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Advisor(MN)

D.O No: CP/101-18/2001-MN  
Dated: 19<sup>th</sup> Nov 2001

Dear Shri Parameswaran,

Subject: **Recommendations of TRAI on INSAT MSS Reporting Service**

Please refer to your letter No. 813-33/2001-LR dated 13<sup>th</sup> July, Department of Telecommunication requesting comments/recommendations on the terms and conditions for the INSAT MSS (Mobile satellite System) Reporting Service.

2. 2. INSAT MSS Reporting Service is a one-way (Transmit only) satellite based messaging service available through INSAT. Considering the type of communication, frequency spectrum, configuration of hub station equipment and handset, the Authority recommends that INSAT MSS Reporting Service may be treated as a new service under the broad definition of 'Value Added Service' and anyone who wants to provide this service may be granted a new license.

3. 3. The Authority after due deliberations is of the opinion, that as the service is new and the market is likely to take some time to pick up, no entry fee be charged for this service and the license fee be kept as 5% of the Adjusted Gross Revenue, which shall go towards the USO. However, to exclude non-serious players, a bank guarantee of Rs 2 lakhs be charged from the service provider to be encashed in case he fails to start the service within 6 months of award of license. The existing system may continue for two years after which a review may be undertaken.

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4. In respect of tariffs, the Authority has generally adopted the policy of forbearance for all such services and will therefore not like to fix any tariff for this new service for the time being. For reporting the message to the subscribers, e-mail or Internet should be the media. Detailed recommendations of the Authority are enclosed. These recommendations along with the text of this letter are being made public and are being placed on the TRAI's website today.

With best regards,

Yours sincerely,

(Rajendra Singh)

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## **Recommendations of TRAI on INSAT MSS Reporting Service**

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### **Background & Context**

INSAT MSS (Mobile Satellite System) Reporting Service is a new service that enables transmission of messages at a low data rate to a central hub from a handheld terminal using satellite. It is felt that the service will be utilized by agencies for fleet management, emergency messaging, data collection, etc. A reference has been received from the Department of Telecom vide their letter No. 813-33 / 2001 – LR dated 13.7.2001 seeking the comments / recommendations of TRAI on the terms and conditions of the service. The reference also contains a note from Department of Space, including brief technical description of the system, list of interested service providers and also the functional requirement of the service.

2. In the process of arriving at its recommendations, the TRAI held meetings with two prospective service providers and TRAI officials visited the Space Application Centre (SAC) in New Delhi, where the system is running on a trial basis. Preliminary discussions indicate that the areas of interests include fleet management, coastguards, fishery industry, weather warning, Defence etc. One of the major bottlenecks observed was the size and weight of the handset, which remains quite bulky and expensive (around Rs 35,000). At present only 10~15 Mobile terminals for fleet management are being used by the Ministry of Surface Transport.
3. The main issues that emerged are discussed below, along with TRAI's recommendations on each.

## **Recommendations on relevant issues**

4. INSAT MSS Reporting Service is a one-way satellite based messaging service available through INSAT. It is a transmit-only service that provides a reporting channel via satellite to a group of people, and due to all India coverage of INSAT, this service provides one-way message reporting (transmit-only) facility from anywhere in India.

### **A. Type of Service**

5. This service differs from Cellular Mobile service as Cellular Mobile provides two way voice service and is essentially a land based wireless communication. It is also not a competitor to Paging service, which is text-messaging service from a central location to pager receivers in the field, or in other words it is reverse of Radio Paging. The service differs also from VSAT on account of:

- i) VSAT service is a two way CUG data service;
- ii) Data transmission speed for MSS is much lower, at only 300 kbps.
- iii) Terminal in case of V-SAT is not mobile.

This service is different from GMPCS in terms of type of communication, frequency spectrum, configuration of hub station and handset. The Authority, therefore, recommends that INSAT MSS Reporting Service may be treated as a new service under the broad definition of "Value Added Service", and anyone who wants to provide this service may be granted a separate license.

### **B. Number of Service Providers and entry fee**

6. TRAI believes that competition is in the best interests of the consumer and would prefer to let the market forces determine the number of Service Providers subject to the limitations imposed by the quantum of frequency i.e., spectrum available for the service.

Further, INSAT MSS reporting service is a low speed data service with maximum capacity limited to 300 bps. The demand for this service is, therefore, not likely to be comparable with other voice or high-speed data services. In absence of any shortage of spectrum and likely demand, the Authority recommends that no entry fee should be levied for this service.

**C. Exclusion of non-serious players from the Market:**

7. Although TRAI recommends a policy of open competition, it also believes that steps should be taken to eliminate non-serious players. In case of INSAT MSS Reporting service, the heavy one time capital expenditure involved in establishing the hub, itself acts as a deterrent for non-serious players. In addition, the Authority would like to recommend that a performance bank guarantee of Rs. 2 lakhs be specified, to be encashed if commercial launch of the service by the licensee is not made within six months of grant of license, may be incorporated.

**D. License fee**

8. To begin with, the service providers will have to create a market segment for this new service. As the market is not likely to be large given the size of the terminal and capital expenditure involved, the Authority feels that license fee of 5% should be levied for the first two years, which would go as a contribution towards Universal Service Levy. A review of the license fee may be taken after two years.

**E. Spectrum charges**

9. The Spectrum and transponder charges may be decided by WPC and Department of Space respectively so as to promote this service. This arrangement may be continued for a period of two years after which the terms and conditions may be reviewed based on the market penetration.

## **F. Tariff**

10. As it is a new service with an unknown market, the Authority has at present decided to forebear with respect to the tariff.

## **G. Availability of spectrum**

11. It is understood from the reference that One Megahertz of spectrum has been allocated for the purpose on INSAT transponder. The transmission from the handset is in S-Band and receive at the hub is in C Band. The expected number of carriers in 1 MHz is 100.

12. The number of carriers one Hub system can support is from 1 to 8. The number of possible service providers and captive users will vary from 12 to 100 depending upon the number of carriers. For message reporting applications (random type traffic), the approximate number of terminals supported per carrier is 150. While for Fleet monitoring, Met data & Acknowledgement Applications (For 1 hour TDMA frame) approximate number of terminals per carrier is 450 ~ 600.

### **Channel requirements**

Total Frequency currently available	1000 Khz
Number of carriers	100
Likely market by one service provider (after 2 years)	1000*
A. A. Fleet monitoring, meteorological applications	
a. a. One carrier can support terminals	450
b. b. Number of terminals that can be supported	45000
c. c. Number of service providers possible	45
B. B. For random type traffic	
a. a. One carrier can support terminals	150
b. b. Number of terminals that can be supported	15000
c. c. Number of service providers possible	15

\* Estimation based on Service provider input and DOS data

In light of the above, The Authority feels that at present, spectrum should not be a limitation. However, spectrum requirement may be reviewed after two years depending upon the growth of this service.

#### **H. Connection to Public Network like PSTN or Internet**

13. The service necessitates connection to public networks like Internet or PSTN for reporting the message received at the hub (from the handset) to the customer. The Authority is of the opinion that Internet connectivity could be provided and the mode could either be e-mail or posting the message on Internet web site depending upon the requirement of the customer. The INSAT MSS Reporting Service provider should not be allowed connectivity to PSTN. They should be encouraged to use e-mail or Internet as a means of posting the information.

#### **I. Other issues**

14. Other issues like security, monitoring etc. can be in line with the existing GMPCS and VSAT service licenses.