

Chapter 1 - Introduction

1.1 DTH Service

Television is one of important sources of entertainment and education. The Television sector in India mainly comprises of cable television services, Direct to Home (DTH) services, Internet Protocol Television (IPTV) services, free to air DTH services and terrestrial TV services provided by Doordarshan¹ (DD) networks.

DTH service is a satellite based broadcast service which entails distribution of multi-channel television programmes in Ku band² by using a satellite system.

In DTH service a large number of television channels are digitally compressed, encrypted and beamed from satellites. There are four major technical stages involved in the working of a DTH service. These are content acquisition, compression, modulation and uplink to DTH satellite and finally reception of signals at the users end. The contents of the television channels are first acquired and then compressed using a series of compression equipments. The compressed Radio Frequency (RF) signals are modulated, frequency converted, amplified and uplinked to the DTH Satellite. DTH satellites broadcast the RF signals to the 'small TV dish antenna' fixed at the users' end. The dish antenna receives the RF signals, Low Noise Block Down Converter converts the RF signals and set top box demodulates and decrypts these signals and the content is exhibited on the television set. The working of various stages of DTH service system is pictorially described at Figure 1.

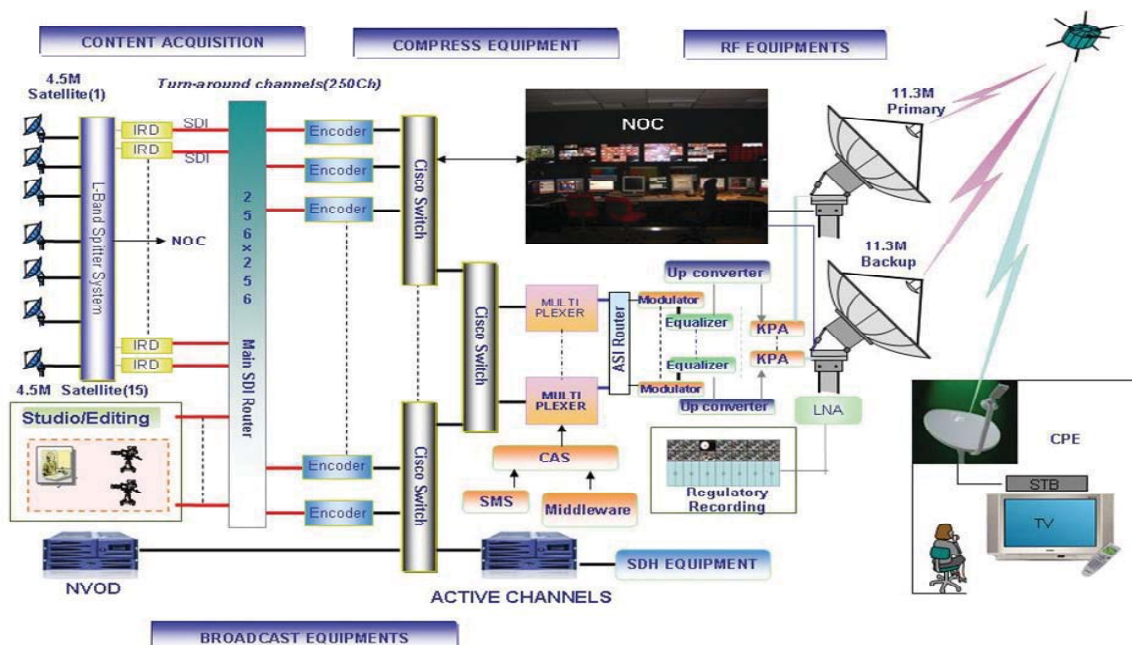
DTH service being a digitally addressable system offers good picture quality, enhanced value added services, transparency in the system resulting in better services to the consumers. Union Cabinet approved (November 2000) the proposal of Ministry of Information and Broadcasting (MIB) to introduce DTH service in India.

As of 2014, out of a total of 16.10 crore television homes in India, 9.30 crore (58 *per cent*) are covered by cable TV services, 3.70 crore (23 *per cent*) are covered by private DTH services and the rest (19 *per cent*) by IPTV services, terrestrial broadcast services and free to air DTH services of DD. With the digitalisation of cable TV services, consumers were in a position to receive 500 channels or more, including a large number of High Definition (HD) channels, which boosted the demand for satellite transponder capacities by DTH operators.

¹ India's Public Service Broadcaster

² A portion of electromagnetic spectrum used for satellite communications, primarily for broadcasting satellite television.

Figure-1: DTH System Block Diagram



1.2 Grant of licence for DTH service

The guidelines for obtaining licence for providing DTH Broadcasting Service in India were formulated (March 2001) by MIB, being the nodal Ministry for broadcasting services in India. Salient features of the guidelines were as follows:

<p>Eligibility</p>	<ul style="list-style-type: none"> • Indian registered companies were eligible for licence. • Companies had to apply to MIB for licence. • There was no restriction on number of DTH licences.
<p>On receipt of application from the eligible companies, MIB obtained certain prescribed clearances</p>	<ul style="list-style-type: none"> • Security clearance from Ministry of Home Affairs. • Satellite clearance from Department of Space (DOS).
<p>On receipt of satellite clearance from DOS, DTH service provider obtained operational clearance</p>	<ul style="list-style-type: none"> • Standing Advisory Committee on Radio Frequency Allocation (SACFA) clearance from Department of Telecommunications (DOT).

Issue of licence and revenue collection	<ul style="list-style-type: none"> • MIB issued DTH licence for a period of 10 years. • MIB was to collect a non refundable entry fee of ₹10 crore from the DTH service providers after obtaining the satellite clearance from DOS. • Within one month of obtaining SACFA clearance, DTH service providers were to submit a bank guarantee to MIB for an amount of ₹40 crore valid for the duration of the licence. • After submission of bank guarantee, a licensing agreement was signed by MIB and the licensee. • MIB was to collect an amount equivalent to 10 <i>per cent</i> of the gross revenue of DTH service providers in that particular financial year within one month of the end of that year from the service providers. • DTH service providers were to pay annual licence fee and royalty for the spectrum usage to Wireless Planning and Coordination Wing (WPC) of DOT.
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During 2004 to 2007, DTH licences were issued to Dish TV (Dish TV India Ltd.), Tata Sky (Tata Sky Ltd.), Sundirect DTH (Sun Direct TV Pvt. Ltd.), BIG TV (Reliance BIG TV Ltd.), Airtel Digital TV (Bharti Telemedia Ltd.) and D2H (Bharat Business Channel Ltd). As of March 2014, 792 TV channels were permitted by MIB.

1.3 Satellite capacity allocation

Department of Space (DOS) provides national space infrastructure through satellite transponder capacity to meet the telecommunication, broadcasting and security requirements of the country.

As per the DTH guidelines, DOS was to provide satellite clearance before issue of the DTH licence by MIB. Satellite capacity arrangement was left to DOS. Government instituted the INSAT³ Coordination Committee (ICC) in 1977 for coordinating and monitoring the implementation of space and ground segments of INSAT projects. ICC is a high level multi-departmental control mechanism consisting of Secretaries of six Departments viz. DOS, Department of Economic Affairs, Department of Telecommunications, MIB, Department of Science and Technology and Department of Information Technology.

³ Indian National Satellite

Recognising the heavy demand for communication satellites for DTH service in India and its technological/ strategic advantage, DOS put up (May 1997) a cabinet note for a broader Satellite Communication (SATCOM) policy, duly considering the opinion of the stakeholders through interdepartmental⁴ consultation exercise. The Norms, Guidelines and Procedures (NGP) for implementation of policy framework of SATCOM were approved by Union Cabinet in January 2000.

Under the SATCOM policy framework, both Indian and foreign satellites were allowed to be used to provide DTH service, with the condition that proposals envisaging use of Indian satellites would receive preferential treatment. The salient features of the policy for allocation of satellite capacity to DTH service were as under:

<p>SATCOM Policy</p>	<p>Allocation of capacity</p> <ul style="list-style-type: none"> • According to Article 2.5.2 of the policy, ICC was to earmark at least a certain percentage of capacity in INSAT system for use by the non-governmental users who had been authorised by law to provide various telecommunication services including broadcasting. • According to Article 2.5.3 of the policy, ICC was to evolve the procedures from time to time taking into account the capacity available and the prevailing situation in the satellite communications market. <p>Commercial and contractual factors</p> <ul style="list-style-type: none"> • According Article 2.6.2 of the policy, once capacity was earmarked by ICC, DOS was to provide the satellite capacity following its own procedures. In case the demand exceeded available capacity, DOS was to evolve suitable transparent procedures for allocation of capacity, which could be any equitable method such as auction, good faith, negotiation or first come first served basis.
<p>The arrangement for use of foreign satellites for DTH service was further detailed by ICC (June 2001)</p>	<ul style="list-style-type: none"> • DOS would acquire and allocate necessary transponder capacity from foreign satellites to meet specific customer requirements. • For private customers, private funds would be used. • In order to take care of this, DOS would use its commercial wing Antrix Corporation Limited⁵ (Antrix) which would enter

⁴ Other Departments included Department of Science and Technology, Ministry of Finance, Ministry of Industry, Ministry of Defence, Ministry of Home Affairs and Ministry of Information and Broadcasting.

⁵ Antrix is a public sector company under the administrative control of DOS. It is the marketing arm of DOS for promotion and commercial exploitation of space products, technical consultancy services and transfer of technologies developed by Indian Space Research Organisation (ISRO).

	<p>into back to back agreements with foreign satellite owners and Indian customers.</p> <ul style="list-style-type: none"> • Foreign satellite capacity arranged by DOS/ Antrix for Indian DTH industry would be for short term period as a temporary measure, to ensure that the service could be brought back to INSAT system as and when Indian satellite capacity was available.
<p>Arrangement for foreign satellite capacity</p>	<ul style="list-style-type: none"> • Indian DTH service providers requiring satellite transponder capacities were required to apply to DOS. • In case of non- availability of the capacity on INSAT satellites the service providers were required to place a request to Antrix for foreign satellite capacity, which then aggregated such requests. • Thereafter, Antrix floated the aggregated requirements to foreign satellite operators and after negotiations, transponder capacities were contracted for DTH service providers. • The DTH service provider entered into an agreement with DOS. Antrix, in turn entered into an agreement with the foreign satellite owner so that foreign satellite capacity was arranged for the Indian DTH service provider for a short period.

Allocation of satellite capacity for DTH service presented several challenges before DOS. These were:

- Satellite capacity for Indian DTH service was made open to Indian as well as foreign satellites;
- Satellite capacity requirement was a bulk requirement; and
- With millions of TV dish antennas of DTH customers pointed at a satellite, capacity was required continuously from the same location in the sky.

Therefore, satellite capacity requirement for DTH needed to be meticulously planned and realised.

During March 2004 to February 2007, DOS entered into transponder lease agreements with DD, Dish TV, Tata Sky, Sundirect DTH (Sun DTH), BIG TV (Reliance), Airtel Digital TV (Airtel) and D2H (Videocon). DOS did not enter into any transponder lease agreement after February 2007. A chronology of events in the allocation of satellite capacity to DTH service providers is given at **Annexure I**.

1.4 Audit objectives

Audit was conducted with a view to evaluate

- whether planning and realisation of satellite capacity for DTH service was done with a view to give economic, efficient and effective service;
- whether allocation of satellite capacity for DTH service was transparent, fair and equitable; and
- whether transponder lease agreements safeguarded the financial interest of Government and were implemented accordingly.

1.5 Audit Criteria

The criteria for this audit were derived from:

- SATCOM Policy;
- Decisions taken in various meetings of ICC, Space Commission and approved project reports of communication satellites recorded in the minutes;
- Terms of the DTH Transponder lease agreements between DOS and service provider;
- Terms of the DTH Transponder lease agreements between DOS and service provider and its back to back agreement entered by Antrix with foreign satellite owners; and
- Orders issued by DOS regarding bandwidth allocation, pricing of transponders, satellite capacity allocation.

1.6 Audit Scope and Methodology

Audit of DTH services in India was limited to the role of DOS in planning, realising, allocating, contracting and managing communication satellite capacity for the DTH service providers. The audit was conducted during July 2012 to August 2012 and August 2013 to October 2013, covering the period from March 2004 to July 2013.

Audit scrutinised records relating implementation of SATCOM Policy, minutes of various committee meetings, project reports approved by the competent authority, transponder lease agreements, account statements and its ledgers maintained in DOS, Satellite Communication and Navigational Programme Office (SCNPO) and Antrix. In addition, audit issued questionnaires to seek information and response of the management on issues noticed. Relevant portions of the audit observations were also issued to MIB to elicit their comments.

1.7 Organisation of Audit findings

Audit reviewed the planning, earmarking, allocation and leasing of the satellite capacity by DOS to DTH service providers. Observations regarding planning and realisation of satellite capacity for DTH service are discussed in Chapter 2 of this report, observations regarding allocation of satellite capacity for DTH services are discussed in Chapter 3 and specific issues relating to contract management are discussed in Chapter 4. Chapter 5 contains the conclusion and recommendations.

1.8 Acknowledgement

We acknowledge the cooperation extended by Indian Space Research Organisation, Antrix Corporation Ltd., Department of Space and Ministry of Information and Broadcasting during conduct of our audit.

