COLONY AND PROTECTORATE OF KENYA

NAIROBI AIRPORT ANNUAL REPORT 1960

Three Shillings - 1961

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INTRODUCTION

Review of the Year

The year 1960 was an eventful one in the short history of the Airport. In mid-July, the airlift of thousands of refugees from the Congo commenced, whilst in October, Boeing 707 jet aircraft began operations through the Airport, to be followed in November by Douglas D.C. 8 aircraft. Services by these 310,000 lb. heavy jets are now so much a feature of the daily life of the Airport, that the sight of two of these aircraft side by side on the parking apron, is no longer a novelty. During the year, the Airport provided facilities for the storage and airlift, by R.A.F. transport aircraft, of tents, supplies and materials to Mauritius, following the devastation caused in the island by a hurricane. In October, a Boeing 707 aircraft was forced to make a wheels-up landing, fortunately, without injury to its passengers and crew. The lifting and removal of this aircraft exercised to the full the skill, ingenuity and energy of those taking part in the task.

Further improvements were made to the Airport's amenities during the year. A Livestock Holding Station, for the reception of animals imported and exported by air, was completed. Considerable work was undertaken on the main parking apron to provide parking bays capable of satisfying the needs of heavy jet aircraft; their fuel needs in quantities up to 12,000 gallons at a time is being met from a recently constructed satellite oil tank farm providing fuel through underground hydrants to the new bays. Work was begun on the construction of taxi offices, while good progress was made in the erection of a Radar Tower and the installation of an Instrument Landing system. Both these aids will be available for use in advance of the 1961 long rains. At the same time, the V.O.R. navigational aid was resited in anticipation of an extension to the runway. Planning details for the extension of the runway to 13,500 ft. to meet the needs of large jet aircraft, were completed during the year.

Following the basing of No. 208 Squadron at Nairobi Airport, and the increasing frequency of R.A.F. aircraft movements, visitors to the Airport derived considerable enjoyment from the spectacular activities created by these military aircraft.

Excluding military personnel engaged in full time duties at the Airport, the total number of staff employed by all organizations within the boundary of the Airport had risen to 2,380 by the end of the year.

Statistical data, compiled after the second full year of operation, and contained in Appendices II, IV, V, and VI, now allow comparative studies to be made. These show that, compared with 1959, there was a 69 per cent increase in aircraft movements, a 28 per cent increase in passengers handled, a 16 per cent increase in mail, and a 38 per cent increase in freight. The large rise in aircraft movements was attributable to a great extent to a very marked increase in military movements, but the increase in civil movements recorded in the last few months of 1959, compared with the same period in 1960, was continued; civil movements in 1960 exceeding the 1959 figure by 29 per cent.

PART I—WORK OF THE DEPARTMENT

(1) Operations

(*a*) General

Introduction of heavy jet aircraft with their greater carrying capacities showed that, operationally, the Airport has been able to meet all designed expectations. It is now accepted as being one of the most modern on the African routes. Its reputation has become so well established internationally, that civil aviation authorities in another continent, who are planning construction of a new Airport, have sought copies of its plans. In continuation of the policy of providing amenities and facilities for the convenience and wellbeing of passengers, airline bus and taxi stands were provided during the year, and work began on taxi offices. Within the Arrivals' Lounge an interview room was constructed, to enable important persons visiting Kenya to give interviews to members of the Press, free from distraction.

(*b*) Runway, Apron, Taxiways

Whilst no alteration or modification was made to the runway, all planning details for its extension to 13,500 ft. were finalised; meanwhile, very heavy aircraft of the Boeing 707 or D.C. 8 type are being operated on the existing runway length of 10,800 ft. Grass verges which were planted at the sides of the taxiway, to prevent ingestion of dust by the overhanging engines of jet aircraft are, with successive rains, now knitting. Two additional aircraft parking bays were constructed primarily for use by heavy jet aircraft, making a total of 13 bays. These new bays, as well as two already existing, were fitted with hydrant fuelling systems, giving a faster delivery rate of fuel. Additionally, the two new bays were wired for underground power supplies, should this form of engine starting be adopted by the Airline Companies. At present they are using mobile ground power units, or compressed air starters for this purpose. The new bays will be served with a telephone, enabling Airline staffs working on aircraft, to call any subscriber on the Nairobi Airport telephone Exchange. A hardstanding was also constructed at the South West edge of the Apron, to handle equipment for aircraft parked on the new bays.

(*c*) Aircraft Servicing

Servicing of aircraft, other than routine turn-round checks, is not normally permitted on the main parking apron, as the resultant oil fouling, noise and possible congestion, constitute an inconvenience to arriving and departing passengers. Additionally, there is the risk of damage to the tarmac surface of the apron through spillage of oil from engines under repair. To minimise the nuisance of noise and vibration on the main apron, standing instructions have been drawn up, whereby:—

(1) Aircraft engine repairs can only be undertaken on the main apron when the hangar area is overcrowded. When this is permitted, work must be carried out on parking bays most removed from the Terminal Building.

(2) During turn-round engine checks a maximum of two engine runs is permitted to each aircraft when parked on bays close to the Terminal Building. Each check must not exceed 50 per cent of full power over a period of time not exceeding 5 minutes. In the event of further checks, aircraft are required to be moved to the outer parking bays.

A subsidiary parking apron, adjacent to the hangars, workshops and Stores of East African Airways, is available for use by all aircraft operators, should the necessity for extensive maintenance or engine changes arise. The hangars and workshops of the East African Airways Corporation are equipped for servicing all types of aircraft using Nairobi Airport, and these facilities have been made available by the Corporation to other Airline Operators, when required. Extensive use was made of these facilities towards the end of the year during the reconstruction of the Boeing 707, which made an emergency wheels-up landing on 30th October, 1960.

(*d*) FUELLING

Aircraft fuel for the Airport is supplied by rail tanker cars, direct from Mombasa to a siding at the rear of the main oil tank farm, which comprises eight above ground tanks with a capacity of 733,000 gallons of fuel of all grades. From these tanks, fuel is delivered at the rate of 500 gallons per minute by underground hydrants to fuelling points on the main apron. In addition, there is a satellite farm comprising four tanks each of 16,000 gallons. This is fed from the main tank farm. The satellite supplies aviation turbine fuel (paraffin) to each of four parking bays at 1,000 gallons a minute, to enable heavy jet aircraft, uplifting nearly 12,000 gallons at a time, to turn round in a scheduled time of 45 minutes. With all 12 tanks, the Airport has a bulk storage capacity of 797,000 gallons.

(*e*) APRON SERVICES

Apron services are co-ordinated by the Government Apron Marshallers, all of whom have had an aviation background, gained either as a member of aircrew, or with the Royal Air Force. In addition to controlling all vehicle and aircraft movements on the parking apron, Apron Marshallers maintain continuous watch-keeping duties. Primarily, their task is to allocate parking bays on a basis of "first come, first served", with aircraft in transit normally being afforded priority. They record details relating to aircraft movements on a movements board, so that changing information is available to all staffs employed on the Apron. They also compile aircraft movements' records, from which charges for Airport facilities are assessed.

When not engaged on these regular tasks, Apron Marshallers supervise activities on the parking apron, to ensure that Apron services operate efficiently and that all safety precautions provided for in Airport Operations Instructions are adhered to.

(*f*) AERODROME FIRE SERVICES

One of the most important of the operational aspects of an airport is the Aerodrome fire service. The scale of equipment in use at Nairobi Airport, which will be improved when a new fire fighting vehicle is taken into use early in 1961, is as follows:—

Pyrene Foam Tenders	4
Water Tenders	2
Crash Rescue Land Rover	1
Ambulance	1
General Purpose Vehicles	2

This equipment enables the Aerodrome Crash and Fire Services to utilise 30,000 gallons of high expansive foam (delivered at 7,600 gallons per minute) and 1,000 lb. of CO_2 gas (delivered at 200 lb. per minute) immediately on arrival at the scene of an aircraft crash.

At Nairobi Airport, the Fire Station is located adjacent to the runway, where good visibility is afforded in all directions. The Station has a modern Operations Room, which is fitted with the latest fire alarm panel system, and is in contact with Air Traffic Control Tower by means of a direct telephone line and V.H.F. radio. A V.H.F. link also exists between the Control Tower, the crash rescue Land Rover, and one of the general purpose vehicles. By such means, instructions can be relayed to the Fire services, whilst on the move.

A continuous 24 hour watch is maintained. In slack periods of aircraft movements, daily continuation drills and lectures, which include familiarization of aircraft seating, fuel capacities, types of fuel, rescue points, etc., are carried out. Checks on the functioning of all vehicles and equipment are carried out at the change of each watch.

During the year, the Fire Services attended 65 minor incidents of which two only involved damage to aircraft. No injuries or loss of life were recorded.

The value of regular emergency exercises, was amply demonstrated in the early hours of 30th October, 1960, when a Boeing 707 made an emergency wheels-up landing on the runway. All 79 passengers and 13 crew were rescued within two minutes of the arrival on the scene of the Aerodrome Fire Services.

The Airport Authority wishes to record its appreciation of the willing and ready assistance given by those who responded to this and other emergency alerts.

(*g*) AIRPORT BOUNDARY

By Government Notice No. 1149 of 17th July, 1953, the Governor in Council, in exercise of the powers conferred by Section 2 of the Aerodrome (Control of Obstructions) Ordinance, declared the area of land, described in the schedule thereto, to be an Aerodrome and now known as the Nairobi Airport.

The area covers approximately, 4,380 acres, and the boundaries are more particularly delineated and edged red on Boundary Plan No. 272, a copy of which may be seen in the Survey Records Office, Survey of Kenya.

(*h*) DECLARED AREA BOUNDARY

By Government Notice No. 1150 of 17th July, 1953, the Governor in Council, in exercise of the powers conferred by Section 2 of the Aerodromes (Control of Obstructions) Ordinance, declared the area described in the schedule thereto, to be a Declared Area, within which certain building restrictions for the safety of aircraft and their occupants are applied.

The boundaries are more particularly delineated and edged red on Boundary Plan No. 273, a copy of which may be seen in the Survey Records Office, Survey of Kenya.

(*i*) THE AERODROME REGULATION ORDINANCE 1960, (NO. 39 OF 1960)

On 25th November, 1960, assent was given to an Ordinance to provide for the making of regulations for the control of aerodromes and for the enforcement of such regulations. It is anticipated that regulations made under the Ordinance in respect of Nairobi Airport, will come into force by mid-1961.

(*j*) R.A.F. USE OF NAIROBI AIRPORT

In implementation of Air Ministry policy that Nairobi Airport should become the permanent flying base for R.A.F. aircraft, either based in or in transit through Kenya, work commenced on the construction of a link road between the Airport and the R.A.F. Station at Eastleigh. The laying out of a technical and operational site to the North of the Terminal Building, was also commenced. In June, 1960, when No. 208 Squadron had converted to Hunter jet aircraft and had returned to Kenya, it was decided for operational reasons to base the Squadron at Nairobi Airport. The activities and skilful manoeuvres of its aircraft are now a daily feature of the Airport's operations. Additional to the Hunters, have been the almost daily arrival of the four engined jets of Bomber Command, Shackletons of Coastal Command and Britannias, Comets and Beverleys of Transport Command. On a number of occasions, as many as 20 R.A.F. aircraft have been parked on the Airport aprons at the same time.

(*k*) JET OPERATIONS

The pure jet era at Nairobi Airport, commenced in December, 1959, when Comet IV aircraft of B.O.A.C. were introduced on the London Johannesburgh route. These aircraft were joined in September, 1960, by Comet IV's of East African Airways Corporation, and followed shortly thereafter in October, by the Boeing 707's of South African Airways. Douglas D.C. 8's of Alitalia came into service in November. With the resulting higher speeds of the pure jets, Nairobi and Europe have been brought much closer together in time, and it is now possible to leave Nairobi in the early hours of the morning, and have breakfast in London the same day. By the end of 1961, when other International Airlines have re-equipped with jet aircraft, the majority of all passengers into and out of Nairobi Airport, will be travelling on either propeller jet, or pure jet aircraft. Moreover, by the end of 1961, when Convair Coronado jets

are introduced on the African route, passengers to and from Europe will be able to travel at Mach. 91 or 9 per cent less than the speed of sound. Indicative of things to come in the near future, is the fact that, towards the end of the year, the simultaneous arrival of two large jets meant more than 200 passengers requiring Transit Lounge facilities at the same time. Meanwhile, the Apron was a scene of great activity, as all endeavours were made to refuel and replenish the jets in their scheduled turn round time of 45 minutes. Prior to taking into use the two new parking bays with the quicker fuelling rate of 1,000 gallons a minute, large jets of the Boeing 707 and D.C. 8 types, were being turned round in an average time of 69 minutes.

(*l*) PASSENGER HANDLING

The handling of passengers is the responsibility of the individual Airline Operator concerned. To assist Companies in this respect, the Airport has provided a passenger processing area equipped with five sets of weighing scales, and five documentation counters, all connected by telephone to the Airport Exchange. In inclement weather, or when long walking distances to and from aircraft are involved, there are available for use on the Apron, two passenger trailers, each with a designed capacity for 40 passengers. With the advent of large jets, (one in December arrived and departed with 140 passengers) planning is now proceeding towards the introduction of a larger passenger trailer capable of transporting 100 passengers at one time. Arrangements exist for the transport of infirm and sick passengers, either in wheel chairs, or by ambulances proceeding direct to the aircraft.

(*m*) BAGGAGE HANDLING

Baggage handling, which is operated on an agency basis, by the East African Airways Corporation, on behalf of the Kenya Government, compares more than favourably, so far as speed is concerned, with arrangements at other international airports. This is achieved, in part, by the use of modern handling equipment, which also caters for freight handling, and includes 7 light duty electric pony trucks, of which two are new and flameproof, two heavy duty pony trucks, an electrically operated fork lift with crane attachment, and a total of 47 rubber tyred baggage and freight trailers. A modern battery charging Bay of 7 boards, provides the electrical energy for the pony trucks and the fork lift.

(*n*) AIR CARGO HANDLING

The carriage of goods by air, is now a well established aspect of civil aviation. In general, goods at Nairobi Airport are cleared to the public within 24 hours of arrival, but may, subject to prior notification having been made and the completion of certain formalities, be cleared within one hour of arrival.

Because of the speed with which they are handled, air transportation of perishable commodities is playing a vital part in furthering the export of Kenya's produce. In 1960, for example, hindquarters of beef were air freighted to the Congo, butter, eggs, vegetables and fresh fruit to Aden, and biscuits to Rhodesia. The internal market was also served with the transport of dairy products to Mombasa, Dar es Salaam, and Zanzibar. Exports of non-perishable produce included pyrethrum to the United Kingdom, Italy and France, whilst the main importers of Kenya's wild life, were the United Kingdom and the U.S.A.

On the import side, machine operators in urgent need of spare parts, farmers importing valuable livestock, and many others derived considerable benefit from the speed of air transport.

(*o*) LIVESTOCK HANDLING

Since the movement by air of valuable livestock has become a regular feature of the Airport's Operations, the need for providing modern handling facilities, in this respect, was met by the construction of a Livestock Holding Station. Facilities at this Station, which include a loading ramp, stalls with feeding troughs for farm animals, kennels for domestic animals, infra red equipment for delicate stock, such as day old chicks, are available day and night. The Station includes a quarantine section for animals which, in the opinion of the Government Veterinary Officer, might

require segregation from other stock. The provision of normal veterinary services as well as arrangements for feeding animals lodged in the Station, are undertaken by the Airline Company or Handling Agent, acting on behalf of Consignors/Consignees.

(*p*) MAIL HANDLING

Today, it is possible for any person living in Nairobi to post a letter (or football coupon) to the United Kingdom in the near certainty that it will be delivered to the addressee in about 36 hours. Such is the benefit of Air Mail. The Nairobi City Post Office, Airline Officials and the Airport Authority, follow procedures which have remained unaltered ever since the Airport opened, even though, in this time, the volume of mail to be handled, has almost doubled. These include a facility whereby the Airport Post Office despatches Air Mails direct to principal cities throughout the world, and, whereas, for numerous operational reasons, the latest times of posting at Nairobi Head Post Office is generally some three hours before the actual departure of the aircraft, a letter can be posted at the Airport Post Office, up to 30 minutes before the aircraft leaves, or up to 7.30 p.m. in the case of night departures.

(*q*) OPERATIONAL AND ADMINISTRATIVE INSTRUCTIONS

Printed instructions have been compiled and issued, governing the operation and administration of the Airport. These instructions are necessary in order to provide sound management, ensure adequate safeguards for all users of the Airport, and to maintain that degree of co-operation so essential for the efficient functioning of the Airport.

(*r*) ORGANIZED VISITS BY SCHOOL CHILDREN

By virtue of its design, amenities and function, Nairobi Airport has always been regarded as a place well worthy of a visit. Organized visits by parties of school children were a daily occurrence. Towards the end of the year, nearly 2,000 school children of all races visited the Airport each month. To meet the needs of such large numbers, conducted tours were arranged on each Monday, Tuesday, Wednesday, Thursday and Friday afternoon.

(*s*) EMERGENCY REMOVAL OF AIRCRAFT

Less than one month after the introduction of heavy jet aircraft, the Airport was faced with the problem of effecting the emergency removal of a Boeing 707 aircraft, which, when fully loaded, weighs 312,000 lb. As the aircraft was not blocking the single runway, its removal was not so urgent as otherwise might have been the case, and time allowed the collection of special lifting equipment from sources outside Kenya. In this connection, the Airport Authority wishes to record its appreciation for the assistance given by the Uganda Government. The lifting and removal of the damaged aircraft was facilitated by removing its engines, seats and other equipment, as well as by sucking out the fuel remaining in its tanks. This action reduced the weight of the aircraft to just over 100,000 lb. During the operation, which was the first of its nature outside the United States, many valuable lessons were learned, and from these it has been possible to determine a scale and type of special equipment considered essential for the emergency removal of very large aircraft.

(*t*) ITEMS OF ORNAMENTAL INTEREST AND LOCAL COLOUR

Nairobi Airport is the "front door" to Kenya, for many passengers entering the country for the first time. To introduce these visitors to the country's tourist attractions, certain items of ornamental interest and local coloour were displayed in the Arrivals' Lounge, where they attract the interest of passengers waiting to pass through Customs and Immigration formalities. Items on display included spears, shields and skins, together with a pictorial display of local peoples and scenes, and a set of buffalo horns, presented by the Royal Antediluvian Order of Buffaloes.

(*u*) AIRLIFT OF CONGO REFUGEES

Following the granting of independence to the former Belgian Congo on 1st July, 1960, law and order in that country broke down and large numbers of refugees found their way by road, rail and air to the East African Territories. Of these, some 2,450

required repatriation to Europe from Nairobi. As many as possible of this total were accommodated on schedule services, but the requirement for their air transportation occurred in the peak travel season, and only 540 could be provided for in this way. To airlift the remainder, "Operation Brussels" was mounted, with aircraft specially chartered for the purpose. Countries from which such aircraft were chartered included, the United States, Belgium, Ethiopia, Germany, Holland, Jordan, Lebanon, Sweden, Switzerland and the United Kingdom. During the operation lasting from the 15th July to 2nd August, 1,854 refugees were flown to Europe on 23 special flights. Additional to this total, were Greek and Italian nationals airlifted from Nairobi Airport, by transport aircraft belonging to the Greek and Italian Air Forces. The peak of "Operation Brussels" was reached on 26th July, when nearly 300 refugees were flown out of Nairobi Airport. Apart from the refugees originating in Nairobi, those being airlifted from Dar es Salaam through Nairobi Airport, further taxed the Airport's facilities. The suddenness of the operation imposed a number of problems, the chief of these being the unexpected demand for and resulting shortage of special aviation fuel of the 115/145 Octane grade. To conserve sufficient stocks to meet the full requirements of the schedule services requiring this grade of fuel, it became necessary, about half way through the airlift, to restrict aircraft on the operation to those using either Avtur (kerosene), or other grades of Avgas, of which the Airport held sufficient stocks. Even with the restriction in supply of Avgas 115/145, nearly 370,000 gallons of this grade of fuel were dispensed within the month, and for the first time since the Airport opened, the monthly uplift of fuel of all grades exceeded a million gallons.

(2) Business Management

(*a*) General

The overall picture from a revenue viewpoint, was most satisfactory and showed a substantial increase over 1959. This increase was not due to additional levies for services provided, but reflected a generally greater usage of the Airport and its facilities. The provision of a Livestock Holding Station, and the provision of facilities for advertising created two new revenue earning sources. It is hoped that in 1961, the establishment of a Left Luggage Office will add to existing sources of revenue.

(*b*) Accounts

This section has had a busy year. Prompt submission of Invoices and follow ups kept the arrears of revenue figure to a minimum.

(*c*) P.A.B.X.

Due to the large increase in the barring of extensions to Level 9 facilities, a heavy load has been thrown upon this Section, which is manned on the basis of automatic working in respect of calls outside the Airport to Nairobi. Despite the increased manual operation which necessitates considerable documentation, the Exchange functioned most efficiently.

(*d*) Terminal Building

Every effort is made to keep the Airport buildings and precincts in a clean and attractive condition. As the Airport functions on a 24 hour basis, this has to be achieved without interrupting the general movements of the public. Plant life, attractively dispalyed in ornamental boxes, has done much to improve the appearance of the entrance to the transit and departures lounges.

(*e*) Catering

Caterair Ltd., operate the catering concession within the Terminal Building, under contract with the Kenya Government. They cater for the needs of all Airport staff, passengers and members of the visiting public. They also provide an uplift catering service for a number of Airlines. A number of special functions have been held on the Airport premises, by organizations wishing to use this catering service.

(*f*) N.A.S. Airport Services

This firm has its own catering establishment within the Airport and provide an uplift catering service for certain Airline Operating Companies.

(*g*) WAVING BASE

Well known and internationally important personalities visited Nairobi by air on frequent occasions during the year. On some of these occasions, it was necessary to close the Waving Base, once the maximum number of visitors, dictated by safety precautions, had been reached. In 1961, when it is hoped to install turnstiles, collection of entrance fees and an easier flow of visitors to the Waving Base should be achieved. Over 245,000 paid for admission during the year. This number was nearly double the number who made use of this amenity in 1959.

(*h*) ADVERTISING

A limited advertising scheme, which was introduced during the year, was favourably received by advertisers, as was evidenced by the large number of sites taken up. Advertisements are generally of a high standard, and being situated in the well patronised Terminal Building, have done much in the way of attracting the attention of passengers and visitors to the many products and amenities Kenya has to offer.

(*i*) SHOPS

Shop concessionaires were faced with providing a very extensive service to ensure that passengers, arriving at and departing from the Airport, were adequately catered for, as changes in aircraft schedules called for a full coverage through the day and night.

(*j*) WATER SUPPLY

Nairobi Airport has its own supply of water. This is derived from three boreholes. These vary in depth from 500 ft. to 525 ft. and have outputs of 1,400 g.p.h., 2,300 g.p.h. and 2,400 g.p.h.

Water from the boreholes is fed by a pipeline to an elevated stores tank. The base of the tank, which holds 100,000 gallons, is 60 ft. above ground level. The water is raised to the tank by automatic pumps fitted at each borehole. Indications of their working are given by three warning lights in the base of the Tower. Additionally, an alarm bell is incorporated, so that, in the event of a failure of the electrode controls, a warning is given when the water level in the tank drops to a few hours' supply. Two booster pumps are situated in the base of the Tower. These come into use, automatically, when a fire alarm button is pressed, and boost the water pressure at the fire hydrant from 35 lbs. per square inch, to 100 lbs. per square inch. The chlorination plant for the water supply is also in the base of the Tower.

The average monthly consumption of water for all users on the Airport supply system is about 2½ million gallons. Of this total, an average of 940,000 gallons a month is used by the Airport Authority. To ensure that a reliable record of water used by the various Companies and Departments is obtained, a total of 38 water meters have been installed.

Frequent bacteriological tests are carried out on the water supply, by the Medical Department.

(3) Security

(*a*) SECURITY FORCE

The Airport Security Force is responsible to the Airport Commandant for general security arrangements at the Airport. Close liaison is maintained with the Kenya Police and other Security Forces, both in Kenya and at other International Airports serving the African routes.

During the year, the Force was increased in strength and additional responsibilities undertaken. Despite the ever increasing number of passengers and visitors using the Airport, the incidence of crime of any sort, continued to be low. The Force was successful in recovering 143 articles of lost property, and on eight occasions, persons suspected of having committed offences, were handed over to the Police. The Security Force is also responsible for the operation of the Airport Pass system, under which entry into restricted areas is controlled.

On many occasions during the year, the Force co-operated with the Police to control the very large crowds which assembled to meet leaders of local political parties departing for or returning from overseas. Their problems in this respect, were greatly eased by the provision during the year, of crowd control barriers.

(4) Information Services

(*a*) FUNCTIONS

The Information Service at Nairobi Airport, is mainly responsible for the provision of flight information to members of the public. This information reaches the Information Bureau from two sources. Details concerning estimated times of arrival for aircraft flying into Nairobi Airport, are received over a teleprinter link with the Directorate of Civil Aviation Briefing Section, situated on the Airport. Information relating to the re-routing and re-timing of schedules as well as delayed departures from en route Airports, is furnished by the individual Airline Company concerned. This latter source is not always reliable, as some Airline Companies do not maintain a 24 hour service on the Airport. As information is received at the Information Desk, details are recorded on the Aircraft Movements' Board, where they are available for study by visitors to the Desk, and for reference by the Duty Receptionists who have to answer a daily average of nearly 300 outside telephone enquiries.

In addition to the above main function, the Information Desk, by means of the tannoy broadcasts, identifies actual arrivals of aircraft and gives warning of delayed and actual departures. By the same means, urgently required Airport staffs are quickly located, and unidentified passengers are put in touch with visitors awaiting their arrival at the Airport. Receptionists are also responsible for the delivery of messages to passengers.

To meet the requirements of the Information Service, there is an establishment of one Senior and eight other Receptionists, whose hours of shift duties are so arranged that two Receptionists are on duty over those periods when aircraft movements are at their peak, and the resulting enquiries are at a maximum.

Improvements made to the Information Desk during the year included the installation of a splinterproof glass screen designed to exclude draughts, particularly in the early hours of the morning. Within the coming year, it is hoped to install a vertical filing system, so that the appearance of the Desk can be further improved.

(5) Kenya Government Services

(*a*) GENERAL

Apart from the Airport Commandant's staff, other Kenya Government Departments involved in the functioning of the Airport are:—

The Immigration Department.
The Medical Department.
The Ministry of Works.
The Kenya Police.
The Veterinary Department.

(*b*) IMMIGRATION DEPARTMENT

This department is responsible for the control of intending immigrants and visitors to the Colony, and for checking the movements of passengers in transit destined for abroad.

A staff of one Senior and six other Immigration Officers provide immigration facilities throughout the day and night.

(*c*) PORT HEALTH AUTHORITY

The Government of Kenya is the Health Authority for Nairobi Airport, the duties being administered by the Ministry of Health, through a Port Health Officer, and a resident Port Health Inspector.

There is also a Government Nursing Sister responsible for the First Aid Room at the Airport, where treatment is available for sick passengers in transit, and where Airport staff may receive necessary first aid treatment before being referred to a dispensary doctor.

Throughout the year, the International Sanitary Regulations were applied to arriving and departing aircraft. At the time of the influx of refugees from the Congo, the Port Health Authority, in conjunction with the Red Cross and the Ministry Group Hospitals in Nairobi, vaccinated the refugees against smallpox and yellow fever. Following an outbreak of yellow fever in the Sudan, at the beginning of the year, all aircraft passing through Khartoum were disinsectised on arrival at Nairobi. Twelve passengers who arrived from infected local areas in India, without valid cholera and smallpox vaccination certificates, had to be innoculated either against cholera or smallpox.

Regular inspections of all food preparing premises were carried out and a high standard of hygiene maintained. Routine samples of food and milk were collected and submitted for bacteriological analysis.

The Medical Deaprtment employs two mosquito searchers and eight oilers at the Airport. This staff was engaged in regular weekly inspections and oiling of all possible mosquito breeding places. With the exception of one occasion, the Aedes Aegypti Index for the Airport, remained at 0 per cent as a result of which, the International Airport Area was excluded from the yellow fever endemic zone.

(*d*) Ministry of Works

As will be appreciated with an undertaking as complex as a modern International Airport, a considerable amount of works maintenance is involved, especially in respect of the upkeep of runways, taxiways and aprons, roads, drainage, sewerage, water supplies and staff housing. Such maintenance at Nairobi Airport is carried out by the Ministry of Works Aerodrome Maintenance Department, functioning under the direction of the Divisional Engineer, Central Division (South). The Ministry of Works Officer in Charge of the Maintenance Department, is the Aerodrome Superintendent, who has at his ready disposal, staff numbering 246, and a comprehensive range of mechanical equipment, including grass cutting tractors, graders, and mechanical sweeping equipment. The last mentioned piece of equipment removes small stones and metallic objects likely to cause damage to an aircraft, by air suction and magnetic force, from the aprons, taxiways and runway. Apart from its very large commitment in respect of maintenance work, which has also included the upkeep of the Airport's lawn and gardens, the Department has been actively engaged throughout the year in a heavy programme of development projects. These have included the installation of lagoons for a new system of sewage disposal, the construction of a further two aircraft parking bays, transfer of the V.H.F. Omni Range building to the North of the Airport, construction of a Livestock Holding Station, erection of temporary accommodation for the R.A.F., erection of taxi kiosks, and an extension to the Apron Control office. Towards the close of the year, work was put in hand for the erection of the I.L.S. building, and the erection of the Radar Tower. Equipment and assistance were provided by the Department in connection with the lifting and removal of the Boeing 707, which was forced to make a wheels-up landing on the Airport.

Since an International Airport has to be fully operational for 24 hours a day, it is of the utmost importance that everything possible should be done to prevent interruption of electricity supplies, especially to navigational aids. At Nairobi Airport, this is achieved by dividing the electrical installation into two sections; one in which a limited interruption is permissible, and a second, in which no interruption is acceptable. Electricity is supplied to the Airport through an 11,000 volt overhead line, with an alternative supply available from a second 11,000 volt overhead line, in the event of a failure affecting the line in use at the time. It is hoped to have an automatic changeover of the lines in 1961. At present this is done manually. To minimise the effect of this delay, a 200 kW. standby generator has been installed. This starts up automatically, when the mains supply fails, and there is an average delay of about 40 seconds before a supply is restored from the standby generator. As this delay is not acceptable in the case of runway lighting, a second generator of the "no break"

type ensures that this receives a supply without any apparent interruption. For distribution at the Airport, a voltage of 3,300 is used. A number of sub-stations containing transformers and switchgear enable the voltage to be stepped down to 415/250 volts for use with radio-communication equipment, airfield lighting and radio beacons. Maintenance of the electricity system and new works are undertaken by the Ministry of Works.

(*e*) KENYA POLICE

A contingent of the Kenya Police, is stationed at Embakasi Police Station, and works from the Nairobi Airport Police Post, situated at the entrance to the Airport area.

During the year, Police were in attendance on frequent occasions when large crowds gathered at the Airport, because of the arrival or departure of local political leaders. All these gatherings were well controlled, and no trouble, or incidents were reported.

A total of 39 cases of theft and other offences under the Penal Code, were reported to, or taken cognizance of, by the Police, during 1960. The vast majority of these cases were petty stealing from the various departments at the Airport. Of the 39 cases dealt with, 29 were eventually taken before Court.

(*f*) VETERINARY DEPARTMENT

Livestock entering Kenya through Nairobi Airport, is inspected on arrival by an Officer of the Veterinary Department. As aircraft carrying such livestock can arrive at any hour of the day or night, veterinary officers have to be "on call" 24 hours a day. The Veterinary Department, also authorises the exportation of all livestock leaving by air from Nairobi Airport.

(6) East Africa High Commission Services

(*a*) GENERAL

In addition to Kenya Government Departments represented at the Airport, the following Departments of the East Africa High Commission provide specialist services:—

The Directorate of Civil Aviation.

The Meteorological Department.

The East African Customs and Excise Department.

The East African Posts and Telegraphs Administration.

(*b*) DIRECTORATE OF CIVIL AVIATION

Services provided by the Directorate of Civil Aviation at Nairobi Airport include:—

(1) Air Traffic Services.

(2) Briefing Service and the International Notam Office.

(3) Telecommunications Section, including Transmission and Reception of Meteorological Broadcast Systems.

For all Sections, the year has been one of continued expansion. The Air Traffic Service handled over 50 per cent more traffic than in 1959, including what have come to be known as "the large jets", which were introduced on the East African Routes at about the middle of the year. For more effective control of these types and their greater ease of operation into the Airport, the installation of Surveillance Radar and I.L.S. was commenced at the end of the year, for operation early in 1961. Training in the operation and engineering of these aids was undertaken in the United Kingdom by Directorate Officers whilst on vacation leave.

The International Notam Office and Briefing Sections are equipped to give cover of Airports and facilities from the North of Italy to Capetown, and from Accra to Karachi; major use continues to be made of the North to South route.

(*c*) East African Meteorological Department

During the year, the Meteorological Department suffered from a serious staff shortage, and although aviation forecast services were maintained throughout the 24 hours for the whole year, the meteorological analysis service (on which all forecasting is based) had to be restricted to about seven hours a day.

The volume of aviation forecasting has continued to increase, and at the same time, more and more long distance flights have been introduced. Boeing 707's and DC. 8's now fly regularly non-stop from Nairobi to Athens or Rome, and the forecasts for these services demand the careful attention of the forecaster, as well as necessitating a much wider exchange of meteorological information than hitherto.

A further contribution to the increasing number of requests for forecasts has come from the Royal Air Force. The Hunters of 208 Squadron, are now based at Nairobi Airport and are supplied with a daily forecast for local flying conditions as routine; in addition, there have been fairly frequent flights by long range aircraft of Transport and Bomber Command.

(*d*) East African Posts and Telecommunications Administration

A full range of Post Office services is provided in the Airport Post Office, which is open from 8.30 a.m. to 8 p.m. daily, In addition, limited services such as the sale of postage stamps and the acceptance of telegrams and cables are provided in the transit lounge on all occasions when aircraft are in transit. The Airport Post Office also handles incoming mail requiring despatch to other destinations, thereby eliminating any delay which might be incurred by having such mail handled at the Head Post Office in Nairobi. Under these arrangements, between 200 and 300 kilogrammes of mail are transferred daily, often to waiting aircraft. For the convenience of Airport departments and their employees, a mail delivery service is provided through private box installations. Private boxes numbering 150, are currently installed. Telephone kiosks are provided in the Main Entrance Hall, in the Transit and Arrivals' Lounges, the Waving Base, and in the Freight Shed. Although International radio calls can only be made from privately rented telephones, arrangements can be made, through the Airline Companies, for this facility to be available to passengers.

(*e*) East African Customs and Excise Department

The East African Customs and Excise Department maintain staff at the Airport to ensure the protection and collection of revenue for all three East African Territories, as well as the maintenance of control on imports and exports imposed by various High Commission and Territorial Government Departments.

During the year, the Department's staff at the Airport, was increased, among other reasons, to cope with new and revised schedules.

APPENDIX I

PART II—APPENDICES

SENIOR STAFF OF THE DEPARTMENT

Senior staff for the year under review were as follows:—

Airport Commandant	Mr. T. R. Thomson, A.R.Ae.S., F.R.Met.S., M.I.N.
Deputy Airport Commandant ..	Mr. G. T. van Weegen, A.R.Ae.S., F.R.Met.S., M.I.N.
Senior Operations Officer ..	Mr. B. V. Kerwin.
Business Manager	Mr. V. R. Edmiston.
Accountant	Mr. J. F. Swann.
Security Officer	Mr. P. N. Smith.
Executive Officer	Mr. J. N. Bell.
Operations Officer (1)	Mr. V. F. Bilbrough.
Operations Officer (2)	Vacant.
Senior Receptionist	Mrs. L. N. Hoare.
Chief Supervisor, P.A.B.X. ..	Mrs. M. V. Bromley.

AIRCRAFT MOVEMENTS

Month	Schedule Commercial		Other Commercial		Other Non-Commercial		Charter		Private		Test and Training		Totals 1960				Totals 1959				Totals 1958			
													Civil		Military		Civil		Military		Civil		Military	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
January ..	368	371	8	9	6	6	17	18	4	4	85	85	488	493	131	132	421	421	14	14	—	—	—	—
Febraury ..	353	352	11	10	1	1	21	20	16	16	95	94	497	493	142	141	467	465	57	54	—	—	—	—
March ..	366	371	19	17	6	5	7	8	6	6	132	132	536	539	196	195	434	439	27	29	245	241	20	20
April ..	415	415	7	8	10	11	15	13	—	—	136	136	583	583	185	186	447	446	50	50	318	315	3	3
May ..	443	437	14	13	11	12	14	13	34	32	116	116	632	623	261	260	465	460	47	47	292	294	4	4
June ..	408	405	11	12	—	—	14	14	2	2	163	163	598	596	375	359	443	448	33	33	302	303	13	13
July ..	442	446	13	14	3	2	36	36	4	3	99	99	597	600	333	327	461	460	50	50	477	472	32	32
August ..	416	414	14	15	9	9	17	18	—	—	181	181	637	637	788	795	413	410	63	63	448	453	7	7
September..	412	415	12	13	4	4	17	16	3	2	116	115	564	565	562	564	445	447	114	114	472	464	5	3
October ..	412	412	12	11	5	5	13	13	1	2	94	94	542	537	288	289	608	608	50	48	441	443	18	20
November..	374	374	18	19	25	24	20	21	—	—	393	393	830	831	279	278	503	495	106	102	425	419	9	9
December ..	394	400	19	19	21	22	26	26	1	1	127	127	588	595	263	261	483	484	244	248	418	418	16	16
Totals ..	4,808	4,812	158	160	101	101	217	216	71	68	1,737	1,735	7,092	7,092	3,803	3,787	5,590	5,583	855	852	3,838	3,822	127	127

1. Aircraft Movement—
   An aircraft movement is one landing or one take-off.
2. Scheduled Commercial Movement—
   Is a landing or a take-off by an aircraft engaged on a commercial air transport flight operated to a published schedule.
3. Other Commercial Movement—
   Is a landing or a take-off by an aircraft engaged on aerial work for hire and reward but not when carrying passengers.
4. Other Non-Commercial Movement—
   Is a landing or a take-off by an aircraft operated for the purposes of positioning for a scheduled flight, or for the purposes of a flight to carry stores or spares and not flown for hire or reward. It also includes those landings made by aircraft forced, for reasons of safety, to return to the point of departure. It includes flights by Government owned and operated aircraft.
5. Charter Movement—
   Is a landing or a take-off by an aircraft carrying passengers for hire or reward when not operating to a published schedule.
6. Private Movement—
   Is a landing or a take-off by an aircraft owned and operated for private purposes.
7. Military Movement—
   Is a landing or a take-off by a British or foreign military aircraft for military purposes.
8. Test and Training Movement—
   Is a landing or a take-off by an aircraft flown for the purposes of testing an aircraft or for flying training of the personnel carried therein. It also includes proving flights.

APPENDIX III

RUNWAY UTILIZATION

Month	Landings				Take-offs				Total Movements			
	Rw. 06		Rw. 24		Rw. 06		Rw. 24		Rw. 06		Rw. 24	
	A c.	%	A c.	%	A c.	%	A c.	%	A c.	%	A c.	%
June	902	93	71	7	791	83	163	17	1693	88	234	12
Aug.	1356	95	68	5	1301	91	132	9	2657	93	200	7
Oct.	823	99	8	1	749	91	75	9	1572	95	83	5
Dec.	855	100	—	—	839	98·4	14	1·6	1694	99·2	14	0·8
Total	3936	96·7	147	3·3	3680	90·8	384	9·2	7616	93·8	531	6·2

Summary for Year: (June–August–October–December, 1960)—

1. Total Landings: 4083 Rw. 06: 96·7% Rw. 24: 3·3%
2. Total Take-offs: 4064 Rw. 06: 90·8% Rw. 24: 9·2%
3. Total Movements: 8147 Rw. 06: 93·8% Rw. 24: 6·2%

APPENDIX IV

PASSENGERS HANDLED

Month	In	Out	Transit*	Total 1960	Total 1959	Total 1958
January ..	6,621	6,286	3,562	20,031	17,343	—
February ..	6,433	6,784	3,093	19,403	16,248	—
March ..	6,130	6,905	3,586	20,207	19,274	9,908
April ..	6,225	7,610	5,244	24,323	18,261	14,941
May ..	7,003	7,394	5,672	25,741	18,933	15,266
June ..	6,930	7,325	5,807	25,869	19,673	14,831
July ..	8,507	10,576	7,663	34,409	24,878	20,423
August ..	8,709	9,056	6,772	31,309	23,671	20,567
September..	8,099	8,518	6,527	29,671	24,032	20,549
October ..	7,186	6,872	7,128	28,314	20,978	17,783
November..	6,650	6,609	5,374	24,007	17,932	15,859
December ..	7,728	7,714	6,291	28,024	20,430	18,088
Total ..	86,221	91,649	66,719	311,308	241,653	168,215

*Transit Passenger—

Is one whose air journey does not begin or end at the reporting Aerodrome. Each transit passenger is shown as two passengers handled in the total column.

APPENDIX V

MAIL (Kgms.)

Month	In	Out	Total 1960	Total 1959	Total 1958
January	40,307	34,582	74,889	49,009	—
February	37,698	32,573	70,271	44,075	—
March	42,675	36,526	79,201	48,254	24,271
April	40,437	33,708	74,145	68,423	36,405
May	41,184	36,279	77,463	70,014	38,612
June	40,638	35,642	76,280	68,543	38,550
July	42,037	36,396	78,433	69,118	40,679
August	39,201	35,655	74,856	66,710	43,100
September	44,248	35,628	79,876	68,969	39,742
October	43,760	39,070	82,830	76,397	47,740
November	41,853	36,912	78,765	75,594	49,076
December	54,814	49,021	103,835	96,840	63,967
TOTALS	508,852	441,992	950,844	801,946	442,142

MAIL—

Despatches of correspondence and other objects tendered by and intended for delivery to Postal Administration.

APPENDIX VI

FREIGHT (Kgms.)

Month	In	Out	Transit	Total 1960	Total 1959	Total 1958
January ..	106,000	199,440	116,535	421,957	352,220	—
February ..	128,667	222,967	128,513	480,147	356,030	—
March ..	140,845	251,679	136,732	529,256	424,145	168,065
April ..	120,856	218,073	148,877	487,806	395,257	201,483
May ..	109,752	201,391	176,111	496,254	406,972	224,349
June ..	97,505	196,379	167,742	461,626	462,940	209,566
July ..	110,972	251,765	177,649	540,386	391,744	283,381
August ..	113,060	231,143	195,260	539,463	401,945	311,015
September ..	113,653	222,912	176,235	512,800	396,162	347,118
October ..	130,582	222,625	242,118	595,325	452,943	339,261
November ..	122,209	247,076	206,024	575,309	480,127	330,154
December ..	138,668	270,115	199,210	607,993	475,310	323,908
TOTAL ..	1,432,769	2,744,565	2,071,006	6,248,340	4,995,785	2,738,300

FREIGHT—

Excludes Company stores, excess baggage, Post Office Mail and Diplomatic Bags.

LIVESTOCK MOVEMENTS

APPENDIX VII

Livestock	Imports	Exports
Ant Eater	1	—
Antelope	—	1
Baboons	—	110 crates
Badger	1	—
Bears	2	—
Birds	602	289 cages
Bush Babies	—	41 crates
Cattle	17	—
Cats	30	21
Chameleons	—	3 boxes
Cheetahs	5	5
Chinchilla	11	—
Civet Cats	6	—
Coatimundi	2	—
Crocodile	—	7
Dik-Dik	—	1box
Dogs	114	151
Elephants	3	2
Fish	437	5 cartons
Fish Ova—Rainbow Trout	25,000	—
Fish Ova—Brown Trout	42,000	—
Flying Fox	9	—
Gazelle	—	10 crates
Goats	12	—
Golden Cat	1	—
Grouse	22	—
Hares	—	2 boxes
Horses	3	5
Hyena (striped)	2	—
Impala	—	3 crates
Jackals	2	—
Jungle Cat	1	—
Kinkajou	1	—
Kudu	—	1
Leopard	—	1
Lion	2	—
Lori	6	—
Lynx	—	1
Macaques	3	—
Mice Rats	—	2 boxes
Mink	9	—
Mongeese	2	—
Monkeys	20	327 crates
Monitor Lizards	—	2 crates
Opossum	1	—
Oribi	—	1
Ostrich	—	1
Parrots	—	6
Pigs	16	—
Porcupine	1	—
Poultry	81,752	—
Rabbits	17	—
Rams	—	4
Ratel	1	—
Sheep	49	46
Skunk	1	—
Snakes	—	5 boxes
Squirrels	13	3 crates
Sunbear	1	—
Tortoise	—	4
Other Animals	2	43

APPENDIX VIII

AVIATION FUEL UPLIFT (GALLONS)

Month	80/87	100/130	115/145	AVTUR.	Total 1960	Total 1959	Total 1958
January	488	50,702	170,226	326,430	547,846	435,443	—
February	384	49,301	178,441	358,778	586,904	503,249	—
March	399	57,053	191,440	309,944	558,836	512,980	280,289
April	195	51,751	283,323	318,771	609,040	525,032	394,858
May	493	63,924	252,615	453,688	770,720	517,728	403,710
June	192	73,944	266,140	527,552	867,828	535,079	431,001
July	219	76,633	364,673	610,127	1,051,652	572,848	588,153
August	285	60,947	391,644	600,002	980,878	545,979	491,865
September	—	69,407	339,656	572,244	981,307	525,026	467,247
October	—	67,033	306,729	740,848	1,114,610	599,380	492,726
November	88	84,832	181,206	823,636	1,089,762	500,331	474,859
December	37	73,634	196,772	728,476	998,919	560,549	496,755
TOTALS ..	2,780	779,161	3,005,865	6,370,496	10,158,302	6,333,624	4,521,463

APPENDIX IX

DIVERSIONS DUE TO WEATHER

Month	1960	1959	1958
January	—	1	—
February	1	—	—
March	—	—	1
April	4	—	1
May	1	1	1
June	—	—	—
July	—	—	2
August	—	—	—
September	—	1	1
October	1	—	1
November	5	—	—
December	11	3	1
TOTALS.. ..	23	6	8
Total Arrivals ..	10,895	6,445	3,965

DIVERSION—

Is the act of flying to an aerodrome other than the planned destination with the intention of landing there.

Normally, diversion is made when one or other of the following circumstances occurs at the planned destination aerodrome:—

(*a*) the weather is unfit (i.e. when reported by a competent observer to be below the minimum prescribed by the Operating Company);

(*b*) there are obstructions on the manoeuvring area which constitute a hazard to aircraft landing, and which cannot be removed within a reasonable period;

(*c*) there is a failure of an essential ground aid to landing (e.g. aerodrome lighting, approach aid or other radio facility) the use of which would be necessary at the proposed time of landing;

(*d*) there is likely to be an unacceptable delay in landing.

APPENDIX X

DELAYED ARRIVALS DUE TO WEATHER

Month	1960	1959	1958
January	4	1	—
February	2	1	—
March	—	4	4
April	—	2	7
May	1	4	4
June	—	2	—
July	—	—	5
August	1	5	—
September	2	—	1
October	2	—	—
November	—	—	—
December	—	1	7
TOTALS	12	20	28
Total Arrivals	10,895	6,445	3,965

APPENDIX XI

DELAYED DEPARTURES DUE TO WEATHER

Month	1960	1959	1958
January	2	7	—
February	2	4	—
March	1	3	1
April	7	3	2
May	8	4	—
June	—	4	—
July	—	—	6
August	—	—	—
September	2	—	2
October	—	—	2
November	—	2	3
December	5	10	11
TOTALS	27	37	27
Total Departures	10,879	6,435	3,949

METEOROLOGICAL DATA

Month	Rainfall (inches)	Mean Humidity %		Mean Temperature °F		Absolute Temperature °F		Mean Pressure mb		* Hours of Sunshine	No. of days with Fog or Stratus, $\frac{3}{8}$ or more, below 300 ft.
		0001 G.M.T.	1200 G.M.T.	Max.	Min.	Max.	Min.	06.00 G.M.T.	12.00 G.M.T.		
January	2·88	89	47	80·4	55·8	83·5	49·1	840·7	837·1	275	6
February	0·42	86	40	83·0	54·3	87·1	49·6	840·8	837·1	283	11
March	5·26	96	53	81·3	56·5	86·9	50·4	840·1	836·6	247·1	19
April	3·49	98	57	78·4	58·2	81·0	52·5	840·4	837·2	226·1	21
May	1·92	96	53	78·1	54·8	83·3	48·7	841·7	838·6	213·2	16
June	0·40	93	47	77·3	52·3	81·9	46·4	842·8	839·8	192·6	6
July	0·74	88	51	73·5	51·5	80·1	44·2	842·6	839·8	150·6	3
August	0·02	87	53	75·5	51·6	84·0	46·0	842·4	839·2	143·8	4
September ..	1·31	93	50	77·6	52·7	82·0	46·8	842·2	838·4	147·12	6
October	2·29	96	49	78·8	55·7	83·7	51·1	842·0	838·0	199·53	9
November ..	3·80	97	51	79·0	54·3	81·7	54·0	841·6	837·7	241·38	20
December.. ..	1·16	99	49	79·7	55·3	84·9	49·5	840·9	837·6	281·34	24

*Hours of Sunshine measured at Dagoretti Corner.

RAINFALL—

The total product of precipitation from the atmosphere as received and measured in inches in a rain gauge. The monthly depth of rainfall at Nairobi Airport is measured from 09.00 E.A.S.T. on the 1st of each month to 09.00 E.A.S.T. on the 1st of the following month.

MEAN HUMIDITY %—

Humidity refers to the invisible gas or vapour which may be mixed in varying proportion with the dry air of the atmosphere and is a measure of wetness. It is listed as a percentage for midnight and midday G.M.T. (03.00 and 15.00 E.A.S.T.), the periods of approximately maximum and minimum humidity.

FAHRENHEIT °F—

A scale having the melting point of ice at 32° and the boiling point of water at 212°.

MEAN TEMPERATURE °F—

The temperature of the air is measured in a thermometer screen at 4′ 6″ above ground level. The daily maximum and daily minimum temperatures are meaned for the month; generally, maximum temperatures occur in the mid-afternoon and minimum temperatures just before dawn.

ABSOLUTE TEMPERATURE °F—

The absolute maximum temperature for the month is the higher daily maximum figure recorded in that month. The absolute minimum temperature for the month is the lowest daily minimum figure recorded in that month.

MEAN PRESSURE—

The average force per unit area exerted by the air on a horizontal surface at airfield level. The mean pressures are listed for 09.00 and 15.00 E.A.S.T.; the times of approximately maximum and minimum pressures.

HOURS OF SUNSHINE—

The duration of bright sunshine is measured by a trace on a card, when the sun is shining, by a spherical glass lens. Intermittent sunshine produces broken lines the combined length of which gives direct measurement in hours.

FOG—

When, due to the presence of particles of condensed moisture suspended in the atmosphere at ground level, the horizontal visibility falls below 1,100 yards, a condition of fog exists.

STRATUS CLOUD—

A uniform layer of cloud, resembling fog but which is not resting on the ground.

APPENDIX XIII

LEGISLATION

The following list of Civil Aviation Legislation and Air Navigation Regulations in force in Kenya, is of particular interest to all users of the Nairobi Airport:—

1. Aerodrome (Control of Obstructions) Ordinance, Kenya, 1948.
2. Government Notice No. 1150, 1953 (Declared Area Boundary).
3. Government Notice No. 1149, 1953 (Airport Boundary).
4. Air Services (Licensing) Regulations, 1957.
5. Air Services (Licensing) (Delegation of Powers) Order, 1953.
6. Air Services (Licensing) (Delegation of Powers) (Amendment) Order, 1959.
7. Air Transport Licensing Advisory Board Order, 1957.
8. Carriage by Air (Colonies, Protectorates and Trust Territories) Order, 1953.
9. Carriage by Air (Non-International Carriage) (Colonies, Protectorates and Trust Territories) Orders, 1953–1955.
10. Carriage by Air (Parties to Convention) Order, 1958.
11. Civil Aviation (Charges for Air Navigation Services) Act, 1957.
12. Civil Aviation (Charges for Air Navigation Services) Regulations, 1957.
13. Civil Aviation (Charges for Air Navigation Services) (Amendment) Regulations, 1958.
14. Civil Aviation (Charges for Air Navigation Services) (Amendment) Regulations, 1960.
15. Civil Aviation (Charges for Air Navigation Services) (Amendment No. 2) Regulations, 1960.
16. Civil Aviation (Investigation of Accidents) Regulations, 1954–1959.
17. Colonial Air Navigation Order, 1955–1959.
18. Colonial Civil Aviation (Application of Act) Orders, 1952–1955.
19. Colonial Air Navigation (Exercise of Powers) (Colony and Protectorate of Kenya) Order, 1957.
20. East African Advisory Council Orders, 1953–1959.
21. East African (High Commission) Orders in Council, 1947–1958.
22. East African Air Navigation (General) Regulations, 1954–1956.
23. East African Air Navigation (Radio) Regulations, 1953.
24. East African Air Navigation (Radio) (Amendment) Regulations, 1960.
25. East African Territories (Air Transport) Orders in Council, 1945–1958.
26. Use of Government Aerodromes (Kenya) 1958.
27. Use of Government Aerodromes (Kenya) Exemption from Landing Fees, 1958.
28. The Immigration Ordinance, 1956.
29. The Immigration Regulations, 1957.
30. The Customs Management Act, 1952.
31. The East African Customs Regulations, 1954.
32. The Statistics (Air Traffic) Regulations, 1959.
33. International Sanitary Regulations, 1957.
34. Public Health (Port, Airport and Frontier Health) Rules, 1959.
35. The Aerodrome Regulation Ordinance, 1960.

APPENDIX XIV

NAIROBI AIRPORT—GENERAL INFORMATION

1. City/Aerodrome	Nairobi/Nairobi.
2. Latitude	011907 South.
3. Longitude	365533 East.
4. Location of Reference Point ..	Centre of Runway.
5. Distance and Direction from City	6·3 N.M.–E.S.E.
6. Elevation	5,327 feet.
7. Elevation Check Point	5,411 feet.
8. Aerodrome Ref. Temp. (°C) ..	23·1 (Provisional)
9. Transition Altitude	7,500 feet.
10. Transition Level	F.L. 80.
11. Variation	3° W.
12. Controlling Authority	Kenya Government.
13. Operational Hours	H 24.
14. Postal Address	(*a*) Airport Commandant, P.O. Box 19001, EMBAKASI. (*b*) Directorate of Civil Aviation, P.O. Box 30163, NAIROBI.
15. Telegraphic Address	(*a*) Airport Commandant: AIRCOM, EMBAKASI. (*b*) Directorate of Civil Aviation: ATCON, NAIROBI.
16. Telephone Number	EMBAKASI 82222.
17. Overnight Accommodation ..	Hotels in City.
18. Restaurant Accommodation ..	Yes.
19. Medical Facilities	Yes.
20. Transportation	Buses and Taxis.
21. Nearest Railway Station ..	Embakasi, 3 N.M.
22. Nearest Railway Siding	On Airport.
23. Cargo Handling Facilities ..	Forklift (3,000 lb.) with crane attachment, electric trollies, trailers.
24. Fuel Grades	80/87, 100/130, 115/145 Octane, Aviation Turbine Fuel.
25. Oil Grades	Full range.
26. Hangar Space	Nil for visiting aircraft.
27. Repair Facilities normally available.	To engine change standard.

APPENDIX XIV—(Contd.)

NAIROBI AIRPORT—GENERAL INFORMATION

28. Crash Equipment	Three tenders (totalling 1,850 gallons water, 300 gallons foam compound, 700 lb. carbon dioxide), two water replenishment units (totalling 1,000 gallons), two initial rescue tender (100 lb. carbon dioxide) with power saw. One ambulance.
29. Day Markings	Obstruction, taxiway, taxi-holding position, runway designation, runway threshold, runway centre line, runway side line, signal area, wind direction indicator, landing direction indicator.
30. Local Flying Restrictions ..	(*a*) Await signal from Marshal before entering or moving on Apron. (*b*) Special rules apply to flights within 3 N.M. of and less than 2,000 feet above the Airport. (*c*) Right-hand circuit. Whenever possible, pilots should arrange flights so that they can be cleared to land without making a circuit. (*d*) Use under IFR governed by regulations applicable to Nairobi CTR.
31. Runway 06	(*a*) Take-off run: 10,000 feet. (*b*) Stopway: 600 feet. (*c*) Accelerate stop distance: 10,600 ft. (*d*) Clearway: 1,400 ft. (*e*) Take off distance: 12,000 feet. (*f*) Landing distance: 10,000 feet. (*g*) Direction: 054° (T). (*h*) R/W dimensions: 10,000 x 150 feet. (*i*) Strip distance: 11,200 x 500 feet. (*j*) Surface: Asphalt. (*k*) Touchdown elevation: 5,327 feet. (*l*) Lead-in/Approach lights: Low intensity red-coded centre line, length 3,000 feet and three cross bars. (*m*) Threshold lights: Green. (*n*) Runway Lights: Low intensity omni-directional, amber filters on last 20 per cent of runway. (*o*) Angle of approach lights: No. (*p*) Gradient: — 0·31 per cent. (*q*) Runway strength: LCN 100.
32. Runway 24	(*a*) Take off run: 10,000 feet. (*b*) Stopway: 200 feet. (*c*) Accelerate stop distance: 10,200 feet. (*d*) Clearway: 800 feet.

APPENDIX XIV—(Contd.)

NAIROBI AIRPORT—GENERAL INFORMATION

	(*e*) Take off distance: 11,000 feet.
	(*f*) Landing distance: 10,000 feet.
	(*g*) Direction: 234° (T).
	(*h*) R/W dimensions: 10,000 x 150 feet.
	(*i*) Strip distance: 11,200 x 500 feet.
	(*j*) Surface: Asphalt.
	(*k*) Touchdown elevation: 5,296 feet.
	(*l*) Lead-in/Approach: Low intensity red-coded centre line, length 1,600 feet.
	(*m*) Threshold lights: Green.
	(*n*) Runway lights: Low intensity omni-directional, amber filters on last 20 per cent of runway.
	(*o*) Angle of approach lights: No.
	(*p*) Gradient: + 0·31 per cent.
	(*q*) Runway strength: LCN 100.
33. Meteorological data	(*a*) Prevailing winds: N.E. October to March; S.E., May to July; E., April to August.
	(*b*) Rainy seasons: March to May; Mid-October to mid-December.
	(*c*) Mean max. temp. 78·7° F.
	(*d*) Mean min. temp. 56·5° F.
	(*e*) Mean annual pressure: 840·8 mbs.
34. Seasonal availability	All year.
35. Taxiway	Width: 75 feet. Surface: Asphalt.
36. Apron	Dimensions: 1,100 x 900 feet. Surface: Asphalt with concrete hard-standings.
37. Aerodrome Beacon	Alternating White/Green.
38. Safety Altitude within 25 N.M...	9,100 feet (FL. 95).
39. Obstructions within 4 N.M.—	
Mast 26 ft. a.a.l. 5,353 ft. ..	Mer. 1,985 ft. from threshold R W 06.
Mast 32 ft. a.a.l. 5,359 ft. ..	Mer. 4,000 ft. from threshold R W 06.
Mast 33 ft. a.a.l. 5,360 ft. ..	Mer. 5,000 ft. from threshold R W 06.
Mast 30 ft. a.a.l. 5,357 ft. ..	Mer. 530 ft. from R/W centre line in signals square.

APPENDIX XV

RADIO FACILITIES AND NAVIGATIONAL AIDS

1. *Facility*	HF/RTF.
General Discription	Used for medium range two-way communication between aircraft and the Air Traffic Control Station.
Station..	Nairobi Aerodrome Control.
Call Sign	Nairobi Tower.
Transmit Frequency	5680 Kcs.
Receiving Frequency	5680 Kcs.
Hours of Operation	H 24.
2. *Facility*	VHF/RTF.
General Description	Very High Frequency communications. Cannot achieve long ranges, but ideal for short-range precision working. Only needs low power and small aerials. Not affected by static, but suffers from interference from electrical machinery and is easily reflected by hills and buildings and, at centimetric wavelengths by rain.
Station..	Nairobi Aerodrome Control.
Call Sign	Nairobi Tower.
Transmit Frequency	118·1 Mcs.
Receiving Frequency	118·1 Mcs.
Hours of Operation	H 24.
3. *Facility*	VDF.
General Description	Very High Frequency direction finding. A system enabling aircraft to obtain navigational direction from the ground and for ground Stations to obtain bearings taken on a transmission made by an aircraft. Capable of bearings with a high degree of accuracy.
Station..	Nairobi Aerodrome Control.
Call Sign	Nairobi Homer.
Transmit Frequencies.. ..	118·1 Mcs. and 119·7 Mcs.
Receiving Frequencies ..	118·1 Mcs. and 119·7 Mcs.
Hours of Operation	H 24.
Co-ordinates	012000 S. 365421 E.
Direction and Distance to Airport.	057° (Mag.) 1·5 NM.
4. *Facility*	Locator Beacon.
General Description	A non-directional low power medium frequency navigational beacon used in conjunction with an aircraft's automatic Direction Finder, to enable the pilot to locate the runway during periods of poor visibility. Used also by Air Traffic Control as a holding point for aircraft during periods of peak traffic.

RADIO FACILITIES AND NAVIGATIONAL AIDS

Call Sign	NA and NB.
Transmit Frequencies	273 Kcs. and 283 Kcs.
Hours of Operation	H 24.
Co-ordinates	012154 S. 365145 E. 011948 S. 365437 E.
Direction and Distance to Airport.	057° (Mag) 4·7 NM. 057° (Mag) 1·1 NM.

5. *Facility* .. .. .. DME.

General Description .. .. Distance Measuring equipment. A secondary radar system requiring an airborne radar transmitter and receiver, and a ground responder beacon, which enables an aircraft to "home" on to and orbit over the ground beacon and measure range and gives the pilot metered presentation of his distance from the Airport. Range, up to about 200 miles, dependent upon the height of the aircraft.

Call Sign	AL.
Transmit Frequencies	230 Mcs.
Receiving Frequencies ..	218 Mcs.
Hours of Operation	H 24.
Co-ordinates	012005 S. 365413 E.
Direction and Distance to Airport.	057° (Mag) 1·6 NM.

6. *Facility* .. .. .. V.O.R.

General Description .. .. Very High Frequency Omnidirectional Radio Range. A radio fixing aid in which a ground beacon transmits a continuous radio wave providing an infinite number of paths through 360°. This signal is detected by an omnibearing indicator showing the relative bearing of the ground beacon.

Call Sign	Nairobi V.O.R.
Transmit Frequency	112·5 Mcs.
Hours of Operation	HS and O/R H 24.
Co-ordinates	011826 S. 365630 E.
Direction and Distance to Airport.	237° (Mag) 2·1 NM.

7. *Facility* .. .. .. HF/RTF.

Station	Nairobi Approach Control.
Call Sign	Nairobi Approach.
Transmit Frequency	5680 Kcs.
Receiving Frequency	5680 Kcs.
Hours of Operation	H 24.

APPENDIX XV—(Contd.)

RADIO FACILITIES AND NAVIGATIONAL AIDS

8.	*Facility*	VHF/RTF.
	Station	Nairobi Approach Control.
	Call Sign	Nairobi Approach.
	Transmit Frequencies	119·7 Mcs.
	Receiving Frequencies ..	119·7 Mcs.
	Hours of Operation	H 24.
9.	*Facility*	Decca Radar. Type 41. Storm Warning Radar.
	General Description	Allows forecasts to be made by assessing the actual movement of areas of rain. Range can be varied from 10 to 250 miles.
	Frequency	3 centimetres.
	Location	010900 S. 365500 E. (Water Tower).

APPENDIX XVI

WAVING BASE VISITORS

	1958	1959	1960
January	—	11,937	18,416
February	—	9,193	17,571
March	14,210	10,560	15,830
April	16,642	8,990	20,154
May	10,916	10,020	20,482
June	12,257	9,047	18,723
July	10,030	10,255	21,514
August	15,832	13,254	26,124
September	15,371	21,633	26,221
October	11,068	17,828	20,751
November	8,580	13,050	15,480
December	14,094	20,129	24,318
TOTALS	129,000	155,896	245,584

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