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Flying Operations during the Expedition

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Indian Navy

Introduction

The 13th Expedition on board the Russian ice breaker MV Stepan Krashanennikov set sail from Goa on 08 Dec 93. Two Chetak Helicopters, four pilots, one Air Engineer Officer, one Met Officer and four Air technical sailors formed the backbone of Naval contingent for flying operations of the expedition. The team also included one communications officer, two communication sailors and one cook for winter team and additional two cooks for summer period of the expedition. The ship arrived Mauritius on 15 Dec and departed for Antarctica on the mid-night of 16 Dec 93.

Setting up Summer Camp at Maitri (31 Dec 93 -18 Jan 94)

While the ship was busy in breaking the 2-3 meter thick sea ice(fast ice) in order to cut a passage to the shelf, the Naval Team got busy and after a brief 'Pooja' ceremony, took off for Maitri with the leader on board on 31 Dec 93. It was the first time in the history of Indian Antarctic Programme that the leader and representatives of the new expedition set foot at Maitri station the same year in which they started from India in the month of December.

Flying operations assisted by fine weather for the induction of the scientific team to Maitri started from 01 Jan 94 and picked up to a fast pace by 02 Jan when the ship finally berthed along side the shelf. On fair weather days, flying continued late into evenings and at times last landing being at 2300Z hrs. By 05 Jan, the summer scientific team except NPL scientists were shifted to Maitri. After that the weather remained unsuitable for any significant flying to be undertaken till 09 Jan. This being the early phase of the expedition, the leader in consultation with Flight Commander decided to exercise caution which was amply justified with the weather turning bad to worse. The helicopters however, did render a most useful service to the ship in transporting a sick sailor for treatment to 'Academic Federov' the ship of Russian Antarctic expedition, standing in the Russian bay.

The equipment and the hut of the NPL's prestigious Laser Heterodyne Experiment was transported by the Russian convoy till 'Sankalp' point south of Maitri. The Flight in the meantime, set up a fuel dump at Sankalp, transporting fuel barrels inside the cabin of helicopters, for later use to probe Orwin mountains. On 14 Jan the helicopters and crew of the Naval Team rendered invaluable and life saving assistance in rescuing the Chief Mate of the expedition's ship from a crevasse. The rescue was undertaken under the most demon conditions of weather and required utmost professionalism, courage and skill. The Naval Team rose to the occasion and saved the Chief Mate from an almost certain and chilling death. With the weather playing hide and seek, good use was made of every break in weather to transport the Laser Heterodyne equipment and hut, slung underneath the helicopter, from Sankalp to Maitri. The equipment came in all the possible shapes and sizes and required most careful and skilled handling by the air as well as ground crew. The most efficient and safe manner in which this hazardous and tiresome task was executed is worth mentioning.

GSI Surrey off Orwin Mountains (19 Jan - 24 Jan)

The fuel dump created at Sankalp with barrels lined up on one side required helicopters to land next to a barrel, refuel and take off. As the sorties to Orwin required the helicopters to open out to almost 100 miles from Maitri flying started early at 0600 and continued late till 2300 hrs. The helicopters, flying in company with GSI team embarked, made an extensive survey of the area and probed as far as 72S. During this survey and sample collection, the helicopters landed at altitudes above 7500 feet with temperatures below -40C. The hydraulic fluid begins to clog at such temperatures, making helicopter control difficult. This coupled with gusty Antarctic winds averaging 35-40 knots demanded superior handling skill from pilots. The enthusiastic and dedicated aircrew made sure that the helicopters landed very close to the intended points thus ensuring an extensive and efficient sample collection and survey. It required skillful handling, professionalism and a thorough understanding of machine and elements of Antarctica to safely execute this mission and the Naval Team came out with flying colours.

Transportation of Stores, Food & Personnel (25 Jan - 26 Feb)

With all the scientific tasks being over/set up, the helicopters and crew could relax and the flights were undertaken only as the need arose. On 01 Feb one helicopter was rendered unworthy of flying due to an unfortunate accident. After that since only one helicopter was available, flying was restricted and

undertaken where inescapable as no Search And Rescue(SAR) facility was available in the area.

On 26 Feb all the moorings of the ship gave in the face of a blizzard and she was set adrift. The rudder of the ship was damaged while returning back to shelf through ice. The ship remained adrift and rudderless for 14 days with 6 members of winter team onboard. The flight was called upon to transport them to shelf 50 miles away. The flight was fraught with danger as the second helicopter was not available and the ship also was unable to maneuver to reader any assistance if needed by the helicopter and crew. Braving the odds, the Naval team flew 50 miles over the frigid waters of Antarctica and returned to the ship just in time to avoid the approaching bad weather. This precluded any more missions of this nature and the remaining two members of the team were airlifted the next day to another Russian vessel,'MV Mikhail Somov', passing close by on her way towards India bay. Although this brought the summer expedition to an end, the helicopter was not to fold its wings before it did an ice recce sortie to enable the ship to steer clear of ice with the improvised rudder control.

APPENDIX

Flying Particulars upto 24 Feb 94

Date	Fly Hrs/ No. of Sortie	Progressive Total Fly Hrs/ No. of Sortie
31 Dec 1.993	04:40/05	004:40/005
01 Jan 1994	10:15/09	014:55/014
02 Jan	11:00/08	025:55/022
03 Jan	NIL	
04 Jan	07:30/06	033:25/028
05 Jan	05:15/04	038:40/032
06 Jan	NIL	
07 Jan	NIL	
08 Jan	NIL	
09 Jan	10:35/09	049:15/041
10 Jan	00:30/01	049:45/042
11 Jan	10:45/09	060:30/051
12 Jan	06:35/05	067:05/056
13 Jan	NIL	
14 Jan	00:45/01	067:50/057
15 Jan	18:30/11	096:20/068
16 Jan	10:25/06	106:45/074
17 Jan	NIL	
18 Jan	NIL	
19 Jan	09:45/06	116:30/080
20 Jan	00:15/01	116:45/081
21 Jan	13:00/11	129:45/092
22 Jan	13:00/08	142:45/100
23 Jan	11:00/07	153:45/107
24 Jan	08:30/06	162:15/113
25 Jan	01:00/02	163:15/115
26 Jan	10:15/08	173:30/123
27 Jan	08:00/06	181:30/129

Contd...

Appendix — Contd.

28 Jan	**01:15/01**	**182:45/130**
29 Jan	**NIL**	
30 Jan	**NIL**	
31 Jan	**10:45/07**	**193:30/137**
01 Feb 1994	**08:50/08**	**202:20/145**
02 Feb	**NIL**	
03 Feb	**NIL**	
04 Feb	**NIL**	
05 Feb	**02:45/02**	**205:05/147**
06 Feb	**03:00/02**	**208:05/149**
07 Feb	**NIL**	
08 Feb	**NIL**	
09 Feb	**01:30/01**	**209:35/150**
10 Feb	**NIL**	
11 Feb	**NIL**	
12 Feb	**04:30/03**	**214:05/153**
13 Feb	**NIL**	
14 Feb	**06:15/04**	**220:20/157**
15 Feb	**NIL**	
16 Feb	**NIL**	
17 Feb	**03:15/02**	**223:35/159**
18 Feb	**NIL**	
19 Feb	**01:30/01**	**225:05/160**
20 Feb	**NIL**	
21 Feb	**NIL**	
22 Feb	**NIL**	
23 Feb	**NIL**	