

## **Report of VSNL activities during XXI—Indian Scientific Expedition to Antarctica - 2002 (Summer)**

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### **OBJECTIVE 1 : INSTALLATION OF INMARSAT - M MARITIME TERMINAL (IMN 641902723)**

#### **Unpacking**

Unpacking of four number of boxes received from the NCAOR, DOD ,Goa was done and checked the contents with the enclosed packing list. Inspected units and parts for possible transport damages and found everything is in good condition.

The terminal DC power supply unit (11-30V) was not received along with the material; it is arranged with a spare Aplab power supply unit of NGRI, Hyderabad.

#### **Site Selection**

A survey of existing set up of Inmarsat terminals carried out for antenna location and position. Considering the geographical location of the Indian base station Maitri and weather conditions like accumulation of snow, blizzards, wind speed and wind direction, availability of power supply points and proper grounding for the equipment's, selected a temporary site near to Nandadevi summer camp hut.

#### **Testing**

Installed the antenna dome near to Nandadevi hut temporarily. Arranged the Below Desk Equipment (BDE) i.e. Saturn Mm Main Control Unit, Handset, IBM PC, Panasonic Fax machine inside the Nandadevi summer camp hut.

Set all the required parameters in the main control unit of the terminal along with Azimuth / Elevation angle. Started tracking Indian

Ocean Satellite ( IOR ) but due to very low Elevation look angle i.e.3 deg could not succeed. Later tried for AOR (E) satellite and found the system is locking to it and calls are getting materialised. Carried out several voice call testing by using different LESs and with different location of antenna to find out the maximum signal strength and good voice quality. Continued with the testing for locking the system to IOR satellite by changing the location of antenna. Finally terminal got locked to the IOR satellite at the location between Nandadevi and Anapurna summer hut.

Dr.P C Pandey, Director of NCAOR made the inaugural test call to Arvi LES. Tested terminal for Voice, Fax, Data and Internet connectivity through Arvi LES and other LESs. This was repeated several times, in different weather conditions.

### **Final Setup**

After successful testing for both IOR and AOR (E) satellite it was decided to finalised the set up in the Nandadevi hut. A antenna mast is designed and fabricated with the help of Army engineers group to withstand the antenna in blizzard condition. Installed the antenna permanently in the barrel with cement concrete.

## **OBJECTIVE 2 : DOCTORANYWHERE. COM APPLICATION SOFTWARE FACILITY AT MAITRI**

### **Work done**

- (a) Installed the PCI to USB card in the PC
- (b) As there was no CD ROM drive along with the material received a CD ROM drive was arranged from the PC Room of Maitri and installed Doctoranywhere.com application software and Intel pocket PC camera software.

### **Testing**

With the help of newly commissioned Inmarsat - M terminal, tested the working of doctoranywhere.com application software successfully by direct online chatting with Mr.Sachin Rawat of M/s doctoranywhere.com, Pune. Also following two medical cases tested successfully by using this application software.

### Case-1 Fracture on elbow (Test Case)

Mr Sachin of [Doctoranywhere.com](http://Doctoranywhere.com) Pune obtained an prior appointment with orthopaedic surgeon of Sancheti Hospital Pune. Uploaded the elbow fracture test case to Sancheti Hospital, Pune by providing case history and photograph of x-ray. After downloading the case by Sancheti Hospital's expert doctor, he gave his expert comments.

### Case 2 (Actual Case)

With above successful test result we decided to submit a case of Major Atul Apte (Winnter Team Member - XXIAE) who had developed cervical lymphadenopathy (acute abscess ) on right side of his neck. We took a prior appointment with Dr Suprashant Kulkarni, MS (General surgery) of Lokmanya Hospital, Pune.

Dr.Mortulia (Winnter Team Member - XX IAE) had a online discussion with Dr. Kulkarni and then we up loaded the case history and the photograph of acute abscess to Dr Kulkarni of Lokmanya Hospital.

After downloading the case he examined the case history and photograph, he send us expert opinion immediately as below,

*Dear Doctor,*

*I have reviewed the case that you have sent me. On the basis of the information that I have received, I have the following comments :*

*EXOP:*

*Many thanks for kind reference!*

*Case capsule noted.*

*Images seen.*

*From the images the presentation is of acute abscess, though the clinical history suggests acute on chronic process.*

*The abscess requires drainage at the earliest.If the pt is in Antarctica, remote from medical facilities, I suggest at least needle drainage by Z Technique from a non dependant area(needle gauge atleast 20).If the abscess can be surgically drained then kindly go ahead. The patient may be started on a course of Tab Cifran(Cipwifloxacin)500 mg twice a day rightaway.He may be given NSAIDS whichever available, in appropriate doses.*

*When the patient is back to India ,he can undergo FN AC of the remnant to detect features of Koch's. The same aspirate can be sent for PCR Test for the detection of micro bacteria.*

*Kindly keep in touch with follow up images,  
thanx again  
sincerely*

*Dr Suprashant D Kulkarni*

*M.S.(General Surgery)*

*Consultant Surgeon*

*Lokmanya Hospitals.Nigdi & Chinchwad  
Pune, India.*

With this expert opinion Dr Mortulia got the confidant to operate the patient at place like Antarctica and drained out the abscess successfully. This was really a great achievement we had to give a real comfort to the patient. Also this built up the confidence among the members and doctors.

Also during this I tested Intel web camera software, Internet voice call and videoconference by using the USA test number.

### **OBJECTIVE 3 : INTERNET CONNECTIVITY AND E-MAIL FACILITY THROUGH VSNL ARVI LES**

DR. P.C Pandey, Centre Director and Mr.Bhaskar Rao, Director (Logistics) were very much keen that we should get internet e-mail connectivity through Arvi LES. Presently at Maitri e-mail service is being used through Station 12 LES of Burm, Netherland. This Value Added Services is also provided by VSNL Arvi LES since last five years, but it was not attempted to use at Maitri. So I started working on this. Initially I was able to get the Internet connectivity with Arvi LES through dial up connection by dialling Arvi server PSTN numbers. Tried to access VAS two digit code 28# service of Arvi LES but could not succeed. Code 28# service was working fine through Station12 LES. After putting lots of efforts by Arvi LES staff and myself we succeeded to get Internet connectivity through Arvi LES by using VSNL VAS service 28 code on 27<sup>th</sup> Feb 2002. This was our dream to provide this facility at Maitri and finally we have achieved this.

#### **Results**

The newly installed and commissioned Inmarsat - M maritime Terminal HVIN 641902723 which has been installed and commissioned at Maitri by VSNL is ready for the providing following services through Arvi LES India and other LES (if require). This terminal is working for both

the IOR and AOR (E) satellite. At present it is working with IOR satellite for the following services.

1. Voice
2. Fax
3. Data
4. Internet e-mail by using 28# through Arvi LES
5. Doctoranywhere.com facility

### **Handing over**

Handed over all software CDs, Floppies, Documents, Manual and spares to Mr Bajpai of BSNL who is wintering for the XXI expedition. Also explained and demonstrated him about all the operations regarding terminal, Internet, e-mail and doctoranywhere.com.

### **Remark**

It was decided with NCAOR and the group leader that after seeing the performance of Inmarsat -M terminal for two / three months we will configure other terminals for Internet e-mail services through Arvi LES.

### **Vote of thanks**

We thank NCAOR, Goa for giving VSNL an opportunity to work for nation at Antarctica. Also I am very much thankful to each and every one at NCAOR, Goa for their support and co operation extend to me during this expedition Also I take this opportunity to thank both the group leaders of 20<sup>th</sup> and 21<sup>st</sup> IAE for their support. I also appreciate the co-operation extended by the members from the Indian army and all other members during the course of the expedition.

Finally, I am very much thankful to VSNL management for giving me this opportunity to participate in the XXI - Indian Scientific Expedition to Antarctica.