or as the Department of Commerce representative. He also provides policy direction and guidance to the Bureau of Foreign Commerce and the Office of International Trade Fairs.

In the field of foreign economic policy, the year was marked by the emergence of a number of difficult problems involving import competition with certain domestically produced goods. The Department took a leading role in the discussions which led to the Japanese 5-year program, announced January 16, 1957, for the control of cotton textile shipments to the United States. In this and similar problems the Department intensified its efforts to be responsive to the needs of the business community in a manner consistent with the basic foreign policy of the United States. A major effort continues to be made in this regard to improve the channels of communication and understanding between business and Government.

Membership on several interdepartmental and Executive Office committees as well as representation on the United States delegations to various international conferences, standing organizations, and negotiating groups permitted the Department to keep the objective of expanding trade in proper perspective. This Office participated in the National Advisory Council on International Monetary and Financial Problems, and in advising the United States Director to the International Monetary Fund regard-

ing the United States position in connection with Fund consultations on the performance of individual countries, particularly in the field of trade liberalization. This Office also assisted in the formulation of the policy decisions of the Council on Foreign Economic Policy.

American representation at International Trade Fairs completed its third year of operation under the Office of International Trade Fairs. Increased participation by private United States firms in the fair program enabled the Government to enlarge its presentation to 23 official exhibits located in 21 foreign countries. The Government-industry exhibits continued to illustrate trade advantages with this country by displaying our most recent technological advancements in agriculture, consumer goods, industrial and business techniques, and scientific research.

BUREAU OF FOREIGN COMMERCE

Expansion of two-way trade—by informational and advisory services for United States private enterprise, by special promotional activities for international travel and private investment, and by sponsoring trade missions to foreign countries—is the principal objective of the Bureau of Foreign Commerce. Of major importance, too, in reaching this objective are the Bureau's efforts to reduce barriers to international trade, travel, and investment. The Bureau provides staff assistance to the Office of the Assistant Secretary for International Affairs in the development of United States foreign economic policy with particular attention to the expansion of international private trade, travel, and investment. It also administers the responsibilities vested in the Secretary of Commerce with respect to the control of exports from the United States.

Direct Service to Business in Promoting Two-Way Trade

A 10-percent increase in paid subscriptions to BFC publications during fiscal 1957 brought the total to nearly 12,000 subscribing firms and individuals interested in international trade, travel, and investment. The published information also reaches many more business concerns and professional people through private trade journals, trade associations, and banking institutions that utilize the Bureau's publications as source materials.

Foreign Commerce Weekly published during the year 2,600 economic and commercial news reports and feature articles concerning 80 countries in all areas of the world. Over 5,000 opportunities for export and import business, licensing, and investment were also carried. These opportunities were obtained from the Foreign Service of the United States, Department of Commerce Trade Missions, and embassies of foreign governments in Washington.

Opportunities to bid on \$250 million in contracts under the North Atlantic Treaty Organization's Infrastructure Program of International Competitive

Bidding were announced and American firms' participation in contracts amounted to \$32 million. This program covers fixed installations such as airfields, fuel pipelines, and communication networks needed by modern armies.

A total of 277 separate reports were published in the *World Trade Information Service* on the subjects of foreign market data, business laws, taxation, customs tariffs, trade statistics, documentation, contracts, and public utilities.

Investment Opportunities Abroad, a special publication for prospective investors, presented more than 900 specific investment and licensing opportunities to 4,000 firms and individuals who have requested this service.

Investment handbooks were published on Central America, Cuba, Australia, and Turkey, bringing to 15 the total number of comprehensive country surveys providing basic information for potential United States investors and traders. Two additional volumes, one on Peru and the other on Nigeria, were to be released in the fall of 1957. Work progressed on three more.

On a minimum charge basis, the Bureau furnished United States business concerns with 18,335 detailed reports (World Trade Directory Reports) on foreign firms and 21,823 trade lists of foreign firms classified by commodity, industry, or service organization.

A marked increase of interest in patent licensing abroad was noted from inquiries received. The Trade Adjustment Service of the Bureau furnished assistance to United States and foreign firms on 2,400 claims which grew out of foreign trade transactions.

Through the cooperation of American publishers, manufacturers, and exporters, increased numbers of directories, catalogs, and other reference material were sent to Foreign Service posts for prospective customers abroad.

The Bureau also expanded its program for dissemination of information relating to private participation in trade fairs and exhibitions.

The Bureau has taken steps to make its services more widely known to the business community. A number of exhibits depicting BFC services to business have been developed for display purposes and offered through the field offices to public organizations and private business concerns. A speaker's clearinghouse has been established to provide competent and appropriate speakers drawn from both Government and industry to talk to foreign trade groups on subjects in specialized fields of international trade, investment, and travel. The Bureau also has sought the advice of regional groups on the type and scope of services of interest to businessmen. News coverage was provided to inform the foreign trade community through the press and other news media regarding foreign government actions, trade opportunities, economic conditions, and changes and enforcement of export controls.

There was a marked increase in the requests for service both to the

Department's field offices and direct to the Bureau. Services provided ranged from furnishing information to individual exporters on such matters as licensing and exchange controls to representations on behalf of the United States business community whenever its interests were prejudiced by proposed legislation in foreign countries. The Bureau assembled, translated, analyzed, and disseminated statistical and nonstatistical information relating to the economic structure and economy of each foreign country. Included were tariff and exchange controls, tax and business laws, economic conditions and institutions, trade opportunities and developments, market prospects and techniques, phases of transportation and utilities, and insurance regulations.

The Bureau gave its assistance in expediting payments on commercial arrearages owed to United States exporters, provided information on effects of the Suez crisis on United States trade, kept the business community informed of possible effects of the proposed European common market, and prepared studies of foreign development projects.

Promoting Private Investment Abroad

The Bureau's program of activities to encourage private United States investment abroad places particular emphasis on underdeveloped areas. The Bureau advised individual prospective investors on investment opportunities, the investment climate of foreign countries, and procedures governing foreign investments. New interest in the African areas reaching independence and in South Asian areas generated inquiries for which both details concerning specific regulations and broad basic data were supplied.

Private voluntary committees are being established in a few financially important metropolitan areas to assist in channeling information about specific investments to those who may be able to act upon it, and to obtain advice on the type of information and assistance needed by businessmen who are concerned with investments or patent licensing abroad. A worldwide survey of results is in progress to determine what interest United States business firms have shown in the 1,000 investment opportunities presented, but meanwhile the number of inquiries received for further information indicates there has been lively interest.

Discussions with representatives of foreign governments while they are in this country, and through the Foreign Service abroad, have contributed to a better understanding on the part of foreign governments of the need to develop a more favorable climate for investment and in undertaking more active programs designed to attract United States private capital.

Promotion of International Travel

Work continued on the preparation of statistical analyses of international travel to and from the United States. A supplement to the *Survey of*

International Travel, published in the preceding fiscal year, was prepared. It expands and brings up to date the basic data already available and constitutes an important reference book and market research source for the United States travel and transportation industries.

Close cooperation has been maintained with private industry and governmental agencies on international travel matters through active committees. The Bureau represented the Government at numerous meetings of international organizations which have useful programs in the promotion of international travel. An invitation was extended to and accepted by the International Union of Official Travel Organizations to hold its 12th general assembly in Washington in November 1957.

Two new projects of importance to travel were developed: A program in cooperation with the United States Public Health Service for improvement of tourist health, and the launching of discussions on an inter-governmental level relative to an agreement for bus and truck operations on the Inter-American Highway.

Trade Missions for Promotion of Trade and Investment

The past year marked a period of record activity for the Trade Missions Program. A total of 23 missions—19 to countries in connection with trade fairs and 4 to areas not in connection with trade fairs—were trained and organized.

The Bureau provided the personnel to develop a program for each mission, to recruit members from private industry on a selective basis, to plan and conduct "briefing sessions" preparatory to oversea assignment of industry members, to perform the necessary administrative work in carrying out mission operations, and to lead each of the trade missions.

Both private and group consultations were held with foreign businessmen seeking information and guidance on ways to do business with American firms. Mission members actively supported two-way trade. They developed and reported numerous trade and investment opportunities which the Bureau brought to the attention of the American business community and made many new entrees with foreign trade organizations and groups. Thus they widened the circle of contacts for United States Foreign Service Commercial Officers abroad. In addition, many misconceptions concerning United States foreign trade policy and misunderstandings concerning United States private trade practices were dispelled.

A warm response to these visits was received from host governments, the press, and the public. American companies donated many thousands of periodicals, reference books, and directories to the trade information centers staffed by mission men. Other firms contributed the time and services of executives who volunteered for mission work. One hundred and fifty businessmen have participated in trade missions since the beginning of the program in 1954.

In the course of the year, significant improvements were made in the methods of organizing and preparing mission personnel for oversea assignments. This has resulted in more effective trade promotion and other benefits to the host countries and to American businessmen.

Promoting Commerce Through Reduction of Barriers

The Bureau continued to assist in the development of United States policy affecting foreign trade and investment by participating in the Eleventh Session of the General Agreement on Tariffs and Trade (GATT), from October 11 to November 17, 1956. Multilateral consultations held with five sterling area countries resulted in some progress in the reduction of discrimination against dollar goods.

Bilateral discussions on particular commodities with 13 countries maintaining import restrictions which create a hardship for United States producers were generally favorable. Several assurances of immediate favorable action were obtained. In June, multilateral consultations were held with eight countries maintaining import quotas for balance-of-payments reasons. Two of the countries announced the removal of import restrictions on an important range of goods from the United States and other dollar countries, two other countries announced they would take liberalization steps in the near future, and a number of the consulting countries reported recently adopted measures which reduce restrictions against dollar imports. Similar consultations are scheduled to be held with 12 additional countries in October and November 1957.

Special efforts were made to inform the business community of changes in trade barriers, and to obtain the views of the business community regarding the effects of proposed revisions. Representations to foreign governments on behalf of private trade were effective in lowering some of the barriers to trade, travel, and investment.

The Bureau assisted in the preparatory work incident to the negotiation of friendship, commerce and navigation treaties with Austria, Belgium, Pakistan, and Viet-Nam. Similar treaty proposals outstanding in varying degrees of activity include those with Peru, Iraq, Morocco, and Costa Rica.

Organizational Improvement and Special Operations

Under the agreement of June 1, 1956, between the Departments of Commerce and State to expand the Interservice Assignments Program, 10 Commerce officers have been assigned to the Foreign Service as Commercial Officers, and 9 Foreign Service officers have been detailed to duties in the Department of Commerce.

Another arrangement with the Department of State has increased commercial officer positions in the Foreign Service from 38 to 106. A practical result of this expanded program has been an increase of approximately

9 percent in the economic and commercial information received from the Foreign Service for the fiscal year 1957 as compared with fiscal 1956. One phase of commercial reporting in which this increase has been particularly noticeable has been in the commodity and industry fields. Reports by the Foreign Service are now required on specific industries important to the economy of each country.

Arrangements were made with consulate generals of 19 countries to furnish information on changes in consular and documentary requirements for prompt dissemination to the United States business community.

The British Token Import Plan administered by the Bureau brought a heavy load of inquiries and applications for quota balances. In 1956 about \$3.8 million of goods were exported under the Plan.

Up-to-date material on investment and conduct of business under the China Trade Act was prepared, and consultations were held with prospective incorporators.

Foreign-Trade Zone procedures were simplified by reducing the regulatory material filed with the zone operators' tariff rates, and by a Customs regulation permitting a series of withdrawals of nonprivileged zone merchandise with but one examination and appraisement.

Control of Strategic and Short Supply Exports

Export controls, which are authorized by the Export Control Act of 1949, as amended, were employed as in the past to protect the national security by denial of strategic goods to the Soviet Bloc, to protect the domestic economy from the inflationary impact of excessive export of scarce materials, and to further United States foreign policy objectives.

In the strategic controls field, the most notable developments were the institution of new destination control provisions designed to strengthen enforcement measures against the illegal diversion of United States goods. These regulations were promulgated after extensive consultation with the United States export trade, financial institutions, freight forwarders, and the carriers. Enforcement activities were also intensified through the Bureau of Customs, and a compliance program undertaken with the airlines.

Short-supply controls were almost completely eliminated, with quantitative quotas as of June 30 being retained only for nickel, certain industrial diamonds, rails for rerolling, and poliomyelitis vaccine.

The attainment of United States foreign policy objectives was aided by the adoption of special controls over exports to the Middle East with respect to military-type vehicles and similar supplies which might contribute to a military buildup in that area.

Exports of nonstrategic goods to the European Soviet Bloc showed an increase for the fourth year in a row, but the Department continued its vigorous screening of applications to withhold strategic goods from the

Bloc. In fiscal 1957, licenses valued at \$52,203,000 were issued; actual exports were \$15,359,000. Since licenses have a validity period of 6 months, presumably shipments will be made in fiscal 1958 against licenses issued in 1957.

OFFICE OF INTERNATIONAL TRADE FAIRS

The International Trade Fair Program, inaugurated in August 1954 at the direction of the President, was provided basic legislation for continuing on a permanent basis under the International Cultural Exchange and Trade Fair Participation Act of 1956. A purpose of this legislation is "to promote and strengthen international relations through participation in international fairs and festivals."

Selection of fairs which the United States will enter, and determination of the type and extent of participation and budgetary allocations, are the responsibility of the Trade Fair Committee of the Operations Coordinating Board. Membership of this Committee consists of representatives from the Departments of Commerce and State, and the United States Information Agency. The Office of International Trade Fairs, with the Bureau of Foreign Commerce handling Trade Missions, carries out the determinations of the Committee and conducts all operations.

Most of the products displayed and the services of executives and marketing specialists as members of trade teams are contributed at no cost to the Government. In addition, consulting services of some of the best qualified organizations and individuals in the field of merchandising and display have been utilized to increase the effectiveness of United States exhibits. The use of demountable pavilions has resulted in appreciable budgetary savings, making more funds available for the actual exhibit. Geodesic domes were used at Kabul, Bangkok, Tokyo, Casablanca, and Poznan.

During fiscal 1957 official United States exhibits were shown at 23 trade fairs throughout the world, attracting an estimated 10 million visitors. Central exhibits were mounted at 17 locations; at 13 of these, Trade Information Centers were an integral part of the presentations. At six locations Trade Information Centers, staffed by members of a Department of Commerce Trade Mission, constituted this country's entire participation.

At Damascus, Bogotá, and Casablanca, the "seed money" concept of attracting increased private industry participation in international fairs was implemented with tremendous success. The United States was represented at Casablanca with a total of 50,000 square feet of exhibits, less than half of which was at Government expense. The remainder was paid for by some 50 American firms. At Bogotá, two-thirds of the exhibit space was underwritten by private industry.

Increased numbers of private displays have been noted as a result of Government participation. The 1957 Milan Fair, for example, drew 680

United States industrial exhibitors to the commercial sectors, nearly double the number displaying 2 years before.

United States participation at Poznan, Poland, was the subject of world-wide interest as it was the first appearance of this country as an official exhibitor behind the Iron Curtain. Marking the first large-scale commercial contact between the Americans and Poles since 1939, the exhibit emphasized consumer goods ranging from miniature transistor radios to new automobiles. The United States exhibit drew 1,350,000 visitors, and an American magazine termed it " * * * the biggest rip yet made in the Iron Curtain."

Notable also in their success were exhibits at Bangkok and Casablanca, both of which were acclaimed by the ambassadors as having implemented successfully the mission's political objectives. The productivity exhibit at Barcelona, previously used at Milan, was awarded first prize as the outstanding national exhibit at the fair. Participations at Paris on "The Atom and Life" and at Tokyo, where color television was the principal feature, were praised by the embassies for their excellence in the presentation of American technology.

Office of the Assistant Secretary for Domestic Affairs

The Assistant Secretary of Commerce for Domestic Affairs is the Secretary's principal assistant in fostering, promoting, and developing the domestic industry and commerce of the United States. Under the Secretary, his function is to assure that the domestic program and activities of the Department result in the fullest contribution to a sound economy.

The Assistant Secretary of Commerce for Domestic Affairs serves the business community in gaining proper representation of business views, opinions, and problems in governmental affairs. Stability and growth of the Nation are promoted through the maintenance of a proper economic environment in which free competitive enterprise may grow and prosper. These views and opinions play an important part in the policymaking and guidance of the Business and Defense Services Administration, Office of Field Services, Office of Technical Services, Office of Area Development, Office of Business Economics, and Bureau of the Census.

In addition to expanding and refining its mobilization preparedness programs carried on under direction of the Office of Defense Mobilization pursuant to provisions of the Defense Production Act, as amended, the Business and Defense Services Administration assisted American industry in achieving

military and Atomic Energy Commission production goals through distributing the defense load (including the missiles programs) and expediting the delivery of materials against military contracts. Emphasis has been placed on the assembly and analysis of important data from the Department and other Government agencies for marketing and distribution purposes. Analyses of current and prospective trends of important industries have been carried on, with resulting advice and recommendations to other Government agencies on activities which importantly affect business stability and markets. These activities, largely carried on by BDSA, have included the issuance of a number of special industry reports which received widespread attention and interest. Through BDSA's 25 industry divisions and the Office of Field Services, constant daily contact was maintained with large segments of American industry on current business affairs and matters of joint interest to the Government and business.

The Office of Field Services, although an organizational segment of BDSA, serves as the Department's field service in both domestic and foreign commerce and through its 33 offices carries out the field programs of 4 primary organization units of the Department.

The Office of Technical Services, which is responsible for collecting reports of Government-sponsored technical research and disseminating them to science and industry, provided increased service last year. Almost 12,000 new reports were made available to the public at the cost of printing and handling, and over 240,000 copies of reports were sold. Sales were 58,000 copies above the previous year. This points to wider use of these reports by all types of industries, large and small, in the development of new products and processes and in making technological improvements.

The Department's principal agency for the analysis of economic trends, the Office of Business Economics, won recognition in various forms for its consistently valuable output of economic data and analyses used generally throughout the business world. The members of OBE's National Income Division who had worked for several years in preparation of the 229-page volume *Personal Income by States Since 1929*, published in March 1957, were as a group granted a Meritorious Service Award by the Department for making a major contribution to business and Government. Widespread commendation followed publication in the January 1957 *Survey of Current Business* of an article on "The Role of U. S. Investments in the Latin American Economy," and a complete report of this research project is being published separately in cooperation with the Department of State. Beyond its output of analytical publications, OBE, during the fiscal year, prepared a 344-page 1957 edition of its biennial *Business Statistics* volume, showing movements of all major business indicators back to 1929. Files of the *Survey of Current Business* and its supplements constitute a unique and invaluable record readily available in business libraries throughout the Nation.

The Office of Area Development was established as a primary unit of the Department in fiscal 1957. This action was taken to make the services of OAD more widely available to local groups and labor surplus areas requesting Federal advice and assistance on economic distress matters.

The strengthened Office made it possible for the Department to provide, for the first time, area development counseling in the field to most of the areas which requested Federal help in dealing with unemployment and industrial development problems. OAD policy in this regard has been to get communities and area groups to undertake corrective action at the local level and to make full use of the services and resources of State and local government and private agencies that can help them resolve their problems. Through its working relationship with State development agencies, universities, and industrial development departments of railroads, utilities companies, and banks, the Office puts community groups in touch with organizations in their areas which can provide advice and possibly even participate in the community effort to develop more jobs.

The Bureau of the Census compiled and issued, during the past year, current facts on the Nation's population and housing supply, on the record levels of employment, the steady increase in the manufacture of goods, the continued highs in the distribution of products, the growth in revenues and expenditures of State and local governments, and the gains in foreign trade of the United States. These facts were derived from the Bureau's program of current statistics in these various fields.

In its program of major censuses, the Bureau completed the detailed tabulations of 1954 benchmark data on the Nation's agriculture, its retail, wholesale, and service trades, and its manufacturing, mining, and quarrying activities. The Bureau published early reports from the 1957 Census of Governments on the number and kinds of State and local governments and on real estate assessments. At the same time, it began preparations for the 1958 Censuses of Business, Manufactures, and Mineral Industries, and the 1960 Censuses of Population, Housing, Agriculture, Irrigation, and Drainage.

OFFICE OF AREA DEVELOPMENT

Following recommendations by the President and the Joint Committee on the Economic Report that the Department's area development services be expanded, the Office of Area Development was established during fiscal 1957 as a primary unit of the Department and its staff expanded to meet its enlarged responsibilities.

The Office serves as the focal point in the Federal Government for handling State and community requests for assistance on unemployment and economic distress problems. Its activities include: Counseling on labor-surplus problems, industrial development and diversification, plant loca-

tion, development and management of industrial parks, and organization and operation of local development groups; preparation and distribution of technical data and publications dealing with various aspects of industrial development; and participation in pertinent programs of other Government agencies and private groups.

State and Community Counseling

Services to community, State, and regional development organizations continued at a high rate. Technical assistance concerned with industrial and area development problems was requested by 300 communities in 47 States, about 50 percent of the requests coming from labor-surplus communities. The requests involved counseling on how to develop new industries as a means of diversifying local economies, guidance in creating employment opportunities in drought areas, and industrial and area development assistance to labor-surplus communities.

Forty-three labor surplus communities were studied. To bring the advantages of these communities to the attention of industry, fact sheets listing their industrial assets had been prepared for 26 communities by the close of the fiscal year.

Participation in the rural development program of the Department of Agriculture also continued. Publications of this Office were used to help rural communities identify their undeveloped commercial, recreational, and industrial potentialities. A demonstration study, entitled *Developing New Business Possibilities: Suggestions for Garrett County, Maryland*, was undertaken to assist that and other rural areas.

Plant Location Counseling

The Office of Area Development continued to serve as a clearing house of technical and advisory services on industrial location problems for manufacturers and community and other groups. This service includes: Advice on how to plan and conduct industrial-site surveys; an informational library of locational data on regions, States, and labor surplus communities; a catalog of Federal data useful in plant location work; advice to defense manufacturers with regard to locations that will provide relative security in the event of atomic attack; and advice on industrial zoning problems and on the development of planned industrial parks.

This Office serves as the official counseling agent to industry and Government on security considerations in industrial location matters. In this connection, data and information compiled by an interagency committee (established at the request of the Defense Mobilization Board) is used as the basic reference material, thus making it possible to make known the latest thinking on the security factor in blast and thermal effects, fall-out, and protective construction.

During the past year, locational assistance and guidance was given to over 500 private and governmental organizations. Several informational bulletins dealing with specific aspects of plant location were issued, including *The National Industrial Dispersion Program* which explains the Federal Government's dispersion policy and its implementation. Representatives of this Office also briefed staffs of the Department's field offices on the use of maps and other materials that have been developed as dispersion counseling aids.

Technical Publications

A series of industrial-location trend studies was initiated to serve as supporting data for the community counseling program of the Office and to meet direct inquiries from community and industrial leaders.

The series features reports on growth rates between 1947 and 1954 for the chief expanding-industry categories and some individual product classes, classified according to regional, State, metropolitan and nonmetropolitan areas. Geographical shifts in industrial location within standard metropolitan areas and among the different size categories of standard metropolitan areas are also treated. Information on locational trends provides valuable guidance to communities seeking new industry, to firms which need to expand production, and to marketing specialists in search of new product outlets.

Other reports prepared during the year included *Your Community Can Profit From the Tourist Business*. Also completed were the tabulation and analysis of data for a special study of community industrial development corporations and foundations. This study reviews the origin, growth, and function of these organizations, which now number more than 2,400. The *Area Development Bulletin*, a bimonthly summary of events and accomplishments of interest to community and industrial development groups, continued publication.

New Technology Exhibits

In line with its continuing services to State and local groups which sponsor "New Products, New Methods, and New Patents" exhibits, the Office participated in the planning of six new regional projects for 16 States. Two were completed—the Oklahoma and New England exhibits, held March 10–17 and April 3–5, 1957, respectively. For both of these projects the Office coordinated the participation of the Air Force, Atomic Energy Commission, Small Business Administration, and the Departments of Agriculture, Commerce, Labor, and Interior.

As in the past, these exhibits stressed ideas for new products and processes especially suited to one-industry communities and labor surplus and other areas interested in diversifying their economies.

BUSINESS AND DEFENSE SERVICES ADMINISTRATION

The Business and Defense Services Administration follows a pattern of operations designed to facilitate a high rate of combined military and civilian production. A major part of its activities is related to the Defense Production Act of 1950, as amended.

During fiscal 1957 BDSA also carried on its general services to business: Studies of domestic and world trade and marketing, reducing Government industrial competition with private enterprise, market impact studies of proposed sales of Federal surpluses of personal property, and the issuance of a series of informational and technical publications.

In February 1957 the Office of Industrial Mobilization was established to encompass all staff offices formerly responsible for the defense and mobilization programs of the agency.

In June the organizational structure of BDSA was revised. It now consists of the Office of Administrator, Office of Industrial Mobilization, Office of Technical Services, Office of Distribution, Office of Construction Statistics, 23 (formerly 25) industry divisions, and the Office of Field Services.

Defense and Mobilization Preparedness Activities

SPECIAL ASSISTANCE FOR MILITARY AND AEC PROGRAMS.—During the year ended September 30, 1957, BDSA processed 8,400 special assistance cases representing a value of \$414,413,223.

These figures represent a decrease of 26 percent in the number of cases, but an increase of 27 percent in dollar value compared to the year ended September 30, 1956, when 11,382 cases having a dollar value of \$326,252,308 were processed.

The decrease in number of cases is largely due to the decrease in production and allocation directives and interim changes in the preference list on machine tools, which account for 1,804 of the 2,982 case decreases. A decrease of more than 1,000 cases resulted from a decline in requests for special assistance from the Department of Defense, most of which occurred during the second and third quarters of 1957. This was attributable to cutbacks on some of the defense contracts and the easing of the tight supply of structural steel and plate, certain chemicals and gaseous materials, and metalworking equipment. The major areas of tight supply which continue to require special assistance are scientific instruments, electronic equipment, electrical equipment, metalworking equipment, nickel alloys, and certain industrial equipment, all of which are urgently needed in the defense programs.

BALLISTIC MISSILES.—In January 1957 BDSA took action to accord top priority to the procurement of materials by contractors and subcontractors engaged in production, construction, and research and development for the

Intercontinental Ballistic Missiles and the Intermediate Range Ballistic Missiles Programs (ICBM-IRBM). The initial action consisted of delegation of authority to the Secretary of Defense authorizing the use of the DX (top priority) rating in support of the Ballistic Missiles Programs. Contracts and purchase orders having DX ratings take priority over DO rated defense orders as well as unrated orders.

In April 1957 BDSA took further action in its support of the Ballistic Missiles Programs by issuing Amendment 1 of Direction 4 to DMS (Defense Materials System) Regulation 1, relating to production, and Amendment 1 of Direction 3 to DMS Regulation 2, relating to construction. These two amended directions authorize manufacturers and construction contractors having DX rated orders to use the rating DX-D-9 to obtain materials for maintenance, repair, and operating supplies.

OPERATION OF THE DEFENSE MATERIALS SYSTEM.—This system, established in 1953, has been fulfilling one of its main objectives, the delivery of materials and products for military and AEC production and construction on schedule.

Operations Affecting Basic Materials

IRON AND STEEL.—All iron and steel requirements of the Defense Program were met in full throughout the year. Strikes in the oxygen and nickel industries in the first calendar quarter of 1957 had minor effects on over-all steel production but did not interfere with the filling of defense orders. Set-asides were adjusted as needed to maintain full coverage of defense requirements. Special assistance to expedite the delivery of iron and steel against defense orders was provided informally.

NICKEL.—Effective the fourth quarter 1956, essentially all nickel intended for delivery to the Government's stockpiling program was diverted to industry. With the increased supply of nickel to the United States during the first three quarters of 1957 and the Government authorization for total diversion for this period, the availability of nickel to industry increased materially.

The net effect of these diversions, coupled with decreased defense requirements during this period, was a civilian nickel availability above any previous like period. However, approximately half of the total civilian nickel was priced above the current "market" price. Therefore, despite the apparent "softening" of availability a large imbalance between the supply and demand for "market" price nickel continues.

NICKEL ALLOYS.—A group of nickel and nickel-containing materials defined as nickel alloys was added to the groups of metals and alloys designated as controlled materials, effective the fourth quarter of 1956. The inclusion of these alloys in this system, together with those already so designated, made essentially all defense nickel and nickel-containing materials subject to close scrutiny with respect to requirements, shipments, and usage.

COPPER.—Copper and brass requirements of defense contractors were satisfied in full during the year. Despite the softness in the market, a number of formal directives, as well as informal actions, had to be taken to deal with special spot problems. Set-aside tonnages for defense contractors were adjusted several times during the year to reflect changes in defense procurement.

ALUMINUM AND MAGNESIUM.—Aluminum set-asides for defense programs under DMS totaled 565 million pounds in fiscal 1957. These set-asides averaged about 15 percent of the primary metal availability. The entry of one new producer into the field and the changing structure of the industry since 1952 made necessary the issuance of Amendment 1 to Order M-5A, Aluminum. This amendment established individual company set-asides on the basis of each company's total shipments during the first 6 calendar months of 1956, instead of the previous basis of the fourth quarter 1952.

As a result of an increased supply of aluminum and a temporary lull in demand, over 300,000 tons of aluminum were offered to the Government stockpile by the primary producers under the provisions of the contracts made with the General Services Administration covering production of the new facilities developed during the Korean emergency. Despite the temporary slackening of demand, expansion of planned primary capacity under construction is being continued. The industry is optimistic that developments of new uses and applications will increase demand to new levels.

MISCELLANEOUS METALS AND MINERALS.—The supply and use of titanium, bort, diamond powder, mica, mercury, selenium, tin, lead, zinc, and other minerals was reviewed with relationship to defense requirements and the stockpile program.

Compliance and Enforcement

Nickel again provided the principal field of operations for BDSA compliance activity. Imbalance of supply and demand with concomitant upward pressure on prices continued the financial attractiveness of illegal placement of defense-rated orders both for consumption and for resale. Much of the time and effort of the BDSA enforcement staff was immediately devoted to working in close cooperation with the BDSA Nickel Section in the prevention, detection, investigation and prosecution of violations of the priorities regulations. Court action has been concluded in several cases, with fine and imprisonment in one, and several cases are awaiting trial.

Progress on Industrial Mobilization and Preparedness Programs

During fiscal 1957 BDSA continued its activities in developing industrial mobilization plans, assisting industry in developing industrial defense programs, and participating in governmentwide test exercises.

EXECUTIVE RESERVE PROGRAM.—Under the National Defense Executive Reserve Program, authorized by a 1955 amendment to the Defense Pro-

duction Act of 1950, and established February 15, 1956, by Executive Order No. 10660, BDSA has selected over 600 Reservists. They come primarily from industry and, with the consent of their employers, voluntarily agree to perform limited service in peacetime, attending training sessions and alert exercises, and participating in the testing of mobilization plans and procedures. In the event of a war emergency these men would constitute a vital cadre of any future defense production agency. As a manpower program, it is considered among the most important of our readiness measures, with industry giving it strong support.

On June 20, 1957, the authorized complement for BDSA Executive Reservists was increased from 600 to 800. Initially, recruitment had been directed primarily to the staffing needs of the defense production agency's national headquarters. The increased complement is to provide for staffing regional locations with trained personnel to meet the survival and rehabilitation problems that the Nation would face in the event of an attack on the United States.

The regional training program launched in January of this year has proved highly successful. Seminars were held in Chicago, New York, Philadelphia, Pittsburgh, Detroit, and Boston. Plans were developed for a meeting of all Reservists in November at national headquarters here in Washington. Training aids covering new mobilization developments are furnished Reservists periodically.

TAX AMORTIZATION AND EXPANSION GOALS.—During fiscal 1957 the industry divisions of BDSA considered and made recommendations to the Director of the Office of Defense Mobilization on approximately 1,000 requests for tax amortization. Of this number nearly 650 represent new cases filed under expansion goals which were in the open category during the war. The greatest concentration of requests was in the area of products and facilities relating directly to the national defense program and supported by the Department of Defense in its current procurement program.

Assistance for Small Business

Throughout BDSA's programs and activities continued attention was given to the position and needs of small business in all phases of production.

An example of this responsiveness to the needs of small business was the role played by BDSA in developing the principles of a revised distribution system for civilian nickel. During the year each of the plating supply houses altered its distribution procedure to reflect the application of the general principles for sales to the nickel plating industry, with special attention being paid to the small job plater. By the end of the year the previous large volume of complaints had disappeared and it was generally agreed that the needs of small business had been taken care of adequately.

The emergency control of argon during a prolonged strike by the principal producer and the direct allocation of even such a small quantity as one cyl-

inder to small users was an effective support for smaller concerns, saving many from serious financial loss.

A number of special supply-demand studies were made and reports issued. These studies covered aluminum, nickel, tungsten, and pulp, paper, and board. The reports following the studies provide small concerns with new and reliable information for their purchasing and production planning.

BDSA, representing the Assistant Secretary for Domestic Affairs, was actively engaged in the development of "The President's Conference on Technical and Distribution Research for the Benefit of Small Business."

Service to Business

During fiscal 1957 BDSA continued its activities designed to be of service to business. Illustrative of these activities were:

Analysis of current and prospective trends in important industries.

Assembly and analysis of important data useful to marketing and distribution.

Advice and recommendations to other Government agencies on their activities which importantly affect business stability and markets.

Responding to extensive and widely varied inquiries from business firms for information, advice, and consultation.

Holding conferences as required with industry and business advisory committees, trade associations, etc., on current business affairs and matters of joint interest to the Government and business.

Providing assistance to industry in achieving military and AEC production through distributing the defense load and expediting the delivery of materials against military contracts.

Cooperation with the Department of Defense in the disposal of surplus property through the development of market impact studies and other economic data to be used in disposal planning.

In cooperation with the Bureau of the Census, the development and analysis of foreign trade statistics for domestic production planning.

Special Reports

BDSA prepared and issued a number of special industry reports which have received widespread attention and interest. Among these were three reports prepared at the request of Congress, *Report on Iron and Steel Scrap*, *Study of Supply and Distribution of Nickel*, and *Pulp, Paper and Board Supply-Demand*. In addition were reports on *Materials Survey—Aluminum*, *Materials Survey—Tungsten*, *World Survey of Pest Control Products*, and *Industry Planning for the Continuity of Production in the Event of Enemy Attack*.

WOC Program

The Department's program of utilizing without-compensation executives (WOC's) from industry in full-time positions in BDSA was strengthened by modifications designed to integrate combined skills and experience of private industry specialists and Government career officials. As the 6-month term of WOC Industry Division Directors expire, their successors

were to be appointed from qualified Government career personnel starting with the 1958 fiscal year. Executives on loan from industry were to be appointed as assistants to the Division Directors.

OFFICE OF FIELD SERVICES

The 33 field offices of the Department, representing the BDSA, the Bureau of Foreign Commerce, the Office of Business Economics, and the Office of Area Development, had a busy year. Established to provide on-the-spot service to business, their activities covered a wide field both in domestic commerce and industry and in foreign trade.

Serving as the local points of contact the field offices work with manufacturers and traders, distributors both retail and wholesale, trade associations, research groups, advertising agencies and trade publications, as well as those engaged in various phases of international trade.

In the domestic field added emphasis was placed on the use of technical research results provided by the Office of Technical Services. The greatly increased promotional efforts by various communities and areas to attract new industries presented an opportunity for the field offices to be of assistance through the Office of Area Development. Marketing, distribution, and economic research continued to be a very important element in the domestic program of the field offices. This program utilized the data, reports, publications, and services of the Office of Business Economics, the Bureau of the Census, and the Business and Defense Services Administration to give many organizations and firms practical, business-like assistance in their market studies and research programs. The field offices also worked closely with defense establishments and others requiring priority assistance provided for by the Defense Production Act.

The maintenance of a high level of international trade throughout the year resulted in an increased use of the foreign trade services and facilities of the field offices by exporters, importers, financial institutions, and trade organizations.

Assistance to foreign traders has long been an important part of the work in the field. With material furnished by the Bureau of Foreign Commerce, the American Foreign Service, the Bureau of the Census, and the International Cooperation Administration, the field offices provide current and authentic information on foreign tariffs imposed on American goods, foreign economic developments, the details of exchange and import controls, documentation requirements, and market conditions and potentials. A number of changes were made in the export control regulations and, although they were liberalized, they continued to be an important factor in our export trade.

Working closely with the Department of Defense, the military services and civilian Federal agencies, the Office of Field Services made improve-

ments in the coverage and lead time on announcements made in the *Synopsis of Proposed Procurements, Sales and Contract Awards*. This publication provides ready access to information on Federal procurement, offerings of surplus property, and contract awards; it is widely used by businessmen seeking an opportunity to obtain Government contracts or to purchase surplus property.

Assisting the field offices in providing service to business were the 700 Cooperative Offices of the Department operating under agreements entered into with Chambers of Commerce and similar business groups, thereby greatly expanding the services in important commercial and industrial centers.

OFFICE OF TECHNICAL SERVICES

This Office collects technical reports of Government-sponsored research, reproduces them, and sells them at the cost of printing and handling to scientific and industrial laboratories and business enterprises. It also helps industries develop and agree upon commercial standards for their products as to quality, testing, and ratings; serves as the point of contact with trade associations and other nonprofit trade groups to encourage their cooperation with the Department and to obtain recommendations with respect to the domestic programs and activities of the Department; and brings to the attention of American inventors the technical problems of the national defense agencies.

Technical Information

The volume of Government-sponsored research exceeds \$2½ billion a year, representing a major share of all research conducted in the Nation. Most of this research is done for national defense. However, many technical reports growing out of research for the Army, Navy, Air Force, Atomic Energy Commission, and other agencies are of direct interest to American industry, for they describe new developments in such fields as metals, chemicals, plastics, electronics, textiles, ceramics, aeronautics, and nuclear energy. Many businesses—large, medium, and small—have obtained reports of Government-sponsored research from OTS which they have used in the development of new products and processes and in making important technological improvements.

Use of these reports by American science and industry have continued to increase. In the 1957 fiscal year 58,131 more copies of reports were sold than during the previous year; 240,240 reports were sold for \$344,510, which covers the costs of reproducing and handling the reports. Yearly increases in sales grow out of expanded acquisition efforts and wider publicity regarding these reports in the business and trade press and through other media. They represent a wider use of these reports by all types of industries.

During the year 11,619 new reports were added to the OTS collection and made available to the public. This includes 5,678 reports acquired from the Atomic Energy Commission which can be used by those companies engaged in development of the new nuclear industry. Over 46,142 inquiries were answered regarding technical reports in the OTS collection.

To make OTS reports more readily available for reference by the Nation's scientists and engineers, three depository libraries were established, the first under the OTS program. These are at the New York Public Library, Georgia Tech Library, and Carnegie Library in Pittsburgh. Others are expected to be established within the next year.

The OTS staff of technologists continued to answer technical inquiries from American industry as well as to provide, under contract, technical information to the International Cooperation Administration for use in its program of assistance to underdeveloped countries.

Commercial Standards

The Division issued 11 Commercial Standards and 7 Simplified Practice Recommendations and reprinted 7 others. Work was in various stages of progress on revision of 17 Commercial Standards and 9 Simplified Practice Recommendations and on development of 26 new Commercial Standards and 6 Simplified Practice Recommendations. The most active fields now are plastics, wood products, and containers and packaging.

The successful completion of one program in a specific field stimulates an industry to go further. The several Commercial Standards for plastic pipe, garden hose, tableware, and other items stimulated the industry to start work on 25 more standards. Commercial Standards for articles made of wood have been so well received that other standards, such as for doors, windows, panels, and shingles, are in process of development. Container standards become more and more important because they are component parts of materials handling systems—that is, they are submultiples of the dimensions of pallets.

The revolution of the sizing system in women's wearing apparel, which has been a long range program of this Division, is beginning to show marked results. This system is being widely adopted in the apparel field and credit is usually given in the changeover in sizing to the Commodity Standards Division of OTS.

Trade Associations

Since 1913 the Trade Association Division has been the Government center of information on all types of nonprofit organizations of business firms. Its *Directory of National Trade Associations: 1956* had sold 18,000 copies by the end of the year. The Department has long assisted in the development of all types of mutual-aid endeavors by businessmen. The

2,000 associations listed in the 1956 directory was almost double the number of those in existence 20 years ago.

The Division also prepared several reports for the International Cooperation Administration, such as *Association Trade Shows in the United States, 1956-1957*, and the *Overseas Technical Service Program*. A companion publication was *Conventions of National Industrial Associations*. Continuing studies of associations, national and local, are being made in cooperation with the American Society of Association Executives and other federations.

National Inventors Council

The Council, continuing in its advisory capacity to inventors and the military establishment, expanded its program to enlist the Nation's creative ability on national defense problems. Arrangements were made with the armed services for a more direct working relationship between the Council staff and technical personnel in Government laboratories and technical centers. This will enable the Council to render more effective service to industrial firms and inventors concerned with the unsolved technical problems of the armed forces. A completely new and expanded listing of problems is contemplated to stimulate activity on current needs.

OFFICE OF BUSINESS ECONOMICS

The Office of Business Economics is responsible for the preparation of measures of the national output (gross national product, national income) and its components, and of an integrated system of economic accounts built around these aggregates. This work, initiated in 1932 in response to a Senate resolution, provides a comprehensive picture of national business conditions which is widely used in economic analysis and for the formulation of plans and policies affecting business.

The major function of OBE is to estimate, by means of complex statistical methods, from a mass of primary data collected largely by other agencies, the various components of the national income accounts. The results are presented and analyzed in the monthly *Survey of Current Business* and in special supplements to that journal.

The *Survey* furnishes to the public periodic summaries of business trends, accompanied by a statistical section showing over 2,600 statistical series most commonly used by business analysts. A biennial *Business Statistics* supplement contains the historical record of these series; it is probably the most comprehensive and indispensable reference book on economic data published, since it contains a detailed description of the nature and sources of each of the major business indicators.

Appearing regularly, in addition to quarterly and annual articles interpreting the business situation in the light of national income statistics, are

articles on State income, size distribution of income, and indebtedness, special analyses of such subjects as wages, profits, and investment.

OBE also compiles, publishes, and analyzes data on the balance of payments of the United States. This is a systematic account of total payments of the United States to foreign countries and of receipts from foreign countries. The work is performed within the United States Government only by the OBE and has been carried on here since its inception in 1922. In addition to making possible an integrated set of accounts, many of the data used in the compilation of the balance of payments (for example, those on foreign investments of private American business) in themselves have a special interest and hence are frequently provided in more detail than needed for balance of payments work.

OBE is the only source of data on American private direct investments abroad, foreign direct investments in the United States, and income derived or paid from such direct investments. From time to time complete surveys and special investigations are conducted to obtain more comprehensive and specialized data than are usually collected.

Accomplishments in Fiscal 1957

Fiscal 1957 was the first year during which the annual rate of the gross national product exceeded \$400 billion in each quarter. With the economy operating at such a high level after a steep ascent from the beginning of fiscal 1955, economic analysts paid increasingly close attention to OBE's business indicators. A rising tide of requests for more detailed or new information corollary to OBE's normal output has been experienced in recent years.

The national income and product figures compiled by the Office of Business Economics provide the most comprehensive information available on the progress of the national economy. The various national income and product accounts provide the framework for analyses of economic conditions by economists in business, Government, and research organizations.

The reception given to OBE's publications indicates the success of its efforts to meet the needs of the business community. In September 1956 a significant article on Regional Trends in Retail Trade was published in the *Survey*. The following two issues presented extensive materials on the financing of corporate investment and the nature of investment in manufacturing enterprise since 1929. These special articles were in addition to the normal content of business review, special analyses of significant recent developments, and 40 pages of business statistics each month.

The publication in the November 1956 *Survey* of one of OBE's recurrent studies of incomes of various professional groups, that on income of lawyers, resulted in the sale of thousands of reprints. A January 1957 article, "The Role of U. S. Investments in the Latin American Economy" also was widely distributed and was reproduced in Spanish. The complete

report on this subject, the result of a major inquiry undertaken by OBE's Balance of Payments Division, is to be issued as a joint project of the Departments of Commerce and State.

The highly detailed *Personal Income* supplement to the *Survey*, showing income by States since 1929, was released in March. This volume gives a detailed annual record of the changes in individual income over the period, with analysis of the income flows, and complete explanations of the concepts and statistics underlying the data.

The Annual Review Number, issued in February, contained a thorough account of changes in the principal segments of the domestic economy during calendar 1956. This was followed in March by an article detailing changes in the United States balance of international payments over the same period. The March issue also featured one of the major bodies of anticipatory statistical data available to business, the OBE-SEC series on private business estimates of its anticipated capital outlays—in this case covering the entire year 1957. The showing that business expected to spend more than \$37 billion for new plant and equipment in 1957, 6½ percent above the amount spent in the record year of 1956, exercised a buoyant effect upon business sentiment.

"A New Look at Production Growth Rates" was the title of an April 1957 *Survey* article which sold out that issue in short order. The analysis was based upon production data compiled for 288 products and services, the record in most cases going back to 1929.

Articles published in May and June 1957 were concerned with such varied subjects as the pattern of buying of consumer goods, changes in the debt structure of the Nation, the trend of United States exports and imports, changes in the composition of the national output since 1929, the reasons for variation in the realization of investment plans, and expenditures by American residents for foreign travel.

By the end of the year the Current Business Analysis Division had completed its work on the 1957 biennial edition of *Business Statistics*, a 344-page publication showing more than 2,600 individual business indicators for the entire period since 1929. Here will be found a convenient arrangement of data on significant economic indicators, including the national income accounts, new plant and equipment expenditures, business sales, inventories and orders, industrial production, new construction activity, farm income and marketings, and employment and earnings. For a wide selection of individual commodities, data will also be found on production, consumption, stocks, and prices. Keyed to each page of statistics in this new volume is a section of explanatory notes. These furnish information essential to the proper use of the data—for example, fundamental concepts, adequacy of samples, methods of collection, and definitions of statistical units employed.

The major purpose of OBE is the provision of economic data of use to the business community both in current operations and in program determina-

tion. Such materials also are essential to Government agencies engaged in any activities affecting business, and OBE thus provides advisory services not only to other agencies within the Department of Commerce but also to the Council of Economic Advisers and many other units of the Federal Government.

Work To Be Undertaken

An urgent need has long existed for more extensive information on the detailed aspects of the national income and product accounts. Primary objectives require concentration on such projects as consumer expenditures, capital investment, functional classification of Government expenditures, and preparation of the gross national product in constant dollars including quarterly estimates, together with establishment of separate saving-investment accounts for major groups to facilitate analysis of business investment and its determining factors.

The Office of Business Economics has scheduled for publication in fiscal year 1958 a new edition of the *National Income* supplement, last published in 1954. The income and product accounts will be revised to incorporate new data sources that have become available in connection with the various 1954 censuses and other statistical revisions such as the Department of Agriculture revision of farm income and related series. To the extent possible, the new edition will take into account recommendations from business, Government, and other users, and will thus provide an even better picture of the record performance of business in its many facets.

Information on the business population is provided on a regular semi-annual schedule. The current series provides a guide to the size of the business population by major industry groups and the changes from business starts and discontinuances. It is a vital measure of business health.

BUREAU OF THE CENSUS

The Bureau of the Census collects, compiles, and publishes statistics on the Nation's social and economic resources. The fields covered in Census programs are authorized through basic legislation. Complete censuses of population, housing, agriculture, governments, and selected segments of industry and trade are conducted at specified intervals. Current surveys in these fields provide interim and up-to-date measures of conditions and trends. The Bureau also compiles and publishes in monthly and annual reports the official statistics on foreign trade of the United States. In addition, the Bureau functions as the principal statistical service agency for the Federal Government, performing a variety of collection and tabulation assignments for defense and other agencies.

Important activities during fiscal 1957 were the 1956 national housing inventory, the 1957 Census of Governments, and the processing and publi-

cation of the final and detailed results of the 1954 Censuses of Agriculture, Business, Manufactures, and Mineral Industries. Improvements in collection and processing techniques and gains in time schedules for release of figures have increased the usefulness of Census Bureau data for Government, business, and the general public.

Groundwork and planning for censuses soon to be taken were well under way by the end of the year. These complete canvasses to be conducted in 1959 and 1960 will cover business, manufactures, and mineral industries for 1958; and population, housing, agriculture, irrigation, and drainage for 1960.

The current statistics programs of the Bureau continued to provide measures of status and change in population, including employment and unemployment, volume of domestic and foreign trade, industrial production, and State and local government finances and employment. The Bureau also continued to furnish, on a reimbursable basis, many types of special data and services to defense and other Government agencies, to business firms, and to individuals.

Major Census Programs

Advance reports of the 1957 Census of Governments were published as various phases of this census were completed. Detailed results of the 1954 Censuses of Agriculture, Business, Manufactures, and Mineral Industries were issued in separate series of area, industry, and subject bulletins. Based on the results of the 1954 economic censuses, special tabulations were being made to relate statistics for enterprises to the statistics for the separate establishments of which they are composed. These tabulations will present size distributions of enterprises and the spread of their activities among different industries.

Final results of the censuses of business and manufactures for Puerto Rico, conducted for 1954 in cooperation with the Government of the Commonwealth, were also issued.

CENSUS OF GOVERNMENTS.—Advance reports of the 1957 Census of Governments, the first taken since 1942, provided figures on the number of governmental units by type and by State, including the number of school-district and special district governments; and on the number and percentage distribution of locally assessed taxable real properties, by type of property and by State. Progress was made on the compilation of data to be published on a broad range of topics in four basic fields: Property values, government employment, government finances, and governmental units and structure.

CENSUS OF BUSINESS.—Final area bulletins were published for individual States and the District of Columbia, the United States, and Alaska and Hawaii in each of the three trade fields—retail, wholesale, and service—presenting data for counties and principal urban places. A subject bulletin

series in each trade field was also issued, including such subjects as sales or receipts size, employment size, establishment unit-size, and legal form of organization. The central business district bulletin series, a new feature, presented figures for the downtown business centers of 95 large metropolitan areas. This series measures shifts and changes from 1948 to 1954 in retailing and selected service trades between the downtown business centers of cities and suburban areas.

CENSUS OF MANUFACTURES.—The series of 81 separate industry bulletins presenting final and detailed statistics for each of the approximately 460 different manufacturing industries was completed. Also completed were individual State bulletins presenting final figures for counties and urban places. The subject bulletin series presenting detailed figures on such items as inventories, new capital expenditures, fuels and electric energy, industrial water use, and materials consumption, was well under way before the end of the year.

CENSUS OF MINERAL INDUSTRIES.—The series of final bulletins for industries or groups of industries presenting detailed statistics from the minerals census was nearing completion at the end of the year. Preparation of data for the final area bulletins was also going forward.

CENSUS OF AGRICULTURE.—The area and subject volumes of the agriculture census were published early in the fiscal year, and the series of special reports comprising the remaining volume of this census was virtually complete by year's end. The special reports, some of which are cooperative efforts with the United States Department of Agriculture, cover such subjects as farmers' expenditures, size of operation by type of farm, use of fertilizer and lime, farmers and farm production, irrigation in humid areas, farm mortgage debt, and rankings of agricultural counties.

PLANNING FOR FUTURE CENSUSES.—Planning for the 1958 economic censuses and the 1960 censuses of population, housing, and the agricultural fields has included consideration of the more extensive use of electronic equipment in tabulation, the use of new enumeration and processing procedures eliminating use of punchcards, and the greater use of sampling to provide some of the census data.

The Current Program

The current program of the Bureau of the Census continued to reflect the economic and social growth of the Nation in the regularly published statistics on population, employment and unemployment, housing, agriculture, retail and wholesale trade, manufactures, foreign trade, and government finances and employment. Continued emphasis on timeliness and precision was characteristic of current program operations.

AGRICULTURE.—Reports on cotton ginning were released at dates specified by law. The report on cotton crop acreage, yield, and condition was issued in cooperation with the United States Department of Agriculture. The

two annual bulletins on cotton production and distribution were issued on schedule.

BUSINESS.—The annual retail trade report for 1955 was published early in the fiscal year. The monthly retail trade reports, including the advance reports of retail sales (published 10 days after the close of each month), were continued, as was the monthly wholesale trade report on sales and inventories. The reports on stocks of selected canned foods were issued as of five reporting dates during the marketing season. The quarterly survey of reconditioned steel barrels was continued, while the survey of green coffee inventories and roastings was changed from an annual to a semiannual basis.

FOREIGN TRADE.—Effective July 1956, the amount of statistical detail shown in reports on United States exports was restored to the level in effect prior to January 1956. This restoration was made possible by the provision of additional funds to handle the greater volume of export declarations. In addition to the regular series of United States foreign trade reports on exports, imports, and shipping, 245 special recurrent monthly reports and 81 special reports for specified periods were prepared for individual subscribers on a cost basis.

GOVERNMENTS.—The regular series of current reports on State and local governments covered public finance (revenues, expenditures, debt, and financial assets), and public employment (number of employees and amount of payroll). An annotated listing of nonrecurrent reports entitled *State and Local Governments Special Studies of the Bureau of the Census Since 1938* was made available.

HOUSING.—The 1956 national housing inventory, conducted in December, is the first attempt to measure the Nation's housing supply since the 1950 Census of Housing. For the Nation as a whole and for each of nine metropolitan areas, the inventory will show the number and characteristics of dwelling units in existence, as well as gains and losses through new construction, conversion, and withdrawals since 1950.

Current statistics on housing include quarterly data on vacancy rates and condition and characteristics of available housing vacancies. This information is presented for the country as a whole, for aggregate urban and rural areas, and for aggregate areas inside and outside standard metropolitan areas. Data on rental and vacancy characteristics of housing for local areas result from special sample surveys conducted from time to time.

INDUSTRY.—A preliminary summary of the results of the 1955 annual survey of manufactures, in which a number of technical changes and improvements were introduced, was published before the end of the year.

Reports in the *Facts for Industry* series, providing current estimates on commodity production and shipments were continued. This program was expanded over the previous year's level to include, among other

commodities, reports on rubber, red cedar shingles, petroleum products, dry cell batteries, flashlight cases, vending machines, and water conditioning equipment.

POPULATION.—The expansion of the sample for the current population survey (from the former 230 areas to the present 330 and from the former number of 21,000 households interviewed monthly to 35,000) has improved the quality of the monthly data on the labor force, as well as the statistics on population characteristics and income. The regular program of current population estimates, providing monthly figures for the United States and annual estimates by States, was continued. Annual estimates of the farm population and of the total population by age, color, and sex, and projections of the population by States for 1960, 1965, and 1970, were also prepared. Current figures on such population characteristics as mobility, school enrollment, marital and family status, fertility, and income were also published.

Defense and Other Special Work

The Bureau of the Census continued to act as the principal collecting and compiling agency for the Business and Defense Services Administration. Other services were provided for the Office of Defense Mobilization, the Industry Evaluation Board, the Department of Defense, the Federal Civil Defense Administration, and other agencies.

The Bureau developed procedures and techniques for the National Health Survey, which it will conduct annually for the Public Health Service, Department of Health, Education, and Welfare. This survey of a sample of 45,000 households will provide data on immunization status, prevalence of certain diseases and ailments, and related health facts.

Numerous special tabulations and compilations of other data from census records were supplied at cost to other Government agencies, business firms, trade associations, and individuals.

At the request and expense of the communities involved, the Bureau conducted special censuses of 354 local areas, an increase over the 227 such censuses conducted the previous year. Of this total, 118 areas were cities, towns, and villages in the State of New York, accounting for about three-fourths of the population of the State.

International Statistics Programs

The Bureau of the Census increased its technical assistance to foreign governments to improve their census and statistical services, under programs sponsored by the Department of State, the International Cooperation Administration, the United Nations, and the Population Council. A total of 326 foreign census and statistical personnel representing 54 countries visited the Bureau for brief periods and observed operations and methods. Thirty-nine foreign technicians, representing 16 countries,

spent three or more months receiving intensive instruction in United States census methods.

Under the technical assistance program, 14 Bureau of the Census experts were assigned as consultants to foreign governments. They supplied census and technical guidance to Cuba, Honduras, Iran, Pakistan, Peru, the Philippines, Uruguay, and Viet-Nam.

The Bureau of the Census continued to collaborate with other countries of the Western Hemisphere in planning for the 1960 Census of the Americas.

The Foreign Manpower Research Office continued its studies and analyses of international population and manpower.

Other Activities

SPECIAL PUBLICATIONS.—Four additional volumes in the 1950 Census Monograph Series, prepared cooperatively with the Social Science Research Council, were published during the year. These analytical studies were *Immigrants and Their Children, 1850-1950*; *Social Characteristics of Urban and Rural Communities, 1950*; *American Families*; and *American Housing and Its Use: The Demand for Shelter Space*. Other monographs nearing completion at the end of the year will bring the total of such 1950 Census studies to 11.

Work on the revision of *Historical Statistics of the United States*, which will cover the period from colonial days to 1957, progressed during the year to a stage that indicates a mid-1959 publication date. This work is also a cooperative effort with the Social Science Research Council.

Two documents in the series of Bureau of the Census Working Papers dealt with the more important applications of sampling made in the 1950 censuses of population and housing and the experience gained therefrom, and presented results of a study showing the effect of sampling, in a decennial census, on selected population and housing statistics for census tracts.

The 1956 edition of the *Statistical Abstract of the United States* came off the press early in the fiscal year, again beating past publication records. The *County and City Data Book, 1956*, a supplement to the *Statistical Abstract*, brings together a selection of basic information for small areas from the 1954 censuses of agriculture, business, manufactures, and mineral industries, from other Census records, and from outside sources. The 1956 edition of *County Business Patterns*, presenting figures on employment and payrolls for establishments covered by the Old-Age and Survivors Insurance program, was in preparation.

A survey of transportation and distribution of products of the canned fruits and vegetables industry represents a noteworthy advance in the problem of developing needed information concerning the national transportation and distribution situation.

The *Catalog of United States Census Publications*, with its subject and geographical indexes to the contents of all Bureau publications, continued to

be a useful data-finding medium as evidenced by its 50 percent increase in paid subscriptions during the year.

MECHANICAL AND TECHNICAL OPERATION.—Research and development were directed toward improvement in various components of the Bureau's tabulating system. Arrangements were made for the purchase of a late model electronic computer for delivery early in the fiscal year 1958 and for acquiring another later. These will replace the Bureau's present equipment in time to meet a large part of the tabulating requirements for the 1958 and 1960 censuses.

PERSONAL CENSUS RECORDS.—Applications received and processed for personal information to establish proof of age or citizenship from Census records totaled 230,000, an increase of 43 percent over the previous year. A still further increase in the demand for this service may be expected in the future as a result of changes in the Social Security Act.

Inland Waterways Corporation

The liquidation of the affairs of the Inland Waterways Corp., since the sale of its physical facilities and operating rights as of June 30, 1953, has proceeded essentially without incident.

Federal Barge Lines, Inc., the purchaser, which is a subsidiary of St. Louis Shipbuilding and Steel Co., has met its payments on the principal of \$9 million through June 30, 1957, at which time the balance was \$7,356,000. The accrued interest paid in as of that date, at 3¼ percent, was \$1,255,050. In settlement of claims and suits, there is reasonable expectation of favorable results; however, the speed at which settlements will be reached is problematical.

At time of sale, the Inland Waterways Corp. retained as assets two loans to municipalities. The Board of Dock Commissioners at New Orleans, La., made final payment in fiscal 1957, and it is expected that the remaining loan will be liquidated by 1959.

The operating deficit which existed at the time of sale is currently being reduced by approximately \$250,000 annually. The accrued interest is reduced by \$15,000 annually through repayments of principal. At the end of 1957, the original investment of \$27.3 million had been restored to \$12.1 million, from the low net of \$10.9 million in 1954.

The purchaser, despite financing costs, has continued the program of rehabilitating the water line. Its financial statements indicate a reasonable return on investment.

Appendix

ORGANIZATION AND PROGRAM CHRONOLOGY

- 1903—The Department of Commerce and Labor was created by the act of February 14 (32 Stat. 826; 5 U. S. C. 591). It consisted of the Office of the Secretary, eight bureaus (Corporations, Labor, Census, Statistics, Fisheries, Navigation, Immigration, and Standards), the Lighthouse Service, the Lighthouse Board, the Coast and Geodetic Survey, and the Steamboat-Inspection Service. The Bureau of Manufactures was authorized but not organized.
- 1904—The Bureau of Manufactures was organized in February.
- 1906—The Bureau of Immigration was changed to the Bureau of Immigration and Naturalization by the act of June 29 (34 Stat. 596).
- 1910—The Lighthouse Board was abolished and the Bureau of Lighthouses was established within the Lighthouse Service by the act of June 17.
- 1912—The Children's Bureau was created by the act of April 9 (37 Stat. 79). The Bureau of Foreign and Domestic Commerce was created and the Bureaus of Manufactures and Statistics were consolidated with the Bureau of Foreign Commerce of the State Department, by the act of August 23 (37 Stat. 407).
- 1913—The Department of Labor was created by the act of March 4 (37 Stat. 737; 5 U. S. C. 616). To this Department were transferred the Bureau of Labor (thereafter called the Children's Bureau) and the Bureau of Immigration and Naturalization. The remaining functions of the Department of Commerce and Labor were assigned by this act to the Department of Commerce.
- 1915—The Bureau of Corporations was merged March 16 with the Federal Trade Commission, an independent agency.
- 1925—The Patent Office was transferred from the Department of Interior to the Department of Commerce by Executive order of April 1 in accordance with the act of February 14, 1903 (32 Stat. 830).
The Bureau of Mines was transferred from the Department of Interior to the Department of Commerce (Executive Order 4239 of June 4).
- 1926—A Federal policy on commercial aeronautics was established by the act of May 20 (44 Stat. 568), placing the administration of commercial aeronautics under the Department of Commerce. The Aeronautics Branch was created within the Department.
- 1927—Creation of the Federal Radio Commission (which after 1 year's operation would have some of its powers transferred to the Department of Commerce) was provided for by the act of February 23 (44 Stat. 1162).
The Radio Division of the Department of Commerce was created February 26 in the Office of the Secretary.
- 1931—The Federal Employment Stabilization Board was created February 10 to plan and regulate construction of public works to assist in preventing unemployment during business depressions (46 Stat. 1085).
- 1932—Consolidation of the Bureau of Navigation with the Steamboat Inspection Service was provided for by the act of June 30 (47 Stat. 415), effective August 1, under the name Bureau of Navigation and Steamboat Inspection.
The Radio Division was abolished and its functions and responsibilities were transferred to the Federal Radio Commission (Executive Order 5892 of July 20).

- 1933—Functions of the United States Shipping Board were transferred to the Department of Commerce and the Board was abolished (Executive Order 6166 of June 10).
The Business Advisory and Planning Council was organized June 26 under the authority of the organic act by which the Department of Commerce was created (37 Stat. 737; 5 U. S. C. 616).
The United States Shipping Board Bureau was established August 9 in the Department.
- 1934—The Federal Employment Stabilization Board was abolished and the Federal Employment Stabilization Office established in the Department of Commerce (Executive Order 6623 of March 23).
Transfer of the Bureau of Mines to the Department of Interior was authorized effective April 23 (Executive Order 6611 of February 22).
The Aeronautics Branch was renamed the Bureau of Air Commerce July 1.
- 1935—The name of the Business Advisory and Planning Council was changed to the Business Advisory Council April 11.
- 1936—The Bureau of Navigation and Steamboat Inspection was renamed the Bureau of Marine Inspection and Navigation May 27.
Transfer of the United States Shipping Board Bureau to the United States Maritime Commission was authorized by the act of June 29 (49 Stat. 1985), effective October 26.
The Bureau of Air Commerce assumed entire responsibility for airway traffic control July 6.
- 1938—The Bureau of Air Commerce was transferred August 22 to the Civil Aeronautics Authority, created under the Civil Aeronautics Act of 1938 (52 Stat. 973; 49 U. S. C. 401).
- 1939—The Federal Employment Stabilization Office was abolished and its functions transferred July 1 to the National Resources Planning Board by section 4 of Reorganization Plan No. I (53 Stat. 1423).
The Bureau of Lighthouses (Lighthouse Service) was transferred to the Department of the Treasury by section 2 of Reorganization Plan No. II (53 Stat. 1431). This Plan also transferred the Inland Waterways Corporation to the Department of Commerce (sec. 6), the Bureau of Fisheries to the Department of the Interior (sec. 4E), and the Foreign Commerce Service to the Department of State (sec. 1).
- 1940—The Weather Bureau was transferred June 30 from the Department of Agriculture to the Department of Commerce and the Civil Aeronautics Authority (including the Office of the Administrator of Civil Aeronautics and the Air Safety Board) from its independent status to the Department of Commerce. The Authority was comprised of the Administrator of Civil Aeronautics and the Civil Aeronautics Board.¹ The Board absorbed the function of the former Air Safety Board. These actions were authorized by sections 7 and 8 of Reorganization Plan IV (54 Stat. 1234).

¹ The Administrator of Civil Aeronautics was placed under the direction and supervision of the Secretary of Commerce. The Board was directed to exercise its functions of rulemaking, adjudication and investigation independently of the Secretary. Its management functions, however, were to be performed through facilities designated by the Secretary.

That part of the Civil Aeronautics Authority under the direction and supervision of the Administrator of Civil Aeronautics was designated as the Civil Aeronautics Administration (Department of Commerce Order No. 52 of August 29).

1942—The Bureau of Marine Inspection and Navigation was transferred to the Department of the Treasury (Executive Order 9083 of March 1).

1945—The Office of Surplus Property was transferred from the Department of the Treasury to the Department of Commerce (Executive Order 9541 of April 19).

The Office of Surplus Property was established (Department of Commerce Order No. 359 of May 1).

The Office of Civilian Defense was transferred to the Department of Commerce (Executive Order No. 9562 of June 4).

The Office of Civilian Defense Property was established (Department of Commerce Order No. 372 of June 21).

The Office of Declassification and Technical Services was established in the Office of the Secretary (Department of Commerce Order No. 386 of September 18).

Part of the Foreign Economic Administration was transferred September 27 to the Department of Commerce and liquidated.

The Office of International Trade Operations was established (Department of Commerce Order No. 389 of October 1).

The Office of Surplus Property was transferred to the Reconstruction Finance Corporation (Executive Order 9643 of November 5).

Reorganization of the Bureau of Foreign and Domestic Commerce and the Office of International Trade Operations resulted in the establishment of the Office of International Trade, Office of Small Business, Office of Domestic Commerce, Office of Field Operations, and Office of Business Economics, all within the Bureau of Foreign and Domestic Commerce (Department Order 10 of December 18).

1946—The Office of Production Research and Development was transferred from the Civilian Production Administration to the Department of Commerce (Executive Order 9673 of January 3). It became the Production Research and Development Division of the Office of Declassification and Technical Services (Department Order 22 of January 3).

Part of the Smaller War Plants Corporation was transferred to the Department of Commerce for liquidation (Executive Order 9665 of January 28).

The Office of Civilian Defense Property was terminated (Department Order 33 of April 1).

The Office of Declassification and Technical Services was redesignated as the Office of Technical Services (Department Order 5, Amendment 1 of July 1).

1947—Parts of the former Office of Price Administration, Office of War Mobilization, and Civilian Production Administration were transferred to the Department of Commerce (Executive Order 9841 of April 23).

The Office of Materials Distribution was established within the Bureau of Foreign and Domestic Commerce to carry out the functions transferred by Executive Order 9841 of April 23 (Department Order 69 of May 4).

The Division of Liquidation was established to liquidate the activities of the wartime agencies transferred to the Department (Department Order 75 of June 1).

- 1948—The Office of Industry Cooperation was established to administer the voluntary agreements program pursuant to Public Law 395, 80th Congress (Department Order 96 of January 22).
 The Appeals Board for the Bureau of Foreign and Domestic Commerce was established (Department Order 106 of January 28).
 The Office of Materials Distribution was transferred to the Office of Domestic Commerce (Department Order 18, Amendment 1 of May 7).
 The Office of Small Business was transferred to the Office of Domestic Commerce (Department Order 18, Amendment 2 of June 30).
- 1949—The Hoover Commission reported March 1 to the Congress its recommendations concerning reorganization of the Department of Commerce.
 The Public Roads Administration was transferred August 20 from the Federal Works Agency to the Department of Commerce by Reorganization Plan No. 7 (5 U. S. C. 630b, Note). Its name was changed to the Bureau of Public Roads.
 The Office of Industry Cooperation and the voluntary agreements program were terminated (Department Order 110 of September 30).
- 1950—The Government Patents Board was created and attached to the Department of Commerce for housekeeping purposes only (Executive Order 10096 of January 23).
 The Federal Maritime Board² was established in the Department of Commerce, the Maritime Administration created as an agency in the Department, and the United States Maritime Commission abolished by Reorganization Plan No. 21 (5 U. S. C. 170) (Department Order 117 of May 24).
 The Office of Industry and Commerce was established; the Office of Domestic Commerce was abolished and its functions transferred to the new office; the industry-commodity units of the Bureau of Foreign and Domestic Commerce were consolidated in the Office of Industry and Commerce; the responsibilities of the Office of International Trade relating to commodities, export control, transportation, and communications were transferred to the Office of Industry and Commerce (Department Order 18, Amended, of October 5).
 The National Production Authority was created pursuant to the act of September 8 (64 Stat. 798; 50 U. S. App. Sup. 2061) and Executive Order 10161 of September 9 (Department Order 123 of September 11).
 The Advisory Committee on Export Policy was established (Department Order 125 of October 5).
 The Office of Transportation and the Transportation Council were established (Department Order 128 of November 20).
- 1951—The Industry Evaluation Board was established (Department Order 129 of January 10).
 The National Shipping Authority was created in the Maritime Administration (Department Order 117, Amended, of March 13).
 The loan guarantee program was established in the Department pursuant to the Defense Production Act of 1950 and Executive Order 10161 of September 9, 1950 (Department Order 132 of June 29).
 The Defense Air Transportation Administration was created pursuant to Executive Order 10219 of February 28 (Department Order 137 of November 12).

² The Board exercises its rulemaking, regulatory, investigative, and control functions independently of the Secretary of Commerce.

- 1952—The Office of Distribution was created to foster better distribution so that production and employment could be maintained on the decline of defense production (Department Order 145 of October 1).
- 1953—The Office of Transportation was abolished (Department Order 128, Amended, Amendment 1 of March 30) and its work thereafter focused directly in the Office of the Under Secretary for Transportation.
The Inland Waterways Corporation was sold July 1 to the Federal Barge Lines, Inc.
The Appeals Board was transferred from the Bureau of Foreign and Domestic Commerce to the Office of the Assistant Secretary of Commerce for Administration (Department Order 106, Amended, of August 18).
Four weaponry divisions and the Corona Laboratories of the National Bureau of Standards were transferred to the Department of Defense pursuant to a memorandum of understanding between the Secretary of Commerce and the Secretary of Defense (18 F. R. 5713, September 27).
The Business and Defense Services Administration was established. Transferred to BDSA were: Office of Field Service, Office of Technical Services, Office of Distribution, Office of Industry and Commerce, and Industry Evaluation Board. The National Production Authority was abolished. These actions were taken under Department Order 152 of October 1.
The Bureau of Foreign Commerce was established and transferred to it were the functions of the Office of International Trade, which was abolished (Department Order 153 of October 12).
The Office of Business Economics was established as a primary organization unit of the Department (Department Order 15, Amended, of December 1).
(NOTE.—Through Department Orders 152, 153, and 15, Amended, functions of the Bureau of Foreign and Domestic Commerce were absorbed by the Business and Defense Services Administration, Bureau of Foreign Commerce, and the Office of Business Economics.)
- 1954—The Office of Strategic Information was established (Department Order 157 of November 1).
- 1955—The Office of International Trade Fairs was established (Department Order 159 of January 27).
- 1956—A National Defense Executive Reserve unit was established in the Department pursuant to Executive Order 10660 of February 15 (Department Order 163 of May 16).
Appropriations for major expansion of the Federal-aid highway system, administered by the Bureau of Public Roads, were authorized June 29 by the Federal-Aid Highway Act of 1956 (70 Stat. 374).
The Office of Area Development was established (Department Order 164 of August 10).
- 1957—The Office of Strategic Information was abolished (Department Order 157 (Amended) Revocation Notice of July 1, 1957).
Functions and personnel of the Alaska Road Commission were transferred from the Department of the Interior to the Department of Commerce pursuant to the Federal-Aid Highway Act of 1956 and memorandum of agreement, between the two Departments, effective September 16.

SECRETARIES OF COMMERCE AND LABOR AND OF COMMERCE

	<i>Tenure</i>	
	<i>Begun</i>	<i>Ended</i>
<i>Commerce and Labor:</i>		
George B. Cortelyou.....	Feb. 18, 1903	June 30, 1904
Victor H. Metcalf.....	July 1, 1904	Dec. 16, 1906
Oscar S. Straus.....	Dec. 17, 1906	Mar. 5, 1909
Charles Nagel.....	Mar. 6, 1909	Mar. 4, 1913
<i>Commerce:</i>		
William C. Redfield.....	Mar. 5, 1913	Oct. 31, 1919
Joshua W. Alexander.....	Dec. 16, 1919	Mar. 4, 1921
Herbert Hoover.....	Mar. 5, 1921	Aug. 21, 1928
William F. Whiting.....	Aug. 22, 1928	Mar. 4, 1929
Robert P. Lamont.....	Mar. 5, 1929	Aug. 7, 1932
Roy D. Chapin.....	Aug. 8, 1932	Mar. 3, 1933
Daniel C. Roper.....	Mar. 4, 1933	Dec. 23, 1938
Harry L. Hopkins.....	Dec. 24, 1938	Sept. 18, 1940
Jesse H. Jones.....	Sept. 19, 1940	Mar. 1, 1945
Henry A. Wallace.....	Mar. 2, 1945	Sept. 20, 1946
W. Averill Harriman.....	Oct. 7, 1946	Apr. 22, 1948
Charles Sawyer.....	May 6, 1948	Jan. 20, 1953
Sinclair Weeks.....	Jan. 21, 1953

