

The Pacific Corporation And Subsidiaries

Description Of Organization, Facilities And Operations

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Aviation Consultants



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AIR AMERICA, INC.
VIENTIANE, LAOS
FACILITIES AND CAPABILITIES

MEMORANDUM FOR THE RECORD:

7 March 1973

From : Vice-President, Air America, Inc., Vientiane, Laos

Subject : Background Information on Air America, Inc., Vientiane

Considerable emphasis has understandably been put on Air America's flying activities in Laos in past years. Little has been publicized about other aspects of the company's responsibilities in-country, in the area of ground services and ground support to the aviation community. Also, nothing has been said or written about the economic benefits to the Kingdom of Laos attendant upon Air America's presence here.

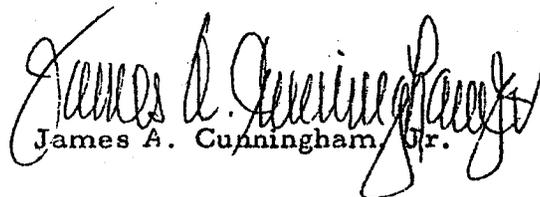
The attachments herein summarize, by department and function, the diverse activities of the company as it is now constituted in Laos. At the commencement of each department's section in the booklet is a brief description of pertinent highlights.

The Air America workforce in Laos totalled 1615 people at the end of January 1973, of which 1010, or 62.5% were employees on the Lao payscale. Only 12.9%, or 208 of the 1615 were Americans. 24.6% were TCNs, comprised of Thais, Filipinos and Chinese. In the five year period between January 1968 and January 1973, Lao employee strength went from 511 to 1010, representing a 98% growth. In the same period, American employees declined 4%, Filipinos nearly 30% and Chinese roughly 65%, indicating a conscious decision by company management to train Lao for a wide variety of aviation-related job categories.

On the economic side, it is worth noting that our Lao payroll now exceeds \$62,000 per month, or upwards of \$750,000 annually. The company itself purchases goods and services within Laos that average \$48,000 per month, or \$576,000 per year. These categories alone add up to some \$1,320,000 per year. In addition, American employees are estimated to spend an average of \$500 on the local economy each month, for rent, utilities, goods and services. Taking an average figure of 200 Americans, this comes to \$1,200,000 yearly. TCN personnel are estimated to spend roughly \$200 per month for the same purposes locally, which, using an average of 235 TCN employees comes to \$564,000 annually. This figure does not include Thai employees, estimated as spending about \$125 each per month, or \$253,500 per year. All of these figures noted above come to a total input to the Lao economy of roughly \$3,337,500 per year. Outside this cumulative figure is the interesting fact that in 1972, Air America bought \$85,000 worth of transportation on RAL and LAL, and our present volume of tickets purchased on RAL alone is running at a rate approximating \$215,000 annually, money which also goes into the support of Lao business enterprise. In a country whose state of economic development is presently in the "underdeveloped" category, these expenditures have a positive impact that cannot be ignored.

Certain Air America services are unique to the company and represent assets not only difficult to replace, but hard to do without. These are described elsewhere in this booklet, but deserve special mention here. I speak of our sponsorship of the Security Inspection Service, now consisting of 5 American supervisors and 22 Lao inspectors working to enforce rules against carriage of opium and narcotic products by air in Laos; our Fire Brigade, which offers airfield fire protection and a backup capability for city fires in Vientiane and five sub-stations as well. Air America's operation of the "weather net" offers the only real-time weather forecasting capability in country, for general aviation, commercial aviation and contractor flights as well. Tied in with this is the so called "COMNET" giving flight watch radio monitoring service capability throughout Laos for all common users. We maintain and operate the three TACAN navigation stations in country, as well as all NDBs (non directional beacons for aerial navigation) in Laos. We have the only self-contained training facility in country for teaching skilled and semi-skilled aviation trades to Lao mechanic-trainees, and we operate a complete Flight Operations Training Department, with the only flight simulator in country. We are about to be tasked to train RLAFF flight and ground personnel in the C-123K aircraft over the upcoming months, including pilot training in the planes through Instructor Pilot level proficiency. Our Traffic Terminal in Vientiane boarded nearly 100,000 passengers last year, while loading over 135 million pounds of cargo locally, and we performed on-call ground handling services for visiting transient aircraft not only in Vientiane but elsewhere in Laos. Runway maintenance and repair is carried on not only in Vientiane, where the entire civilian/military airfield complex depends upon Air America-generated power, but runway and taxiway maintenance and lighting as well.

These capabilities have taken time to create and to demonstrate their worth. We are hopeful that these assets, both in the area of mechanical skills and human resources can continue to function in the future when, it seems to us, Laos will need as much assistance as it can muster in order to become more viable economically.


James A. Cunningham, Jr.

AIR AMERICA INC. ,

TECHNICAL SERVICES - AIRCRAFT MAINTENANCE

Air America's aircraft support capability in Laos grew from a necessity to safely and efficiently maintain aircraft in an undeveloped country where maintenance support was non-existent. Today this developed capability remains unsurpassed by any other firm or organization within the Kingdom of Laos. At one end of the spectrum our capability is demonstrated by the routine daily inspections required to maintain a fleet of 58 aircraft. At the other end of the spectrum our capability exists for complete disassembly, inspection and overhaul of aircraft. In the middle of this broad range of support lies the capability to perform all the numerous detailed inspections, repairs and minor adjustments that are required to maintain aircraft in a safe and airworthy condition.

In addition to the aircraft mechanics, are the specialist functions, shops and equipment to support the various specialities of aircraft maintenance. This capability is necessary to support technical functions too detailed and exacting to be performed by the average aircraft line service mechanic. Some of the specialist fields of support include; hydraulics, instruments, electrical, avionics, sheet metal, machinist, paint, dope and fabric, tire and wheel, welding, powerplant, propellers, engineering, planning, quality assurance and technical training.

Our Technical Training capability is most impressive as evidenced by the fact that in 1963 we employed only 32 Laotians in Technical Services -- Aircraft Maintenance. Today, largely through Air America's aircraft maintenance training efforts we employ 200 Laotian workers with more than 150 of them in skilled crafts or trades out of a total departmental strength of 403 employees.

In 1965 Air America foresaw the need for skilled Laotian aircraft workers and pioneered this effort by interviewing and selecting 14 Laotians to attend a 1 year aircraft line service mechanics course at the facilities of our associate company Air Asia Co. Ltd. Tainan, Taiwan. This was done at an investment of \$2,868 per student. This figure does not include salary and cost of living for the 1 year period. Although, today only 3 individuals of the first class of line service mechanics remain in the employ of Air America several of them continue to contribute in other aviation related positions, both in the Royal Laotian government and commercially with such firms as Royal Air Lao. By 1972 Air America had trained and graduated a total of 67 aircraft line service mechanics from the one year course in Taiwan.

Air America's capability in training Laotians is documented by a number of primary courses such as:

fashion acceptable to various regulatory agencies. Thirdly, engineering is capable of developing inspection or rework criteria, modification proposals and revision of technical publications.

4. Planning and Production Control: Planning has the primary responsibility of maintaining maintenance records and coordinating the maintenance schedules of assigned aircraft. Personnel are thoroughly experienced in the analysis of aircraft logs and organization of work through the preparation of inspection sheets and work sheets and other documentation according to commercial and government specifications. This unit monitors the time limitations of time controlled components, orders the necessary components, and assures replacements is carried out through proper scheduling. The unit is responsible for ordering and maintaining the currency of all technical publications used by maintenance personnel and maintains the Technical Library.

The Production Control Center controls through scheduling the input of all work to the shops, to enable an orderly production flow, and assure that all shop work is accorded the proper priority. This unit also handles the necessary documentation of all work accomplished by shops.

Personnel Assigned

Chinese	Thai	Lao
2	3	4

5. Quality Control: This section is staffed with skilled personnel tasked with the responsibility of providing the degree of inspection and quality surveillance and quality analysis required to assure that the quality of all technical production activities meet adequate standards, and the physical aspects of ground safety. This unit also approves manufacturing specifications, and the engineering and US FAA documentation as necessary to repair or modify aircraft, aircraft systems and aircraft powerplants. This unit approves on behalf of USFAA all major repair and aircraft alterations, and conducts annual inspections on all aircraft.

Personnel Assigned

American	Filipino	Chinese	Lao
1	1	4	3

6. Aircraft Shops: It can be stated that shop support is an absolute requirement for maintenance work. A whole range of specialized shops equipped to perform selected types of work, are available. These include shops for aircraft electronics, ground communications, instrument and electrical components, batteries, sheet metal, paint, welding, machinery, wheel/tire, minor aircraft accessory work, carpentry, and overhaul of ground equipment and vehicles.

A. Hydraulic Shop: This shop is capable of performing dynamic and static tests against pressures, flows, temperature and meter indications of aircraft and aircraft components, landing gear, and control actuators compatible with MIL-H-5606 hydraulic fluid, to ensure that they meet prescribed operational standards in accordance with applicable manufacturers specifications and government regulations.

This shop is also capable of minor repair and limited overhaul of aircraft hydraulic components such as mechanical valves, powered valves, actuating cylinders, pressure regulators, hand pumps, aircraft engine components and engine driven pumps, landing gears, and control actuators by inspection and replacement of worn, damaged, or otherwise unserviceable components.

B. Tire/Wheel Shop: This shop performs teardowns, cleaning, inspection, reassembly and testing of aircraft tires and wheels for all light and heavy aircraft, fixed-wing and rotary-wing, now operating into Vientiane, and is capable of performing the same functions for most commercial aircraft that operate internationally.

C. Paint Shop: This Shop can perform carbon degreasing and various chemical cleaning processes including paint stripping operations, prepare and treat surface materials, and apply enamel, lacquer and epoxy coatings in accordance with specifications and drying methods that meet applicable standards established by manufacturers and government regulations. In addition this shop can repair and overhaul plastic and fiber glass parts and assemblies associated with aircraft in accordance with applicable standards established by manufacturers and government regulations. Shop capabilities include the manufacture of molds and forms for fiber glass airfoils.

Personnel Assigned

Filipino	Chinese	Thai	Lao
1	1	1	3

D. Welding Shop: This shop is equipped to perform arc welding, heli-arc welding, and oxy-acetylene welding processes of the following metals and alloys: hardenable carbon steel and low alloy steel, corrosion-resistant and heat-resistant ferrous alloys, nickel base and cobalt base alloys, aluminum alloys, magnesium alloys, and titanium and titanium alloys.

E. Ships Equipment: This shop performs inspections, preventative maintenance and repairs to the numerous items of loose equipment installed in aircraft such as seats, seat belts, shoulder harnesses, carpeting, windows, lights, fire extinguishers, cabin trim and upholstery.

F. Sheetmetal Shop: This shop is equipped with specialized equipment and is staffed with personnel skilled in the use of aluminum, stainless steel, mild steel, magnesium, and titanium sheetmetals to fabricate and repair surfaces, structures, components, and equipment of most aircraft types. The shop is also completely capable of performing industrial sheetmetal work of a non-aircraft support nature and routinely does so.

Personnel Assigned

Chinese	Filipino	Thai	Lao
4	2	1	13

G. Machine Shop: This shop is equipped with a lathe and multitude of specialized accessories for limited self sufficiency in machining required in the repair and manufacture of parts for aircraft, aircraft components, tooling and supporting equipment. The shop is staffed by Lao personnel hired locally and trained by the Technical Training staff. The personnel are skilled in meeting the close tolerances in modern aircraft work and are able to perform standard machine functions not related to aircraft work.

H. Powerplant and Propeller Shop: This shop performs assembly of basic powerplants and accessories into quick engine change units (QEC) ready for aircraft installation. It also performs all teardown, minor repair, and preservation operations for all powerplants used in the company fleet in support of contract operations in Laos. This shop handles assembly and teardown operations for most Hamilton Standard, Curtis Electric, Hartzell, and similar makes of propellers in common use on most types of aircraft.

Personnel Assigned

Chinese	Lao
1	6

H. Avionics Shop: This is a modern shop equipped with specialized equipment and staffed with skilled personnel, capable of overhaul, repair and testing of most electronic components and equipment installed in aircraft or utilized in support of aircraft operations. Radio compasses radio altimeters, FM, HF, and VHF transmitters and receivers, distance measuring equipment, marker beacon equipment, ATC transponders, emergency transmitters, and interphone sets and all their accessories are regularly inspected, repaired as necessary, tested, and maintained on a routine basis. The shop is capable of

performing complex radio modifications. This shop also provides support to the RLAF in the form of testing and repair of complex electronic equipment such as TACAN and other communications and navigation equipment. The shop meets the criteria established by the USFAA for Class 1 Radio Repair Station Certificate.

Personnel Assigned

American	Filipino	Chinese	Thai	Lao
1	5	5	14	8

I. Instrument and Electric Shop: This shop is equipped with specialized equipment and is staffed with trained personnel capable of inspecting testing, and performing calibration adjustments on most aircraft and aircraft powerplant instrumentation and electrical systems. A very wide variety of instruments including ammeters; instrument amplifiers, clocks, magnetic compasses, controls of various kinds, gages for pressure, suction and flow; magnesynd and autosyn indicators and transmitters for speed, fluid quantity and pressure and flow, altitude, temperature, bearing, and position; servomotors; voltmeters and warning signals are routinely inspected, tested, calibrated and maintained on a regular basis. This section also performs inspection, test, and overhaul of NICAD batteries, and inspection, test, and routine maintenance on lead-acid batteries using specialized equipment.

Personnel Assigned

Filipino	Chinese	Lao
4	7	6

Air America -- General Maintenance

The General Maintenance Department of Air America provides essential support to many of the critical facilities throughout Laos. Maintenance support is provided for all U.S. Government owned facilities at Wattay and also maintenance on all vehicles and equipment assigned to the USAID Air Support Operations at the airport. In addition, it operates and maintains the U.S. Government owned power plant and distribution system that provides power for the Air Support complex, company owned facilities, RLA/T-28 area, TACAN, Runway Lighting, Perimeter Lighting, and the Wattay Control Tower facility. This plant provided over 3,200,000 kilowatt hours of power during 1972.

General Maintenance also provides personnel to operate and maintain all power generating equipment at all NDB, TACAN, and COMNET/WEATHER Sites in Laos.

The Engineering Section of General Maintenance provides professional engineers capable of designing and supervising construction of any type facility, be it an airport or building complex. This Section also supervises construction and maintenance of all STOL sites in Laos. In addition, this section has performed much of the facility construction and maintenance at RO/USAID supported airfields.

Another important function performed by this department is water purification and testing at the Wattay complex and at four crew hostels located at up-country sites.

General Maintenance Department provides the U.S. Mission a pool of highly skilled and professional personnel with proven capability for performance of a wide range of activities.

Air America General Maintenance Department

1. Complete Architectural and Engineering Services to Include:

- a. Design of roads, airfields, and all type buildings.
- b. Design of all types of electrical systems.
- c. Development of job specifications.
- d. Performance of all types of Engineering Surveys.
- e. Perform duties as a contracting agency.
- f. Perform as a contractor on certain type jobs such as installation of Runway Lighting Systems, Runway Repairs, and Building Erection.
- g. Provide personnel for complete supervision and job inspection.
- h. Construction and maintenance of all type STOL strips/helipads.
- i. Prepare and execute all type contracting documents to include job cost accounting.

Personnel Assigned:

American	Lao	Filipino	Chinese	Thai
3	4	3	1	3

2. Provide Complete Utility Type Repair and Maintenance at Hostel Locations throughout Laos (L-25, L-54, L-39, L-11) to include Buildings, Electrical, Water Purification, Sanitation, Refrigeration, Air Conditioning and Grounds Maintenance. Operation and Maintenance of Power Generation Systems.

Personnel Assigned:

Lao	Thai
1	3

3. Operation and Maintenance of Power Generation Equipment at Two TACAN SITES. Maintenance and Repair of Related Power Distribution Systems.

Personnel Assigned:

Filipino
4

4. Provide Utility Type Repair at Four AOC Sites (L-08, L-54, L-39, L-11) to include Buildings, Electrical, Water, Sanitation, Refrigeration and Air Conditioning and Maintenance and Repair of Runway Lighting Systems.

Personnel Assigned:

Filipino	Lao	Thai
1	2	3

5. Provide Major Utility Type Repair and Maintenance to include high and low tension electrical systems, all types of refrigeration and air conditioning systems, water distribution systems to include testing and purification, rebuild and rewinding services to include motors, transformers, regulators, switches, etc., office machine repair and complete plumbing services.

Personnel Assigned

Filipino	Thai	Lao
6	1	6

6. Provide Maintenance and Repair, including overhaul, of all type vehicles, trucks, material handling equipment, small power units, and all other types of non-mechanical equipment. Provide routine oxy-acetylene and electric arc welding services and manufacture of metal items. Provide high and low pressure air service. Body work and painting of vehicles and equipment.

Personnel Assigned

Chinese	Filipino	Thai	Lao
1	1	1	27

7. Provide Complete Maintenance and Repair of Buildings and Facilities to include all carpentry and masonry services. Provide structural painting services. Manufacture, repair and modification of furniture type items.

Personnel Assigned

Thai	Lao
1	7

8. Provide Service for Operation, Maintenance, and Overhaul of Large Power Generating Plants and Related Monitoring and Control Equipment. Provide assistance in maintenance and repair of the high voltage distribution system.

Personnel Assigned

Filipino	Thai	Lao
2	1	4

9. Provide Services for Operation and Maintenance of Power Generating Equipment and Related Distribution Systems at Six Locations (Ban Hou Sai, Xieng Lom, Luang Prabang, Vang Vieng, Savannakhet, and Pakse) to support communication and aerial navigation facilities.

Personnel Assigned

Filipino	Lao
1	13

10. Maintenance of a Personnel Pool to Provide all Janitorial Service, helpers for other sections, and workers for all types of construction projects.

Personnel Assigned

Thai	Lao
1	54

Air America-- Traffic Services

The Air America Traffic Department provides one of the most essential services at the Wattay Airport complex. Traffic is responsible for handling all the U. S. Mission sponsored passengers and cargo that is carried by air in Laos. The capability and performance of the Traffic Department is a matter of record. In 1972 the Traffic Department handled 92,000 passengers and over 135 million pounds of varied cargo, with a loss-damage-error factor that would be envied, if not dis-beleived by many other commercial carriers operating under more ideal conditions. This is accomplished with a professional staff, trained and continually upgraded by Traffic's own training program of both classroom and on-the-job instruction and by very knowledgeable and experienced supervisory personnel. During periods of distress, such as the recent flood calamities of 1966 and 1971, the Traffic Department was called upon to assume additional responsibilities and to perform under conditions that were far from normal. Once again, the training and versitility of this department afforded immediate response to the task at hand and the job was successfully completed in spite of the adverse conditions.

The Traffic Department is capable of providing ground support for any type of air operation, commercial or otherwise. With an employee force of 200 Lao nations and 50 Thai, Filipino and American personnel, this department routinely handles such activities as; passenger service, cargo warehousing, rice warehousing and palletizing, cabin service, and equipment, parachute packing and repair, parachute rigging for aerial delivery, ramp off loading and on loading service, and the training of ground and load master personnel. This is a "Can Do" department capable of meeting any situation.

Air America Traffic Department

The Traffic Department is divided into 8 sections. Mainly administration, traffic training, passenger service, rice warehouse, cargo warehouse, cabin services and equipment, parachut loft and ramp services.

1. The Administrative Section is comprised of an office staff, manifest clerks, teletype operators, cargo control clerks and a bookkeeper.

Aside from the normal clerical functions of the office staff, this section provides for the Customer documentation of cargo manifests, mail manifests, passenger manifests and general declarations. They compile and maintain records of all traffic movement and provide the customer with daily and monthly reports of cargo/rice/salt/mail and passenger movement. In addition they prepare and dispatch all documentation in reference to domestic and international traffic movement utilizing airway bills, both revenue and non-revenue and various other customs and immigrations forms.

Personnel Assigned

Thai	Lao
2	24

2. Traffic Training is responsible for the training of all traffic personnel. They conduct both formal and on the job training. Their training covers Loadmaster both ground and air, flight attendant and aerial delivery training courses are conducted as required.

Personnel Assigned

American	Thai
1	1

3. Passenger Service Section provides for the physical accomplishment of all passenger processing activities to include check-in, documentation, baggage weighing and tagging, recording data for manifests, and assisting the passenger with customs, immigrations, and quarantine formalities as required. Passenger agents meet all inbound aircraft, insuring that baggage is promptly off-loaded and escort passengers to the terminal. Traffic Agents/Ground Hostesses escort passengers to departing aircraft.

Personnel Assigned

Lao
4

4. Rice Warehouse is responsible for the receipt, inventory, storage and preparation for aerial delivery of all rice/salt and other commodities

fork-lifts, trucks and other specialized equipment. They are responsible for the proper unloading and placement of cargo for weight and balance and cargo restraint.

Personnel Assigned

Lao

89

There are two Americans, one Thai and three Filipino Assistant Traffic Managers assigned. Their duties vary from administrative coordinator (desk) to ramp services coordinator (ramp) depending on duty assigned.

9. Administrative Coordinator is responsible for preparation and documentation of cargo and passenger for movement. He supervises the operation of the cargo and rice warehouse and coordinates aircraft loading activities with the Operations Manager and the ramp service coordinator. He selects cargo and passengers from existing back logs in accordance with customer or company priorities and insures that manifests be properly prepared and distributed.

10. Ramp Services Coordinator is responsible for all Traffic ramp services, to include cargo and passenger loading. He insures that aircrafts are properly loaded, and tied down, adequate level of POL rigged for aircrops, responsible for the maintenance and appearance of Traffic ramp equipment and aircraft interiors.

Above is what we are doing now. Below is what we are prepared to offer.

11. Traffice and Sales

a. Operation of commercial terminal

- Ticket sales
- Documentation, domestic and commercial
- Passenger processing
- Cargo processing
- Border clearance

12. Ground Services

a. Aircraft handling

- On/off-loading cargo flights.
- On/off-loading passenger flights
- Catering (inflight meals, beverages etc.)
- Aircraft grooming
- Ramp services, airstairs

delivered to the warehouses. They maintain records of all movement both, airdrop and point to point of the commodities and provide the customer with a daily inventory and monthly movement report.

Personnel Assigned

Lao
25

5. Cargo Warehouse is responsible for receipt, storage and preparation for shipment of all customer and company cargo delivered to the warehouse. They provide the customer and the company with an up to date daily backlog report of all cargos, by destination, date received, nomenclature, and priority. They issue cargo to the customer and maintain records of these transactions. They operate warehouse lifts and other materials handling equipment in the performance of their duties.

Personnel Assigned

Lao	Thai
12	1

6. Cabin Services and Equipment provides for the cleanliness of the aircraft cabins, insures that seats, seat belts and flooring are in a good state of repair and clean. Provides for procurement, storage, issue and inventory control of all inflight supplies and commissary equipment. In addition responsible for all tie-down devices and other cargo restraint equipment consigned to the department.

Personnel Assigned

Lao
18

7., Parachute Loft received, repairs, and repacks all types of cargo parachutes. Maintains records of parachutes on hand, number repaired or surveyed, and number utilized for drops during any given month. In addition they supervise the rigging of loads for airdrops.

Personnel Assigned

Lao	Thai	Filipino
18	1	3

8. Ramp Services provides for the on/off-loading of all aircraft (including ground handling of CASI) as required by the customer or company. They utilize numerous types of materials handling equipment in the performance of their duties to include use of hand carts, airstairs, baggage trailers,

13. Training

Flight attendant
Traffic Agent
Materials handling equipment
Parachute packing/rigging/repairing
Teletype operation

14. Warehousing

Cargo handling/storage/general
Cargo handling/storage special
Mail handling/storage

15. Rice Warehouse

Bagging

16. Aircraft Loadmasters

Air Freight Specialists
Air Freight Dispatchers

Air America Communications Department

OPERATIONS DIVISION

General. Air America operates and maintains all VHF and HF communications facilities providing support to U.S. Mission aircraft operating in Laos. Air America also operates and maintains all eleven non-directional beacons (NDB's) and all three TACANS in Laos. We also operate and maintain a weather communications network providing weather information to U.S. Government and Royal Lao Government agencies. The facilities operated and maintained by Air America are scattered throughout Laos, but the primary facilities are at, Pakse, Savannakhet, Vientiane, Hightower, Luang Prabang, Ban Houi Sai, Vang Vieng and Sayaboury.

Flight Watch. Three separate VHF, two HF, and one UHF air-to-ground circuits are continuously guarded by Air America in order to provide immediate response to all MayDay calls for assistance. The flight watch also provides for efficient utilization of aircraft through the visual presentation of their movements on the flight operations board and consequent control of aircraft by the Vientiane operations department.

Weather Net. Personnel in the field, throughout Laos, take several daily surface synoptic weather observations and also upper-air observation using the PIBAL (or Pilot Balloon) system. The weather information collected at each site is sent to Vientiane via a Weather Communication Network. It is then plotted on weather maps and the information derived is disseminated to all interested parties including the Royal Lao Meteorological Service and commercial air carriers.

Towers and Navigational Aids. Air America operates and maintains non-directional radio beacons at all major airfields throughout Laos including Wattay. Upon request we maintain the radio equipment used at every control tower throughout Laos with the exception of Sayaboury.

Personnel. In carrying out these functions the following trained personnel are utilized

Lao	Thai	Chinese	American
18	13	29	1

MAINTENANCE DIVISION

General. CMD maintains SSB high frequency ground-to-air and point-to-point systems, VHG-AM ground to air systems, UHF-AM ground-to-air systems, VHF-FM link and point-to-point systems, teletype systems, RTTY and CW systems, primary air navigation systems and secondary air navigation systems.

Specific . CMD repairs and maintains commercial SSB and AM transceivers and transmitters manufactured by Aerotron, Collins Radio, Hallicrafters, AeroCom, and Stoner Communications.

CMD repairs and maintains UHF and VHF AM equipment manufactured by Collins Radio, Gonset, Aerotron and Conico.

Commerical VHF-FM equipment repaired and maintained by CMD is manufactured by Hallicrafters, General Electric and Motorola.

Military type AN/TRN-17 TACAN is maintained by this department as well as eleven non-directional radio beacon systems within Laos.

An extensive teletype system is maintained for company use and includes M14, M15, M19 KSR-28 and ASR 28 teletype equipment. This department maintains the M19 and ASR 28 equipment utilized by the Lao DCA.

All remote control systems used with the above mentioned radio communications systems were designed and constructed by this department.

Personnel

Thirty five personnel are assigned to this department as follows:

Thai	Filipino	Lao	American
18	14	1	1

The average electronics maintenance experience level is seven years. Each mechanic is given recurring basic electronics instruction. All mechanics have been given classroom and on the job training for solid state devices including integrated circuits. Teletype mechanics have been through formal KSR-ASR 28 training in Hong Kong and all have more than 10 year repair experience. Several mechanics are experienced in VOR, ILS and multi-channel microwave maintenance.

System Maintenance. The specific equipment mentioned above make up the following communications systems which are maintained by CMD:

- A. CW point-to-point system for aeronautical weather.
- B. CW point-to-point system for administrative communication.
- C. SSB point-to-point system for aircraft position report relyay.
- D. Back-to-back automatic repeater FM-AM ground-to-air communications to three select points in Laos-Pakse, Ban Houi Sai, and Vientiane.

Air America Fire Brigade

The Air America Fire Brigade consists of a headquarters brigade located at Wattay Airport in Vientiane and five sub-stations at the out-lying air-fields at Pakse, Savannakhet, Luang Pravang, Vang Vieng and Long Tieng. The primary responsibility of the fire brigade is to provide fire protection for U. S. Mission facilities and aircraft and for Royal Lao Government aircraft. It also provides fire protection for off airport U. S. Mission facilities and assists the local city fire departments whenever required.

Total personnel of the brigade is 93, consisting of one American Fire Chief, eight TCN firemen supervisors and 84 Laotian firemen and firemen leaders.

Assigned vehicles total 18, consisting of 10 aircraft fire fighting and rescue vehicles, 5 pumpers, 2 ambulances, and one Fire Chiefs pick-up.

Fire brigade operations consist of 5 separate functions, as follows:

1. Fire Prevention. Includes fire inspections to determine and eliminate unnecessary fire hazards and providing education to personnel in standard fire prevention methods.
2. Fire Extinguishers. Includes the installation, inspection, maintenance, repair, and recharging of all fire extinguishers in the assigned area of responsibility. At-out-stations this includes all fire extinguishers concerning the U. S. Mission.
3. Aircraft Crash Fire and Rescue Operations. Includes the immediate response to aircraft accidents and to aircraft landing with declared emergency conditions. Additionally, performing precautionary stand-bys at aircraft undergoing hazardous operations such as defueling, welding, spray painting, new or rebuilt engine run-ups hazardous cargo loading, and runway standby during heavy flying periods or aircraft training and test flights, or inclement weather.
4. Structural Building Fire Fighting: Includes response with pumper fire vehicles to natural cover fires (brush or grass) and to building type fires. This includes responses to private and commercial building fires, either as assistance or at out-stations as a moral obligation, as well as responding to fires involving U. S. Mission property.
5. Training. Training is the essence of successful fire protection. Primarily this includes a continuous training program for firemen in order to maintain proficiency and readiness. Additionally, training of other personnel to be cognizant of good fire prevention measures and to know what to do and what not to do in event of fire. Also training of personnel in the proper operation of fire extinguishers and the correct method of applying the various fire extinguishing agents. Training also

5. (cont'd)
consists of mutual-aid type fire fighting between the AAM, Mission Guard, and City Fire brigades so that standard procedures and available equipment will be compatible and utilized to the highest possible degree. Drills and classroom lessons are conducted between the various units to obtain this goal.

Statistics of fire brigade operations over the past 8 years are on file in the Fire Brigade Headquarters. Following are some statistics for the calendar year 1972.

- A. Runway Inspections. 365 daily inspections at 0530 hours to insure that runways are operational for the first flights of the day.
- B. Runway Standby. Continuous runway standby with one fire vehicle between 0630 and 1930 hours
- C. Ramp and Runway "watch". Continuous ramp and runway "watch" during all periods of flying.
- D. Ambulance Services. Transported 704 patients and 101 bodies.
- E. Fire Extinguishers. Recharged fire extinguishers throughout the country, including RLA F and 127 for USAID. In addition, performed inspection and maintenance of fire extinguishers at various sites where fire brigade sections do not exist, such as at Ban Houi Sai, etc.
- F. Fire Vehicle Responses.
1. Aircraft landing with declared emergency condition: 580
 2. Precautionary standby for aircraft undergoing hazardous operations i. e. spray painting, welding, fueling/defueling, engine run-ups (new or rebuilt) loading and unloading hazardous cargo, etc.: 2538
 3. Fuel and/or oil spill washdowns: 216
 4. Aircraft incidents/accidents (minor and major): 82
 5. Responses to fires (other than aircraft) including vehicles, buildings, natural cover (grass), army barracks, city buildings, etc. : 51

Air America Supply Department

With a staff of 47 Lao nationals and 11 non-laotians the Air America Supply Department operates a sophisticated logistics system providing world wide material support for U. S. Mission and Royal Lao Government activities, and is presently one of the most essential support functions in Laos today. The Supply Department is composed of six distinct but interrelated sections. These sections are responsible for providing the proper administrative formula needed to assure positive control of property and material required by relative policies and all sections have the same objective of providing the most efficient and economical logistics support possible. On-the-job training and classroom instruction has allowed supply to enjoy a work force comprised almost exclusively of Lao nationals.

1. Administration and Property Control Center is composed of a clerical staff, teletypeoperators and research personnel. The functions of this sections vary from daily administrative assignments to the maintenance of capital and non-capital property records to providing research data from our materials research library. Correct identification of required material is essential in any logistical organization. This section is capable of providing such information. Property Control Center physically inventories and maintains updated records of capital and non-capital property which reflect accurate locations, cost and source data not only for Vientiane but all locations in Laos.

Personnel Assigned

Lao	American
5	1

2. Material Control assures a positive approach to the maintaining of all material and parts stored within our warehouse complex. This area is responsible for the stock analysis of 16,000 line items valued in excess of \$5,000,000. Material Control maintains historical records of all operational material and acts as the nerve center for all Vientiane and off base requirements. Material Control operates under a very sophisticated inventory system.

Personnel Assigned

Lao	Chinese
6	1

3. Material Facilities is responsible for the receipt, proper storage and issue of our diverse inventory. Our inventory covers such wide areas as general, administrative supplies, radio and communications equipment, aircraft spare parts, automobile and generator supplies, building and

construction material, medical supplies, POL products, special tooling and uniforms which generates approximately 1,000 transactions per month. All of these items have their own peculiar method of storage and personnel assigned to our Material Facilities are very familiar with them. Warehousing, with proper location system, is imperative in any logistical stores program. Our Material Facilities Division record of accomplishment speaks for itself.

Personnel Assigned

<u>Lao</u>	<u>Chinese</u>	<u>Thai</u>	<u>Filipino</u>
24	4	3	1

4. Shipping and Receiving provides the freight forwarding unit for the Supply Department. This section has an excellent packing and crating facility which prepares an average of 1300 pieces of cargo monthly or a volume of 180,000 pounds per month for both surface and air shipment. Shipping and Receiving prepares documentation and maintains records of all inbound and outbound material movements.

Personnel Assigned

Lao	Chinese
9	1

5. Customs Control prepares, records and maintains all the documentation required for RLG Customs formalities on all inbound and outbound shipments for both company and commercial means of transportation. This section is responsible for coordinating the movement of household effects and the preparation and processing of relative documentation. Customs maintains historical records of all duty free commodities that have been imported into the Kingdom of Laos either individually by authorized personnel or by the company in support of its operations.

Personnel Assigned

Lao
1

6. Procurement is a very important aspect in any commercial operation. This section is responsible for the execution of approved purchase requisitions; market research; handling of inquiries; obtaining vendor quotations from it's various markets and source locations and the scheduling of the delivery of property and material in a timely fashion. This unit averages 322 procurement requests per month representing a figure of \$35,000. Of the \$35,000 spent monthly approximately \$10,000 is used for local acquisition with the remainder absorbed thru other market locations. By way of a very intricate communications system that links our Vientiane Section with

similar units in the Far East and United States we can secure availability, cost quotations and comparative data that ensures the most competitive and economical market research available.

Personnel Assigned

Lao

2

Air America Security Department

The Security Department provides 24 hour per day protection for Air America and U. S. Government property at the Wattay Airport. A force of eight men are also assigned to guard the USAID/RO warehouse at Savannakhet. The Guards are trained to be alert, to prevent theft, sabotage and smuggling. They assist in enforcing safety and auto traffic rules. They also assist Traffic Agents in ensuring that only authorized passengers board the aircraft.

1. The Guard Force is composed of 60 Guards (55 Lao and 5 Thai) and 3 Thai and 2 Lao Guard Leadmen (shift supervisors). A Thai Guard Supervisor is in charge of the force. The supervisory personnel can all speak and write English, and 90% of the Guards can speak and understand rudimentary English.
2. The Security Investigative Staff of 3 Thais and 2 Laos has as routine work, background investigations of all employees to establish their bona fides and to cull out misfits or potential troublemakers. The investigators also conduct special inquiries regarding thefts, lost items, company vehicle accidents, off-the-job misconduct of employees and dependents, and conflict of interest. Liaison and close cooperation is maintained with the Lao Police, Army and Air Force officials to ensure harmonious activities and to suppress any bad publicity.
3. The Security Inspection Service. is operated on behalf of the U. S. Mission to ensure that no opium products are carried aboard charter aircraft in contravention to Lao Law. The SIS is composed of 5 Americans, 20 Laos and 2 Thais, all trained by U. S. Customs Agents. They are assigned on a temporary, rotating basis to 7 major airfield in Laos. A specially trained opium and heroin sniffing dog is used as well as conventional inspection techniques. Since 1 January 1973 the SIS has made 35 finds of opium products. Of equal importance has been the value of "example" which the SIS have set for the Lao Customs and Police Officers to follow. Finally, the SIS have provided "eyes" at airfields all over Laos. There is little that goes on which escapes their notice, and reports of suspicious activities are made immediately to other agencies involved in narcotics suppression.

Air America Medical Department

The Medical Department furnishes free modern medical services to all Lao and non-lao employees and their dependents. It is also one of the few medical 'clinics' in SEA to provide physicians recognized by the USFAA. The clinic is staffed by 2 doctors, 1 medical technician and 6 nurses.

Air America POL Department

The Air America POL department with a staff of 60 Laotians, 8 Thais and 1 American provides or supervises all the fuel and oil used up-country by U. S. Mission and Royal Lao Government aircraft. Extensive POL facilities are available at Vientiane, Vang Vieng, Bon Xon, Long Tieng, and Bouam Long. Less extensive facilities are available at more remote locations.

Air America Hostel System

Utilizing the services of 35 skilled personnel, Air America maintains four hostels in Laos to meet the needs of the U. S. Mission; a 33 bed unit at Pakse, a 20 bed unit at Savannakhet, a 20 bed unit at Luang Prabang, and a 22 bed unit at Ban Houi Sai. In meeting the needs of U. S. Mission and contractor personnel the hostel system provides approximately 2900 beds per month. In addition to sleeping accommodations each hostel is equipped with complete kitchen facilities, laundry service, recreational facilities, 24 hour transportation, and guard service. Periodic inspection with laboratory analysis insures that a high level of sanitary cleanliness and efficiency is maintained at all times.

Air America Flight Operations Department

The service the Operations Department performs is essential to air effort of the U. S. Mission in Laos. With a staff of 9 Americans, backed up by outstation radio operators and a hand full of Lao and Thai OD's, this department oversees and monitors the aviation activity in Laos. Responding to emergencies as well as routine problems, these professional Operations Managers bring a degree of safety to an unforgiving environment.

The Flight Operation Department is comprised of Flight Operations, Flight Information Center (FIC), Emergency Equipment Section (EES), Weather Control, and Ground Transportation Department.

1. Flight Operations operates on a 24 hour basis to ensure proper coordination of contract air operations. The staff is responsible for the planning, flight watch, and monitoring of both contract, affiliated and allied organizations air operations in Laos. The section schedules aircraft to meet customer requirements, ensures the mission is completed safely and as requested and, in case of an aircraft emergency, is responsible for coordinating and pursuing an appropriate course of action. The section also maintains close liasion with various governmental and allied groups to maintain a safe and efficient operation.

Personnel Assigned

American	Lao	Thai
6	9	5

2; Flight Information Center is responsible for the collection, display and dissemination of all available information pertaining to the safe conduct of air operations. The Center monitors in-flight facilities, navigational aids and communications status and coordinates with appropriate parties to ensure continuous service. The center publishes, and revises as necessary, the Air Field Manual for Laos. One of their major tasks it to coordinate with ORA in scheduling the distribution of rice to refugees. In a normal month, some 20,000/25,000 tons of rice are schedules for aerial delivery thru FIC.

Personnel Assigned

American
3

3. Weather Central is divided into a forecasting collection of weather data via surface reports, upper air observations, pilot reports. This data is plotted on charts, and a forecast made and disseminated to all interested parties. The skill and professionalism of this group is reflected in the

3. (cont'd) numerous commendations they have received from various organizations including the Royal Lao Government Meteorological section.

Personnel Assigned

Chinese

9

4. Emergency Equipment Section is responsible for ensuring that all protective and emergency equipment necessary for crews and passengers is maintained, issued and monitored properly. On extended over-water and/or international flights, the section ensures that all necessary safety equipment is onboard the aircraft.

Personnel Assigned

Thai

1

Lao

4

5. Ground Transportation Section operates a mixed fleet of 28 vehicles which includes fork lifts, small vehicles and large passenger busses. Operating on a 24 hour basis, the department transports company personnel on official business, crews, and assists in loading and off-loading of cargo from aircraft. The supervisor maintains vehicular records, necessary insurance and license records and oversees the proficiency of the drivers. The vehicles average a monthly total of 20,000 miles a month and average gasoline consumption is 1500 gallons a month.

Personnel Assigned

Chinese

1

Lao

67

Air America Flight Operations Training Department

The Air America Flight Operations Training Department is one of the finest in South East Asia and it has a vast amount of experience in training both American and Non-American personnel for positions in the field of aviation. The training department is capable of preparing and conducting training on any equipment or subject in the aviation field. Pilot training is designed to prepare the pilot for flight duty in the aircraft to which he is assigned. This training will normally consist of technical information about the aircraft, its power plant, related systems, and such other subjects as weather, navigation, aerodynamics, electronic equipment, survival and emergency equipment, and emergency procedures.

The training staff, with a combined total of 281 years of aviation experience, consists of seven aviation classroom instructors, one survival and emergency equipment instructor and two synthetic instrument training instructors. The instructors are backed by a large technical library, audio visual aids, and a Synthetic Link Trainer.

Air America - Flight Department

The Air America Flight Department has established an enviable record of performance that speaks for itself. Since the early 1960's Air America has provided the aircrews to carry out the objectives of the U.S. Mission in Laos. In the early days the lack of navigational aids and uncharted terrain was the biggest challenge facing the crews. Unfortunately, as these obstacles were overcome they were surpassed in deadliness by the increase of sophisticated weapons available to the enemy. Thru this entire period the crews continued to get the job done, whether it called for braving the hazards of dismal weather and terrain or the hazards of enemy fire. As stated before -- THE RECORD SPEAKS FOR ITSELF--.