

**Comments on Consultation Paper on “Issues Related to Mobile TV Services”**

by

**GOVERNMENT OF INDIA**  
**DEPARTMENT OF SPACE (DOS)**

SCPO/DOT/2007

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Shri Nripendra Misra  
Chairman  
Telecom Regulatory Authority of India (TRAI)  
Mahanagar Doorsanchar Bhawan  
Jawahar Lal Nehru Marg  
**New Delhi -110002.**

**SUBJECT: Comments in response to Telecom Regulatory Authority of India’s Consultation Paper on “Issues Related to Mobile TV Services” (Consultation Paper No. 9/2007 of 18<sup>th</sup> September 2007)**

Dear Shri Misra,

Government of India’s Department of Space and Indian Space Research Organisation are pleased to participate in the consultation process initiated by Telecom Regulatory Authority of India in regards to Issues related to Mobile Television Services. We would like to take this opportunity in giving inputs on the emerging technological trends.

**1. Introduction**

It is well recognized that Satellite based services have certain unique advantages that other technologies cannot intrinsically match. The wide reach of satellite can provide instant one-shot coverage of the entire country and can reach areas which terrestrial systems cannot reach or will take long time to reach. This is particularly important in India where vast swaths of remote and rural areas cannot be physically or economically connected by other technologies. In fact for all terrestrial telecom services, there has been a matching satellite service. Due to its inherent capability to reach multitudes simultaneously for broadcast applications satellite is the best medium. We strongly believe that for mobile television services as well, satellite will continue to play a major role.

**2. Emerging Technology Trends**

Globally significant developments are taking place in satellite technologies including mobile, broadcast and fixed satellite services. They are enabling the delivery of mobile broadband and multimedia services to handheld devices and thereby leading to a renaissance of satellites in the new convergent era. As has been stated in the TRAI consultancy paper, the S-DMB systems operated in the S-band by TU Media in South Korea and Mobile Broadcasting Corporation in Japan deliver broadcast multimedia and data services to mobile phones and portable devices through a hybrid satellite network with complementary ground segment. Similar S-DMB systems with new interactive features are being developed for coverage in Europe by Alcatel and SES/Eutelsat and in China. New standards have been evolved keeping in view particularly the optimization of the satellite system. The new DVB-SH addresses the standards for both the satellite component and the terrestrial component.

Department of Space has made significant technological advances in providing similar satellite based services in India. DOS' current initiative is a state-of-the-art hybrid system with MSS/BSS/S-DMB capability that provides a critical national platform for delivery of broadband multimedia inclusive of mobile TV service. The system, whose development is already well underway, will economically deliver IP-based services to a variety of mobile devices.

### **3. ISRO/DOS's Views on some of the TRAI's Issues for Consultation**

#### **Q1. Whether technology for mobile television services should be regulated or whether it should be left to the service provider?**

DOS strongly feels that with the rapid changes happening on the technological front, the choice of technology should be left to the service provider. The service should be technology neutral.

#### **Q2. If technology is to be regulated, then please indicate which technology should be chosen and why?**

NA

#### **Q3. What will be the frequency requirement for different broadcast technological standards for terrestrial and satellite mobile television channels?**

For satellite based mobile television services, frequency bands of operation play a significant role both from technology as well as from economic point of view. As the mobile devices are required to have omni antennas to avoid tracking the satellite, higher powers are needed from satellites. Further the higher frequency bands suffer larger path losses and are affected more by propagation and blockage effects. Trade offs indicate that S-band is the best frequency band for satellite based mobile multimedia broadcasting services. The existing INSAT broadcasting satellite service frequency band (2550-2630 MHz) is ideally suited to provide this service along with the complementary ground segment.

**Q4. Which route would be preferable to the mobile TV transmission – dedicated terrestrial transmission route or the satellite route? Should mobile TV operator be free to decide the appropriate route for transmission?**

For a mobile user signal availability under maximum mobility conditions is important in both urban and rural areas. This will require a suitable contribution of both terrestrial and satellite technology and service. Hence, it is appropriate to consider them as a single route.

**Q5. How should the spectrum requirements for analogue/digital/Mobile TV terrestrial broadcasting be accommodated in the frequency bands operation? Should mobile TV be earmarked some limited assignment in these broadcasting bands, leaving the rest for analog and digital terrestrial transmission?**

NA

**Q6. In case of terrestrial transmission route, how many channels of 8 MHz should be blocked for mobile TV services for initial and future demand of the services as there are nearly 270 TV channels permitted under down linking guidelines by Ministry of Information and Broadcasting?**

NA

**Q7. Whether Digital Terrestrial Transmission should be given priority for the spectrum assignment over mobile TV, particularly in view of the fact that the Mobile TV all over the world is essentially at a trial stage?**

NA

**Q8. Whether frequency allocation for mobile TV should be made based on the Single Frequency Network (SFN) topology for the entire service area or it should follow Multi Frequency Network (MFN) approach?**

NA

**Q9. Whether frequency spectrum should be assigned through a market led approach-auctions and roll out obligation or should there be a utilization fee?**

For satellite based services utilization fee would be the best as is followed for all other satellite based services.

**Q10. What should be the eligibility conditions for grant of license for mobile television service?**

The eligibility criteria should be made simple.

Indian Registered Company.

Total FDI not to exceed 74% (to be consistent, in this convergent era, with most of the telecom services).

Indian management control.

**Q11. Whether networth requirements should be laid down for participation in licensing process for mobile television services? If yes, what should be the net worth requirements for participation in licensing process for mobile television services?**

A networth requirement of Rs 20 crores seems reasonable.

**Q12. What should be the limit for FDI and portfolio investment for mobile television service providers?**

As stated earlier, the FDI cap in all the services (whether telecom or broadcasting) should be aligned. The trend is to fix it at 74%.

**Q13. What should be the tenure of license for the mobile television operators?**

15 years gives adequate time for the license holder to develop his business.

**Q14. What should be the license fee to be imposed on the mobile television service providers?**

As is the current with respect to all services, the license fee should be based on revenue sharing.

**Q15. Whether in view of the high capital investment and risk associated with the establishment of mobile television service, a revenue share system would be more appropriate?**

Yes

**Q16. Whether any Bank Guarantee should be specified for licensing of the mobile television service providers? If yes, then what should be the amount of such bank guarantee? The basis for arriving at the amount should also be indicated.**

A PBG of Rs 10 crores seems to be a reasonable number.

**Q17. Whether the license for mobile television service should be given on national/regional/city basis?**

All three should be given as the requirements are varying and business opportunities are different.

The policy should facilitate early and smooth introduction of the mobile TV services in the country. Department of Space looks forward to the opportunity to discuss this matter further with TRAI.

Sincerely yours,

Sd/-

(A.Bhaskaranarayana)  
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