



**COAST GUARD**

# Loran Station **IWO JIMA**



**General Information Book**

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## CHAPTER I

### GENERAL INFORMATION

#### A. ISLAND HISTORY:

Iwo Jima is an island located within the Nanpo Shoto, a chain of islands extending approximately 750 miles in a southerly direction from Tokyo Bay to within 300 miles of the Marianas. Iwo Jima is in the Kazan Retto group, 660 nautical miles from Tokyo.

The first sighting of the Volcano Island group was made in 1545 by a Spanish Captain, Bernard De Torres. In 1673 the Volcano group was visited by Gore, an Englishman, who gave Iwo Jima its name --- Sulphur Island --- for obvious reasons.

The Japanese colonized the island in 1887 and incorporated it into the Ogasaware Branch Administration under the Tokyo Perfectual Government in 1891. The civilian population of Iwo Jima reached 1090 by 1943. Since there was a ban on foreign settlement, imposed in the early 1900's, the population was completely Nipponese. There were four villages on Iwo Jima; Minami, Kita, Motoyama, and Nishi. All the homes and buildings were typically Japanese. The villages were well organized, supporting several tea houses, two hotels and a school. Sulphur mining and refining together with sugar processing provided the main source of income as well as supplying local food requirements. However, agriculture provided additional income, sugar cane, dry grains, (except rice), and all types of vegetables were produced, with the items being shipped to Japan in trade for rice and other manufactured articles.

Fishing was of small importance due to the ready availability of fish from homeland fishing fleets. The ships would dock at the base of Mt. Suribachi and trade fish for fresh vegetables. Freighter service was provided once or twice a month to transport sulphur and sugar to Japan.

All potable water was obtained by catching rainwater in concrete cisterns as is done today. There were a few brackish water wells used for cleaning and agriculture. There are no wells on the island today.

The civilian population of Iwo Jima was reportedly evacuated to Japan by the Japanese Island Commander, Lieutenant General Tadamichi Kuribayashi, in June of 1945. The island was invaded and captured by the U. S. Forces in February 1945. The island was mandated and governed by the U. S. until June 1968, when by treaty, it was returned to the Japanese.

The first Loran-A station was established on Kangoku Iwa, a small island 2100 yards west of Iwo Jima, shortly after the invasion forces landed on Iwo Jima. The station was relocated in 1949. The new station was built of quonset huts at Kitano Point, the northern most point of the island. In 1956 the station was once again rebuilt and consisted of three concrete block buildings. In 1963, Loran-C was added to the station mission and additional three concrete block buildings were erected. At the same time modification of the existing buildings was accomplished. In March of 1964 the 1350' Loran-C tower collapsed. Construction of the new Loran-C tower and transmitter building was completed by late 1964.

B. GEOGRAPHIC:

The island is located midway between Tokyo and Guam, Okinawa and Marcus Island. The position of the island is  $141^{\circ}19'$  west longitude and  $24^{\circ}47'$  north latitude. Iwo Jima is considered within the boundaries of the city of Tokyo.

C. TOPOGRAPHIC:

The island is 5.2 miles long in a northeast-southwest direction. From a maximum width of 2.6 miles on its northern bulge the island tapers to a width of less than 0.4 miles at Mt. Suribachi on the southern tip. The island has an area of about eight square miles. It is composed of a broad, low volcanic cone, Motoyama, at the north and steep Mt. Suribachi at the south, with a gentle undulating isthmus of black volcanic ash and fine cinder between the two points. The highest point is Mt. Suribachi, 556 feet, Motoyama rises to an altitude of 360 feet above sea level.

The present loran station and Loran-C antenna are situated on the upper slopes and top respectively of Mt. Motoyama. Motoyama has not erupted since the Pleistocene, or glacial period. It is composed of a massive core of lava flows covered by a mantle of sandstone-like volcanic tuff. (Volcanic ash consolidated to rock), locally as thick as 240 feet. Hot spring, sulfataras, steam vents and bubbling mud pots typical of the last stages of volcanic activity are localized along fractures and faults on the top and lower slopes of Motoyama, the gases and heat provided by the still hot core of lava. Many active fumaroles occur on the island. These are especially numerous in a belt extending northeasterly across the center of Motoyama, in the crater of Suribachi, on the west beach and 400 yards northeast of the loran station. There is considerable heat at depth under the entire island, as indicated by temperatures of from  $105^{\circ}$  to  $160^{\circ}$  F in wells drilled to sea level in the isthmus.

The island is honey combed with both natural and man-made caves. Many of the caves were closed by bombardment during the invasion and



a large number sealed after the island fell to U. S. Forces. Many caves are still open or have been opened by erosion. However, they are small, hot and considered to be very dangerous. All caves are classified as burial places and as such are off-limits. The island is also littered with old ammunition, both Japanese and American. Even though most of the ammunition is almost thirty years old, it is still considered extremely dangerous.

Vast quantities of sulphurous fumes are emitted by a sulphur pit below the loran station, one of the largest on the island. In order to combat the corrosive effects of this gas, air conditioning equipment is installed in the Signal-Power Building, barracks, and transmitter building.

D. CLIMATE:

Iwo Jima has a humid climate similar to that of southern Florida. The mean average temperature is 73° F and a high of 96° F. A rainy season lasting from November to May provides the station with most of its water supply. The average yearly rainfall is approximately 61 inches. The average humidity is 83%. Adverse weather is not common, however, during typhoon season usually one tropical storm crosses the island. This season is from April thru November.

E. POPULATION:

Iwo Jima's population, all male, consists of approximately one hundred (100) U. S. Coast Guardsmen and Japanese Maritime Self-Defense Force (JMSDF) personnel (Japanese Navy). The senior officer on the island is the Commander JMSDF. At present there are no civilian personnel attached to either command.

F. BASE AND NATIONAL AGREEMENTS:

Under the treaty of Mutual Cooperation and Security between the United States and Japan, the following agreements were reached:

U. S. Forces based boundries shall consist of 1,600 acres on the NW end of the island.

Japan provides maintenance, operation, and unimpeded use of the following:

Runway, taxiways, ramp areas.

Runway lighting, radio beacon, TACAN, air-to-ground communications.

Roadways, external to the U. S. Forces area.

Landing beaches and access thereto.

The Japanese supply a minimum of 2000 gallons per day of fresh water for use by the U. S. Forces, when needed.

Joint use of the Fuel Tank Farm and provisions for supply of aviation gas, motor gas and diesel fuel.

G. TIME ZONE:

Iwo Jima keeps plus 9 (Kilo Zone) time, which is the same as Tokyo time. Iwo Jima time is 17 hours ahead of U. S. West Coast. Example: If it was 1100 local time in California on Sunday, it is 0400 Monday on Iwo Jima, disregarding daylight savings time.

## CHAPTER II

### OPERATIONS

#### A. AIDS TO NAVIGATION:

The mission of Iwo Jima LORSTA is to provide aids to navigation to both air and sea navigators through the transmission of Loran-A and Loran-C signals. It is the responsibility of this station to transmit two signals continuously during peace and wartime or until electromagnetic radiation control is invoked by higher authority.

This station presently operates as a double master on Loran-A and is paired with Gesashi Coast Guard Loran Station on rate 2H6 and Hachijo Jima Japanese Loran Station on rate 2H7. Iwo Jima is designated master of the NW Pacific Loran-C chain on rate SS3 and is paired with Hokkaido, Marcus, Gesashi, and Yap Coast Guard Loran Stations. Kami Seya and Saipan Coast Guard Loran Stations are the system area monitors for the Northwest Pacific Loran-C chain.

The chain of command to the Commander, 14th Coast Guard District is via Commander, Coast Guard Section Far East. Iwo Jima Loran Station is under the operational control of Commander, Coast Guard Section Far East.

#### B. COMMUNICATIONS:

Iwo Jima Loran Station maintains HF SSB, RATT and limited CW communications with NET controller; Kami Seya Radio Station and all the loran stations in the NW Pacific Loran chain. The JMSDF Base has HF communication capabilities with the Japanese mainland and limited UHF, VHF aircraft tower frequencies.

TTY-II, which is a system using the first two pulses of the Loran-C signal, is used for communications between all loran stations of the NWPAC chain.

The loran station operates a ham radio station which can provide limited phone patch capabilities thru the joint MARS net. No direct party traffic is permitted except via the MARS net.

#### C. VEHICLES:

The station maintains one (1) Japanese diesel truck, 2.2 tons; one (1) diesel stake truck, 3 tons; one (1) 3 wheel electric cart; one (1) diesel forklift, 3 tons; and one (1) tractor with sickle.



### CHAPTER III

#### PERSONNEL

##### A. COMPLEMENT:

The personnel allowance for Iwo Jima is as follows:

1 LT	1 MK1	2 ET1	1 SS1
1 RELE, W-4	1 MK2	3 ET2	1 HM1
1 BMC	2 MK3	4 ET3	1 SK2
1 MKC	1 DC1	1 ETN2	1 SS3
1 ETC	1 EM2	1 RM1	2 FN
		1 TT3	12 SN

The station personnel allowance consists of two officers and forty enlisted men. The CWO (ELC) has the primary duty of Electronics Material Officer. Station organization divides personnel into three divisions. The deck division, operation, and engineering divisions are headed by a BMC, CWO, and MKC respectively. The corpsman in addition to his normal duties, acts as administrative assistant to the Commanding Officer. The BMC also acts as Executive Petty Officer in lieu of having the CWO being the Executive Officer.

##### B. ADMINISTRATION OF PERSONNEL RECORDS:

All personnel accounting is handled by Commander, Coast Guard Section Far East. All personnel changes are reported by message as directed in current COMCOGARD FESEC Instructions.

Service and health records are maintained on this station.

Personnel data cards are maintained at COMFESEC.

##### C. MEDICAL FACILITIES:

A Hospital Corpsman is assigned to the station for all minor and emergency medical cases. Limited medical aid is available from the Japanese Forces. MEDEVAC is available from the 475th ABW, Yokota, Japan.

##### D. TRAINING AND EDUCATION:

Educational needs are met by the numerous courses available thru the Coast Guard Institute and approved civilian courses. The station Commanding Officer acts as the Educational Officer.

Training is limited to "on-the-job" training, lectures, and films.

E. MORALE AND WELFARE:

Outdoor Recreation Facilities: The loran station has a combination volleyball, basketball and tennis court. Beachcombing, fishing, and "boon docking" occupy a major portion of the off duty time.

Due to the strong currents and undertows of the ocean in this area, swimming in the ocean is prohibited except at designated areas.

Indoor Recreational Facilities: The station facilities include movies, (16mm projectors), ping pong, pool table, library, and tape recorders with a large library. There is also a Beer/Soda Concession and a photo lab, along with various athletic equipment for both outdoor and indoor events.

F. MAIL:

Mail delivery is provided once a week. Normal airmail time between the East Coast and the station is about one week.

The unit address is:

U. S. Coast Guard Loran Station  
FPO Seattle 98781

The unit has an authorized post office for the purchase of stamps and money orders.

G. EXCHANGE:

There is a branch of the AAFES Japan Regional Exchange on Iwo Jima, with a store value of \$10,000. This store stocks mostly convenience items as well as handling larger special orders. PX catalogs for the Pacific, Europe, and Stateside are available also.

H. HEALTH AND SANITATION:

Stringent health and sanitation practices are observed by all hands. Constant checks are made of the water supply, the galley, mess deck, quarters, garbage disposal, trash disposal and housekeeping. Personal hygiene standards are on a common sense basis and are closely monitored by all hands.

Potable Water Supply: The station potable water supply is sampled and checked routinely by the station HM in accordance with current directives.

Sewage System: Sewage disposal at this unit consist of gravity drain lines to the septic tank. This tank is located in the lower Loran-A comb antenna field. The sewage then flows to a cesspool and from there settles into the ground. Inspection boxes are located at various points along the way.

## CHAPTER IV

### ENGINEERING

#### A. ENGINEERING:

Station power is supplied by four D-398 Caterpillar Diesel engines. Each engine generator combination is capable of a sustained 550 KW.

Electrical System: Common household 115V 60 cycle is provided by the station power plant in addition to the AC and DC requirements utilized by the loran equipment. There is no secondary or emergency system as two engines can supply the station power requirements.

Ventilation System: The electronic spaces are cooled by a packaged air conditioning system. All other cooling and ventilation is provided for by a chill water air conditioning system.

Fuel Oil System: Diesel fuel is purchased by the Coast Guard and stored by the Japanese. The Japanese forces maintain all delivery and storage systems. 380,000 gallons constitutes a years supply. Local agreements with the Japanese provide for Japanese maintenance of one 450,000 gallon storage tank. Three service tanks of 30,000 gallons each are located on the station.

#### Fresh Water System:

Rainwater is the only water used on this station. The catchment is 55,000 square feet in area. Raw water (untreated water) flows by gravity from the catchment through gate valves which direct water to a distribution box or to sewer drains if necessary and the other two valves direct water to the two sets of raw water storage tanks. There are four individual tanks in each set of storage tanks. One set of raw water storage tanks has a capacity of 12,500 gallons in each tank for a total of 50,000 gallons and the other set of tanks have a capacity of 30,000 gallons in each tank for a total of 120,000 gallons. Water is stored in these tanks until such time that it is needed for use. The raw water is taken from the tanks either together or separately into the pump house by centrifrical pumps, passed through a sand and gravel filter unit, and then chlorinated by an electric chlorinator. It is then pumped to either one of two potable water storage tanks (10,000 gallon capacity) where it normally remains until it is induced into the station pressure water system.

Water from the potable water (either separately or together), tanks is drawn by centrifugal pumps to a 400 gallon day tank, this tank maintains a pressure of 45 psi, and supplies all station buildings with fresh water.



In case of extreme drought, a 2" pipeline connects with the Japanese water system.

#### Buildings:

There are seven buildings located on the station, their purposes are as follows:

Transmitter Building: This building contains the Loran-C transmitter, parts storage, and power transformers. The transmitter building is located approximately 500 feet north of the 1350 foot tower.

Signal-Power Building: This building contains all of the Loran-A equipment, Loran-C timers and switch gear, radio room parts storage (electronics and engineering), engineers office and the engine room.

Pump House: This building contains necessary equipment for the filtering and chlorination of the station water system. It also contains the 400 gallon pressurized day tank.

Barracks and Subsistence Building: This building contains quarters for all the Enlisted, CPO, and Officer personnel. The galley, mess deck, and commissary spaces, office, laundry, photo lab, and sea bag locker are also located in this building, along with the exchange and sick bay.

Recreation and Lounge: This building contains the movie theater, music room, bar, and pool room, along with various storage rooms.

Upper Garage: This building contains a garage, DC-Electrician Shop, ham shack, post office, voq, and morale equipment storage area.

Lower Garage: This building contains an engineering storage area, paint locker, and exercise area.

#### B. ELECTRONICS ENGINEERING:

The EMO administers and supervises the electronic engineering functions of the station. Maintenance and operation of the equipment is outlined in numerous publications and directives.

Installed equipment consists of AN/FPN 45-46 for Loran-C, AN/FPN 30 timers and T-325 transmitters coupled into AM-1700 amplifiers for Loran-A. Communications utilize AN/URT-23 transmitters. The new generation of Loran-C equipment, called LRE, was installed in June 1976.



## CHAPTER V

### COMPTROLLER

#### A. COMMISSARY:

The commissary requisitions are prepared on form DD-1149 and submitted direct to the Commissary Officer, Yokota Air Base Commissary. Delivery normally takes two weeks. Billings for complete requisitions are submitted to this unit for certification and further transmittal to CCGD14(f).

#### B. SUPPLY:

##### Sources:

USNSD YOKOSUKA: Electronic items and General Stores.

YOKOTA COMMISSARY. Commissary supplies.

JMSDF: Diesel fuel, water.

CCGD14: Items not available from any other source and funds available requisitioning.

USCGSC BROOKLYN: Electronic items and CG peculiar items.

GSA: General Stores items.

COMFESEC: Items not available from normal sources.

#### C. PAY:

Pay records for this unit are maintained by the CCGDFourteen Honolulu, Hawaii Pay Office. Payrolls are received at this unit via registered mail once a month in the form of checks. The Commanding Officer is also provided with cash for men who desire to cash their checks.

#### D. FUEL:

Diesel fuel is received from the JMSDF Air Base, Iwo Jima as needed, on Japanese requisition form. Fuel is purchased by COMFESEC and custody is provided by the JMSDF. Since gasoline can only be acquired in barrels the conversion to diesel trucks has helped the logistics problem considerably.

E. TRANSPORTATION:

Scheduled transportation on and off the island is provided weekly. Numerous Japanese and occasional U. S. Military aircraft stop over for brief visits. The weekly logistics flight is via MAC C-130 from Yokota AFB. The Japanese Base has a weekly scheduled flight from Atsugi Japan to Iwo Jima and then to Marcus Island. U. S. personnel may travel on this flight with written permission from the Commanding Officer.

## CHAPTER VI

### ADMINISTRATION

#### A. ADMINISTRATION:

##### Reports, Logs and Correspondence:

Reporting requirements for this station are subject to change from time to time. All reports required are listed on the master check-off chart in the station office. A complete description of the report required, copies to be completed, routing, filing, dates required and other information is included on the chart.

Files are maintained in accordance with CG-199-1, Coast Guard Directives System. The files are located in the filing cabinets in the station office, or in the responsible department.

All publications that are required at this station are maintained in the station office, or by the local user. Items of interest are distributed to those persons concerned. Registered publications and classified material are maintained in the Commanding Officer's safe. Safety Bulletins, general information, and other all hands type of received correspondence is posted on the crews bulletin board.

##### Chain of Command:

The chain of command is from the Commanding Officer to the Commandant via Commander, Coast Guard Section Far East and CCGD14. Delegation of authority is directed by the Commandant, via CCGD14 and COMCOGARD FESEC to the Commanding Officer.

##### Safety and Station Bills:

Safety and Station Bills are in accordance with current directives for small shore units. Applicable fire, typhoon, NBC defense, have been promulgated based on unit manpower and facilities available. All station bills are outlined in detail in the Station Organization Manual.

## CHAPTER VIII

### GUIDANCE FOR RELIEF PERSONNEL

#### A. GUIDANCE FOR INCOMING PERSONNEL:

All personnel in receipt of orders should insure they have a complete seabag before departing CONUS.

Uniform requirements for Officers and Chiefs are tropical blue long, tropical white long and either full dress whites or blues. Travel from the mainland to Iwo Jima is dress blues, or tropical blue, depending on the season. The new CG blue working uniform is authorized on the island.

Uniform requirements for Enlisted personnel other than Chiefs is short sleeved dungarees, dress blue, tropical blue long, dress whites, and tropical white long. Neatly hemmed uniform shorts and white T-shirts are the normal working uniform during the hot months, at the option of the wearer.

If possible, obtain a government driver's license up to and including 3 ton trucks.

Shots, dental work, and medical exams for overseas assignment should be completed prior to reporting to CONUS point of embarkation.

If personal effects shipment is authorized, this shipment should be sent a minimum of 60 days in advance of departure from CONUS.

Civilian clothing is authorized while in a non-working status, however, an excessive amount is not encouraged, or recommended.

Personnel requiring eye glasses, special medication, etc., should bring a substantial supply with them, at least two pairs.

All personal matters should be taken care of prior to departure from CONUS.

#### B. TRAVEL TO AND FROM:

Travel from CONUS will normally be via Military Aircraft Command aircraft from Travis AFB, California, direct to Yokota AFB, Japan. Sometimes, incoming personnel will travel via Honolulu.

Upon arrival at Yokota AB, contact Coast Guard Far East Section in Yokota AB. Travel to Iwo Jima is weekly by military aircraft.

C. INCOMING COMMANDING OFFICER:

Normally, incoming Commanding Officers will spend time at the District Office and at COMFESEC for indoctrination before reporting to Iwo Jima. It is advisable to contact the incumbent Commanding Officer approximately 3 months before reporting to "touch base" and find out the general situation.



