

Agenda Item 2

REPORT ON SYSTEM STATUS AND OPERATIONS

Date of report: 20 February 2008
Origin: India
Time period: 1 January 2007 to 31 December 2007

I. SYSTEM STATUS AND DEVELOPMENT SCHEDULE

1.1 Space segment

INSAT-3A currently supports INSAT GEOSAR operations placed at 93.5 deg E. INSAT-3D expected to be launched in the first quarter of 2008, and will serve as on-orbit spare for GEOSAR operations. The down link beam will be again a spot beam, which can be received in Indian region only, and not from outside India.

1.2 Ground segment

1.2.1 LUTs operational status

Operations at Bangalore, Lucknow & INSAT LUTs and at INMCC were normal during 2007.

- Bangalore LUT along with INMCC is situated in Spacecraft Control Centre (SCC) of ISTRAC in Bangalore, having fully automatic operations and has been monitored regularly by INMCC personnel. The LUT is about 300 meters away from INMCC in the same campus and connected to INMCC with highly reliable dedicated landline for data communication providing 100% availability.
- Lucknow LUT is remotely situated in ISTRAC ground station campus at Lucknow (about 2500 km north of Bangalore) and has been constantly monitored and maintained by the ground station personnel. The operations at the LUT are fully automatic with a provision to monitor the status from INMCC at Bangalore. It is connected to INMCC by a dedicated satellite link, which is highly reliable for data communications with 100% availability.
- Indian Geolut system is co-located with INMCC in ISTRAC campus at Bangalore and interfaced with INMCC through RS232 serial communication. The system is fully automatic and being monitored by INMCC personnel.

1.2.2 INMCC operational status

The INMCC is located in ISTRAC campus at Bangalore. The operations are fully automatic and monitored by the operations personnel. The MCC is manned on all working days during office hours (08:30 hrs to 17:00 hrs, local time). However ISTRAC campus is manned 24 hours, and on requirements Shift Manager at ISTRAC coordinates with INMCC operations team and provide necessary support to external agencies. Presently, INMCC uses AFTN as prime mode for alert data communication.

A dedicated leased 64 KBPS data line connects INMCC to immediate AFTN node (Bangalore airport – about 25 Kms from INMCC). Implementation of FTP for alert data exchange with CMC and AUMCC is under process. INMCC has bilateral arrangement with AUMCC for exchange of alert data, especially for Geolut alerts.

1.2.3 Other Ground Segment sub-systems (orbitography network, time reference beacons, etc.)

NIL

1.2.4 Schedule of new Ground Segment equipment installation / commissioning

NIL

Results of System test per Annex J of document C/S A.003

**SYSTEM LEVEL TEST January 31 through February 2, 2007
INMCC – Bangalore & Lucknow LEOLUTs**

Ref. No	MCC INMCC	LUT Bangalore	LUT Lucknow	Message Transmission
1	√	√	√	Suppressed
2	√	√	√	Suppressed
3	X-1	?-1	?-1	
4	X-1	?-1	?-1	
5	√	√	√	125
6	X-2	√	√	*Suppressed
7	√	√	√	124
8	√	√	√	Suppressed
9	X-1	?-1	?-1	
10	X-1	?-1	?-1	
11	X-1	?-1	?-1	
12	X-1	?-1	?-1	
13	X-1	?-1	?-1	
14	X-1	?-1	?-1	
15	√	√	√	125
16	√	√	√	127
17	√	√	√	Suppressed
18	√	√	√	Suppressed
19	√	√	√	Suppressed
20	√	√	√	Suppressed
21	X-1	?-1	?-1	
22	X-3	√	√	*Suppressed
23	X-1	?-1	?-1	
24	X-1	?-1	?-1	
25	√	?-1	?-1	
26	√	√	√	125
27	√	√	√	125
28	√	√	√	125

X-1 No SIT message was sent.

X-2 No SIT message was sent.

X-3 No SIT message was sent.

?-1 . No detection

On Ref # 21:

For beacon ID “96EB02EE3487571F73683781000D6D” as stated in the document A03 on page J-8 (Table J.2: Expected LEOLUT and MCC Processing for System Level Test), INMCC did not send any message. The right ID is “96EB02EE092E03128C82B70D300F1D” which is stated in the document A03 on page J-6 (Table J.1: List of 406 MHz Test Messages to be Generated by Beacon Simulator to support System Level Test), for which INMCC sent the message No: 21235 on 01 Feb 2007 at 11:46 (ut). The system performed properly. However, the document shows contradiction and showing two different IDs.

1.3 Distress Beacons**1.3.1 Evaluation of 406 MHz beacon population: 4479**

Registered EPIRBs:	1279
Registered ELTs:	1248
Registered PLBs:	1905
US Registered:	45
Registered SSAS beacons:	Nil
Registered Tests:	02

1.3.2 Evaluation of 121.5 MHz beacon population:

121.5/243 MHz ELTs/PLBs:	2000
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1.3.3 Changes of regulatory status NIL**1.3.4 Updates of beacon populations forecast:**

Year	2005		2010	2015
Frequency / Beacons	406 MHz	121.5 MHz	406 MHz	406 MHz
ELTs	2000	Nil	3000	3500
EPIRBs	1000	Nil	2000	3000
PLBs	1000	2000	1500	2000

1.4 Status of Implementation of System Changes

Action Items of JC-19 and 20 are being studied and will be implemented as soon as possible.

II. SYSTEM OPERATIONS

2.1 Number of 406 MHz beacon activations reported to RCCs/SPOCs within the MCC service area

Alert Classifications	EPIRB	ELT	PLB	Sub-Total	Total
Distress alerts	6	0	1		7
False alerts					38
Unfiltered processing anomalies					
Operational false alerts (beacon activations)					
Beacon mishandling					
Beacon malfunction					
Mounting failure					
Environmental conditions					
Unknown					
Undetermined					159
Total					204

2.2 Number of validated 121.5 MHz beacon activations reported to RCCs/SPOCs within the MCC service area

Alert Classifications	EPIRB	ELT	PLB	Sub-Total	Total
Distress alerts					0
False alerts					0
Unfiltered processing anomalies					
Interference					
Operational false alerts (beacon activations)					
Beacon mishandling					
Beacon malfunction					
Mounting failure					
Environmental conditions					
Unknown					
Undetermined					866
Total					866

Number of validated 243 MHz beacon activations reported to RCCs/SPOCs within the MCC service area

Alert Classifications	EPIRB	ELT	PLB	Sub-Total	Total
Distress alerts					0
False alerts					0
Unfiltered processing anomalies					
Interference					
Operational false alerts (beacon activations)					
Beacon mishandling					
Beacon malfunction					
Mounting failure					
Environmental conditions					
Unknown					
Undetermined					1189
Total					1189

2.3 LUT/MCC availability

a) MCC System availability

INMCC : 99.83 %

b) LUT Data availability

Bangalore LUT : 99.91 %

Lucknow LUT : 100 %

GEOLUT : 99.49%

2.4 Report on significant events or anomalies during period of operation

Supported 7 potential distress incidents involving rescue of 117 human lives.

- (1) On 21st June 2007 based on INMCC distress alert received from ship close to North Andaman Islands (Indian Vessel MV John Richardson, call Sign: ATHW, MMSI No: 419015700) due to engine failure, Maritime rescue Co-ordination Centre (MRCC), Coast Guard, Port Blair swung into action in co-ordination with Indian Coast guard vessel "Varad" and Indian Coast Guard Dornier aircraft, saved precious lives of all **sixteen crew members**, all are Indian. Ship did not have adequate communication facility onboard except for short range VHF radio set. **INMCC information was the first source of information.**
- (2) On 21st June 2007 Maritime Rescue Co-ordination Centre (MRCC), Coast Guard, Mumbai received Cospas-Sarsat alert message from INMCC for Maldives Vessel TUG WIMBO, MMSI No: 455296000. Barge collided with port quarter of Tug due to severe inclement weather and as a result Tug sank. The position was 43 Miles from BEYPORE Coast. Coast Guard ship SAVITRIBAI PHULE from Mangalore was sent for Rescue Operations. Also Coast Guard vessel "VARUNA", CG helicopter 801 and Coast Guard Aircraft (Dornier) carried out Search. From total 11 crew members, **08**

crew members were rescued, 02 bodies were recovered and one was missing. INMCC information was the first source of information.

- (3) On 21st June 2007 UAE EPIRB, MMSI NO: 470737000 was detected, and INMCC sent alert messages (in position at 23 deg 23.2 min North 065 deg 20.9 min East) to Maritime rescue Co-ordination Centre (MRCC), Coast Guard, Mumbai. The vessel was 175 NM from Karachi in Pakistan Area. Later CG, Mumbai received a telephonic message from the US Coast Guard intimating that BARGE DLP-600 is sinking and requested for providing immediate assistance. Considering the humanitarian value of human beings for rescuing the precious lives of 60 persons, MRCC, Mumbai immediately activated International Safety Net (ISN). 04 Merchant vessels diverted for rendering assistance. **57 crews were rescued** by Vessel MV VELTIME-1 and remaining 03 crews were still missing. **INMCC information was the first source of information.**
- (4) On 06 July 2007 Panama EPIRB, MMSI No: 37288100 was detected by INMCC, an alert message (in position at 19 deg 21.5 min North and 72 deg 20.3 min East) was sent to MRCC, Mumbai. MRCC deployed the SAR resources and carried out the rescue, and saved **22 crew members**. First Information received by MRCC, Mumbai through DSC & INMCC Cospas-Sarsat alert information was secondary source of information.
- (5) On 9th July 2007 Oil and Natural Gas Commission (ONGC) offshore Supply Vessel (OSV) **SAMUDRIKA-10** radiated its EPIRB sending distress signal, an alert message was sent to MRCC, Coast Guard, Mumbai and Chennai by AFTN & E-Mail. The vessel MMSI No was 41940500 (in position at 19 deg 36.8 min North and 72 deg 6.5 min East). ONGC and Navy launched a search and rescue operations saving **9 crew members**, 6 bodies recovered and 2 persons were missing.
- (6) On 17 July 2007 based on INMCC Data, rescue of sick member of UK expedition (World Challenge Expedition) team in Sri Lanka was carried out. INMCC data was the first source to provide location for SAR.
- (7) On 21 July 2007 rescue of sick member of UK expedition (World Challenge Expedition) team in Himachal Pradesh (India) was undertaken based on INMCC data, which was the first source to provide location data for SAR, INMCC coordinated and provided regular location updates till rescue was completed.

2.5 Report on 121.5/406 MHz beacon anomalies

Most of the 406 MHz beacon anomalies noted are as per the operational false alert listing given in Appendix B.2 of C/S A.003 document.

2.6 False Alert Rate Not available

2.7 Report on educational and regulatory actions to reduce false alerts

INMCC has been able to create more awareness among users about the system and its capability in saving human lives by legitimate use of radio beacons. Familiarisation programmes for MRCC and RCC officers were organized at INMCC.

2.8 Report on MCC back-up procedure test results N/A

2.9 Efforts taken in preparation for the phase-out of 121.5 MHz satellite alerting

Wide publicity was done about phasing out of 121.5 MHz satellite alerting to all user agencies through user seminars/interactions.

- END OF DOCUMENT JC-22/2/11 -