

and other emergency services. In brief, these services embrace practically all radio usage which is neither broadcasting nor, for the most part, open for hire to the general public. Licenses in these services as of April 4, 1968, total approximately 1,700,000.

These services include some of radio's oldest functions. Marine disasters proved radiotelegraphy to be an effective aid to ocean rescues, as well as for speedy ship-to-ship and ship-to-shore communication. The early use of radio direction-finders further established the value of radio for navigation and safety at sea. Two world wars have accelerated the growth of radiocommunication and radio-location. Present-day uses, both in number and variety, are far in excess of anything envisioned 10 or 15 years ago.

*Aviation radio services.*—Aeronautical radio is vital to the protection of life and property in the air, and to an adequate system of navigational aids on the ground and aloft. The necessity of radio for aircraft operation is shown not only because it is legally required for airlines and for aircraft flying into certain controlled airports, but also by the large number of voluntary installations by private aircraft operators. The Aviation Services license and regulate non-governmental aircraft radio stations and more than a dozen distinct categories of related land-radio operations.

*Marine radio services.*—The Maritime Mobile Service employs radiotelephone and radiotelegraph. Broadly speaking, maritime radio uses may be divided into those (a) required by law for safety purposes, (b) voluntary on the part of ship owners (combining safety with other purposes, such as navigation and commerce), and (c) available for public correspondence. All radio stations on ships of U.S. registry (other than most Government stations) are licensed by the Commission. Radio stations on vessels communicate with other ships and with coast stations to transmit and receive signals and messages relating to safety of life and property and to assist navigation. In turn, coast stations transmit reports on weather and hazards to navigation. Ships may also communicate with aircraft. Many shipboard stations transmit and receive messages for passengers and crew.

*Public safety radio services.*—These services are available, primarily, to governmental agencies directly concerned with the public welfare. The Police Radio Service, the oldest of these services, serves municipal, county, and State police departments. It furnishes communication between police land stations and mobile units, including police aircraft and police ships. Even the foot patrolman is part of this network when provided with a portable transmitter-receiver combination. The Fire Radio Service plays an important role in the prevention and control of fires by maintaining contact between fire headquarters and fire-fighters. The Local Government Radio Service permits municipalities to transmit communications essential to their official activities, including civil defense. The Highway Maintenance Radio Service provides communication primarily between base stations and mobile units, and between the latter. Base stations may communicate with each other on a secondary basis. Special Emergency Radio Service authorizations are issued to hospitals; ambulance or rescue squad operations; medical schools and doctors, including veterinarians; disaster relief organizations, such as the Red Cross; school buses, and beach life-saving patrols.

*Industrial radio services.*—The industrial radio group represents a new tool in the national economy. Savings are made in time spent by employees on certain projects and in the ability to summon assistance to trouble spots before they become serious. Radical changes in operating procedure have been brought about by the utilization of radiocommunication. For example, a radiocommunication system eliminates the need for holding a fleet of repair trucks at base for emergency use. With radio, trucks can be dispatched on routine assignments, and in an emergency they can be rerouted to the scene more rapidly than otherwise possible.

*Land transportation radio services.*—These services provide radiocommunication for railroads, motor carriers, taxicabs, and automobile emergency usage. Radio increases railroad efficiency and economy. The Motor Carrier Radio Service is employed for contact between terminals and buses and trucks operating on the streets or highways. The Taxicab Radio Service is used to direct the movement of vehicles (not for communication by passengers) which increases the efficiency of taxicab operations. The Automobile Emergency Radio Service is used by automobile associations and garages to enable the rapid dispatch of tow trucks and other service vehicles.