

Flying Operations — XIV Antarctica Expedition (1994-95)

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Indian Navy

Flying operations in this Antarctica region has been the main role of the Indian Navy, ever since the first expedition was launched in 1981. The Naval pilots have been flying the indigenously built single engine Chetak helicopters during every Antarctic summer, to the machine's limits. Till the onset of the XIV Antarctic expedition in 1994, the pilots of the Fleet Air Arm had logged over 3000 hrs of accident free flying, over Antarctica, displaying a high degree of professionalism,

Two Chetak helicopters with four pilots and a maintenance team of five, formed the backbone of the team. The helicopters were fitted with special equipment like Decca Doppler, Gyro Gimp CG 512, TANS computer and HF 618. During the sea journey the helicopters were embarked into the tight fit hold along with two containers of associated spares.

Both helicopters were prepared for flying operations on 13 Jan' 95, and check test flights were carried out thereafter. Both helicopters were launched for Maitri the same afternoon with expedition leader Dr. S.D. Sharma, Army Contingent Leader Maj PM Meena, and a few other expedition member. From then onwards the helicopters were ranged on deck for the purpose of flying irrespective of the weather condition.

Flying for Induction of Scientific Team

The induction of the scientific team to Maitri was started from 14 Jan, 95, and was completed by 19 Jan' 95. A total of 38 sorties aggregating to 57:30 hrs were flown. A total of 40 passengers and a load of 5.5 tons were carried during this flying effort.

Flying for GSI

A fuel dump of 20 barrels was setup at Maitri by the flight for use thereafter to proceed to Conrad mountains for dropping GSI scientists at distances ranging

between 75 to 95 NMs from Maitri. Due to late arrival of the ship in Antarctica and first preference being given to the induction of summer scientific component followed by the transportation of the XII Winter Over Team to Maitri, flying for GSI only commenced in the first week of February. It was seen that the weather conditions in the month of February were not as good as that in January resulting in difficulties in meeting the most difficult of all tasks because of the great distances and inaccessibility. Hence, both helos flew in company from Maitri to Conrad and back. The wind pattern at Conrad was most unpredictable causing considerable difficulties in meeting this challenging task. A total of 75:00 hrs of flying was carried out for GSI, out of which 30:00 hrs were for creating the fuel dump at Maitri.

Flying for HG/Osmania University

The IIG had a requirement of setting up two observation posts as part of their study with a minimum distance of 110 NMs between them. Hence one observation post was setup at Dakshin Gangotri, and the other at Conrad Mountains. The DG observation post was regularly supported to collect/replenish data capsules, and Conrad post was supported for the same during flying for GSI in the same area. However, one full day's flying was dedicated for IIG scientists at Conrad mountains. Along with IIG scientist, two scientists from Osmania University were also ferried to collect samples for their study. A total of 25:15 hrs were flown, out of which 06:00 hrs were flown to create a fuel dump at Maitri.

Flying for Wildlife Institute and ZSI

The requirements of Wildlife Institute were discussed with their scientist and it was planned to fly aerial recce sorties for counting the species of wildlife and their number, both in easterly and westerly direction along the shelf upto a distance of 50 NM. The aircraft flew for such sorties at less than 500 ft for better observation, thus unable to maintain R/T contact with ship on VHF, but always remained in R/T contact with the other helo flying between shelf and Maitri. Hence the position reporting was maintained throughout. Whenever there was no simultaneous flying for wildlife and to Maitri, both aircraft flew in company for mutual SAR. ZSI scientist was also carried in these sorties and dropped at various rookries for his study. A total of 18:30 hrs were flown towards this effort.

Flying for Rescue

The IIG scientists were regularly dropped at DG for collection of data and picked up the same day, or the following day, depending on their requirements.

On 03 Feb' 95, two scientists were dropped in the evening to be picked up the next day. The weather deteriorated on the night of 03/04 Feb' 95, and by morning, blizzard condition had set in, which continued until 12 Feb' 95. However, on 08 Feb' 95, there was a slight improvement for a very short duration, and since it involved human lives, a sortie was flown under extreme marginal conditions to rescue the stranded scientists. Two more sorties were flown on the same day to transfer Army personnel to and from the shelf, to rearrange containers which were close to the shelf edge, and were likely to be blown over into water or shelf giving way and the valuable and scarce stores being lost. The effort put in by the flight was highly appreciated by one and all expedition members.

Another such incident happened on 19 Feb' 95, when the convoy had reached the shelf, and weather being hazardous, ship could not go alongside to pick up the exhausted personnel after a long and tiring convoy journey. Four trips were flown in inclement weather when even ship could not be berthed alongside to pick up the convoy persons. These sorties were flown since it was expected that blizzard was setting in, and was likely to last for a week. The decision to fly and pick up the stranded convoy personnel under difficult conditions paid off well, since practically the blizzard lasted for 10 days, and the next flying could be possible only on 01 Mar' 95,

Flying for Other Tasks

Approximately 60 sorties were flown towards transportation of frozen food items to Maitri in which about 10 tons of food was transferred in 90:00 hrs of flying. Another 72:00 hrs were flown towards deinduction of summer team/XI Winter Over Team, transportation of scientists to various locations, convoy route recce, Check Test flights, weather check, and also flying towards Naval Hydrographic Survey tasks. One aircraft was also kept standby for S AR during Naval Survey boat operations away from the ship.

Total Flying Effort

A total of 342:40 hrs have been flown during the expedition. A load of over 36 tons and approximately 600 personnel were transported to and from Maitri, and other locations.

The environment in Antarctica being the harshest in the world, flying operation in the mountain ranges where gutsy winds, snow drifts, and white out conditions are omnipresent, required determination, ingenuity, and a very high degree of planning. The Naval pilots demonstrated a high level of professional confidence and superlative flying skill in meeting the task. The landings had to

be carried out on inhospitable terrain like glaciers, mountain slopes and ridges of altitudes exceeding 8,000 ft.

All the tasks assigned to the INCD were successfully accomplished in an organised and well planned manner, resulting in economy of flying effort, however, 75:00 hrs extension was sought from Naval Headquarters well in time to fulfill the foreseen additional flying requirements. The highlight of the air operation was the GSI survey of Conrad mountains, which are the farthest ever covered by any previous expedition, which not only is a record in itself, but also an example of sound planning, foresight and professional competency. It is pertinent to mention that this fact has been recognised by the GSI team and has won the appreciation from the Director, GSI.

All this could not have been possible but for the excellent support, dedication, untiring hard work and the highest degree of professional competence displayed by the AEO and the Air Technical Team. In the absence of hangar facilities, all the aircraft maintenance was carried out on the deck under extremely cold conditions with temperatures dropping below negative 10 Deg C, and under wind chill conditions, All inspections/unserviceabilities were taken care of in the shortest possible time not comprising on maintenance standards. The highlight of the Technical Team effort was the successful completion of engine change of IN 466 in less than 24 hrs. The Technical Team was well supported by the aircrew in whatever manner possible. The expedition set sail for India on 06 Mar' 95 at 2200 hrs.