



Telecom Regulatory Authority of India

Recommendations

on

Digitalisation of Cable Television

New Delhi

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September 14, 2005

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CHAPTER 1 : INTRODUCTION

1.1 Background and Need for Digitalisation

1.1.1 Over the last few years the number of channels being offered on cable television has rapidly multiplied. Although the capacity of the cable networks has been significantly enhanced over time, increasingly, they are not able to cope up with the demand for space from new channels. At many locations it is reported that the number of channels being offered are far more than the maximum that can be carried with the existing analogue systems. During the process of consultation on issues relating to Broadcasting and Distribution of TV channels last year, broadcasters had raised issues relating to the problem of lack of capacity on cable TV Networks and the associated issue of increasing carriage charges.

1.1.2 As an underlying technology digitalisation is a growth driver. Digital transmission offers a number of advantages over analogue broadcasting. These include better reception quality, increased channel carrying capacity, new features such as programme guides, multi view and interactive services as well as potential to provide triple play : voice, video and data. Much of the television production and some distribution already use digital technology. The DTH (Direct to Home) service, which is essentially perceived as a competing platform to cable is in digital format. The Broadband based IPTV, which is also digital in format, is expected to give an enhanced level of competition to other platforms of delivery. Satellite TV channels are also beamed using digital technology. Efforts to introduce CAS (Conditional Access System) in 2003 in four metros resulted in digitalisation of networks to a large extent in these cities and a few Multi System Operators have already started providing many digital channels (with CAS in Chennai and without CAS in other metros) to their subscribers. Thus digital technology in cable television in the above background is inevitable and has to happen if the cable medium as a platform for distribution of signals has to compete with other delivery platforms. While this process would be driven primarily by market forces it needs to be examined to what extent this can and should be accelerated by Regulatory and Government intervention and incentives.

1.2 Consultation Process

In the recommendations to the Government on 1st October 2004 on issues relating to Broadcasting and Distribution of Television Channels it was indicated that TRAI would be bringing out a consultation paper on Digitalisation of Cable Television. Accordingly a consultation paper was issued on 3.1.2005. The last date for receiving comments was 31st January 2005 and it was, on request for further time, later extended to 10.2.2005.

1.2.1 ***Specific Issues for Consultation***

The consultation paper covered issues relating to the time frame and phasing of conversion of analogue to digital systems; issues relating to licensing for digital network and connected matters; measures to promote competition including introduction of 'Must Carry' Regulations; and options for upgradation of networks and technical choices for Digital Cable TV. The specific issues for consultation under the above groups were as under:

a) ***Time Frame for Digitalisation***

- (i) The approach to digitalisation of Cable television internationally appears to favour the determination of a launch date and keeping the complete changeover flexible. Should a similar approach be followed in India and in which case what should be the launch date keeping in mind the necessary preparatory steps needed to do so?
- (ii) Would it be desirable to have five year plan for the period 2006-10 with the termination coinciding with the Commonwealth Games?
- (iii) Whether an annual target of the number of cities should be laid down and if so what should be the cities to be covered in each year and what should be the criterion for such selection?
- (iv) Whether for each city an annual target should be laid down for the number of subscribers to be covered and if so how should this target be fixed?
- (v) Should there be a differential pricing regime for digital networks and if so what should be this framework? Should prices be completely deregulated in a digital network?
- (vi) What fiscal incentives can be given to promote digitalisation? Should there be a differential rate for entertainment tax and service tax or should there be a waiver from these taxes for a limited period of time? Should there be any reduction in import duty and if so at what rate and on what components/products?

b) ***Licensing Issues***

- (vii) Should licensing be automatic or should it be restricted to a limited number of players? If the latter is to be done, how many Operators should be permitted in each area and what should be the manner of selection?
- (viii) What should be the entry fees for Digital licenses and what should be the annual fees?

- (ix) What should be the limit on foreign direct investment for digital licenses? What should be the limits on foreign loans as well as on FII Investment?
 - (x) What should be the limits on investment by Broadcasters in a digital license both by way of equity as well as through loans?
 - (xi) Should the licenses be given by the Government of India, the State Government or by the Authorised officers?
- c) **Competition Issues**
- (xii) Whether 'must carry' of TV channel be imposed on Digital Cable Networks? If so, what should be the terms of carriage of TV channels?
 - (xiii) What should be the principles of non-discriminatory carriage?
 - (xiv) Whether Authority should regulate carriage charges on digital and analogue cable networks? If so, on what basis should this be done and how should carriage charges be calculated?
- d) **Upgradation of Networks**
- (xv) To promote digitalization, should CAS be implemented only on the digital platform in the future?
 - (xvi) Should development of digital decoders as well as plug and play digital TV Receivers be encouraged to promote digital cable TV industry in the country?
 - (xvii) Whether separate BIS standards are required for development of digital decoders in the country?
 - (xviii) Whether the existing BIS standards for digital cable TV are adequate or there is a need to modify them or define new ones?
 - (xix) What incentives should be given to boost local production of digital decoders and make black and white TVs more affordable?

1.3 Response to consultation paper and Open House Meetings

Twenty four (24) responses to the consultation paper were received from various stakeholders. These were summarised and a gist of the same were placed in TRAI's Website www.trai.gov.in on 25.2.2005. The consultation process was followed with open house discussions at Delhi on 16.3.2005 and at Mumbai on 18.3.2005. Despite the divergence of opinion

on what should be the approach and how to go about the process, there was an underlying convergence on the issue of the need for digitalisation and the advantages it is expected to bring about to the consumers. This was followed by a series of separate meetings by the secretariat of the Authority with Cable Operators, Free to Air Broadcasters, MSOs and manufacturers of television equipments, Set Top Boxes (STBs), etc between March 05 to May 05 to further understand the issues of specific concerns to the groups. The comments of stakeholders and views expressed in the open house discussions and other separate meetings have been carefully examined and analysed before arriving at the conclusions in these recommendations.

1.4 Facilitation of Policy of Digitalisation - Objectives of TRAI

In developing the policy to facilitate the digitalisation of cable networks the Authority has primarily been guided by the need to keep the process completely voluntary. Thus cable operators, MSOs, broadcasters and above all consumers should adopt the new technology only when they see the merits of such a shift. What this means is that analogue and digital transmission shall continue side by side. Consumers will only go for the digital platform once they are convinced that it is advantageous to them. In case at a later date they do find that it is better to get out of the digital service they would be free to do so. Apart from this primary consideration the Authority has been guided by the following objectives.

- Cable Services should benefit from the technological advances to the fullest possible extent, and enabled to provide competition to other digital platforms.
- There should be smooth transition from Analogue to Digital Transmission recognising that analogue services will continue along with digital services for several years.
- The policy to promote competition at all levels.
- The digitalisation policy should provide guidelines to broadcasters, MSOs, Cable Operators and consumers for adoption of new technology.

1.5 Composition of the chapters

The arrangement of chapters containing specific recommendations essentially follows the same order as adopted in the consultation paper. Chapter 2 deals with recommendations on issues relating to the time frame and fiscal incentives, Chapter 3 on the licensing issues, Chapter 4 on issues relating to mandatory carriage of channels and carriage fees, Chapter 5 addresses the issues relating to technical choices and Chapter 6 contains a summary of the recommendations.

CHAPTER 2 : TIME FRAME FOR DIGITALISATION

2.1 The issues

The major issue covered in this chapter is what kind of time table, if any, should be laid down as part of an overall national digitalisation policy. Specifically, should only the launch date be specified or also the date on which analogue transmission is completely switched off. It must be noted that digital services have already been launched in some cities, so the launch date is relevant only for new cities and for the new policy package to encourage digitalisation. The other issue is to specify the cities where digital services are to be launched and whether any targets need to be laid down for these cities. Related to these issues is the question of incentives to be given to promote digitalisation. These could either take the form of fiscal incentives or regulatory incentives in terms of greater freedom for price setting.

2.2 International experience

Details of international experience have been provided in the Consultation Paper. The important factors to bear in mind from this experience are the following:

- There is a cost attached to moving to the digital platform. The biggest obstacle has been consumer premise equipment – consumers have not been very enthusiastic about investing in digital set top boxes or digital televisions.
- Most countries have provided a launch date as well as a sunset date.
- The sunset date fixed earlier in USA had to be extended because of poor progress and in other countries also there is a provision to postpone the sunset date in case of poor response.
- The only city in the world which has switched off analogue transmission is Berlin. Extensive subscriber education and a subsidy scheme have been held to be crucial to this success.
- The table below brings out the time table of various countries for launch of digital service and full conversion from analogue to digital. It may be noted that in most countries the primary focus has been on reclaiming spectrum.

Time Table for digitalisation – targets in other countries

Market	Legislation	Launch	Complete Conversion
Brazil	2002	2006	Not determined
China	2000	2003	2015
Hong Kong	2000, 2004	2001	2012
Germany	2002	2003	2010
Japan	1998	2000	2011
Korea	2000	2001	2010
Taiwan	1998	2002	2008
U.K.	1999	1998	2006 – 2012
U.S.	1996	1998	2009

2.3 Views of stake-holders

- i) Different stake-holders have suggested different dates ranging from 2006 to 2008 for starting digitalisation. Some stake-holders have suggested a flexible approach especially for the change-over to complete digitalisation. MSOs have indicated that mandatory digitalisation should not take place till addressability is notified and the launch date can be the same as the date of notifying CAS. The introduction should be gradual, CAS with digital set top boxes, upgrade of networks to bi directionality and introduction of interactive services for consumers to experience and absorb the change. Cable TV service providers should be encouraged and enabled to steer the change. It has also been indicated that the Commonwealth Games to be held in New Delhi in 2010 can be used to drive digitalisation.
- ii) Migration to digital service should be left to market forces and any plan should only act as guidance. Some have suggested that digitalisation should be started only after the implementation of CAS.
- iii) There have been different views on the need for targets. Some have suggested that a specific plan should be prepared and a time table laid down whereas others have suggested that it should be based on market factors like demand and high ARPU (Average Revenue Per User). On the issue of the targets for number of subscribers some have indicated that this is not practical, whereas others have suggested that some targets should be laid down although these could be only indicative and should act as a guidance for the industry.

- iv) On the issue of differential prices, some stake-holders have suggested that prices should be completely deregulated in a digital network. The MSOs have indicated that price control can be lifted once addressability is made mandatory.
- v) There is widespread support for reducing Service Tax as well as Entertainment Tax with some suggesting exemption for a limited period of time. Some have also suggested that import duties should be removed although the domestic manufacturers have argued that this should be brought down and not made zero.

2.4 **Recommendations by the Authority**

2.4.1 ***Launch, time frame and plan***

As has been noted earlier digital service has already been launched in some cities. This can be linked to the push provided by the introduction of mandatory CAS in 2003. On the issues of introduction of CAS the Authority has already given its views and recommendations on October 1, 2004. These recommendations are currently under examination in the Government and therefore it would not be necessary for the Authority to revisit these issues. The only issue that remains is whether there should be an effort at promoting digitalisation or this should wait till the Government takes a view on the issue of mandatory CAS. For the following reasons it seems advisable to proceed with promoting digitalisation without waiting for a decision on mandatory CAS:

- (i) Digitalisation is already happening not only in the erstwhile CAS notified cities but also in some other cities – MSOs have reported that they have already launched digital service in Bangalore, and Pune and plan to launch digital services in several cities – Kolkatta, Hyderabad, Chandigarh, Ludhiana, Jullundhur, Ahmedabad, Nagpur, Nasik, Vadodra, Indore, Bhubneshwar and Mysore in the coming months. This process will get a boost by the adoption of a national plan with appropriate incentives.
- (ii) Digital services are just entering the market. It is always easier to introduce regulation at the early stages of development of a market. A proper regulatory framework should be laid down to ensure that the new digital services are regulated to the extent considered necessary. Once the services expand beyond a particular size it would throw up problems of legacy which would be difficult to handle and would make introduction of regulation even more difficult.
- (iii) The Commonwealth Games are being hosted in Delhi in 2010 – every effort should be made to exploit this event to promote

digitalisation. It may be recalled that in 1982 the Asiad was similarly used to drive penetration of colour TV.

- (iv) Both DTH and IPTV are expected to provide competition to cable through digital services – every attempt should be made to ensure effective competition from the Cable industry, not only for home entertainment but also for other value added services.
- (v) Finally, although addressability is the best way of ensuring consumer choice, till this happens greater choice can be offered to the consumers through a digital platform. This will ensure a larger number of channels being available to cater to the growing number of regional channels and the varying tastes of a widely heterogeneous population.

While the above gives the rationale for promoting digitalisation it must be noted that this does involve a cost especially for consumers who will have to invest in a set top box or decoder to transform the digital signals into analogue. Therefore as mentioned in section 1 itself the plan will have to be voluntary in all steps and will have to provide for simultaneous provision of analogue and digital service.

2.4.2 Given the number of steps that need to be taken it is considered that this plan should be implemented from 2006 till 2010 (which is the year in which the Commonwealth Games will be hosted in India). This will be an indicative plan that will give guidance to all stakeholders but will not be mandatory in any form. The plan could be further amended in the light of experience.

The essential components of this plan would be:

- Introduction of digital service in all cities/urban agglomerations with a population of one million plus by 2010 (list attached as Annexure I). In all these cities/urban agglomerations the existing analogue service will continue simultaneously.
- Licensing for new entrants and automatic licensing for existing operators. (details given in chapter 3)
- Rationalisation of import and domestic duties by April 1, 2006.
- Use of Entertainment tax for a consumer education programme during these four years (2006-2010)

2.4.3 The list of cities/urban agglomerations has been derived on the basis of the size of the population as that gives the best indication of the size of the market. However this list is neither exhaustive nor exclusive. With the passage of time it may be necessary to modify this list. As indicated the effort would be to introduce digital services in these cities by 2010. No terminal date (for complete switch over to digital service and terminating analogue transmission) is being set as at this stage it seems too early to

speculate on the date by which complete cessation of analogue signals would take place. Thus for the present it is envisaged that in these cities/urban agglomerations there would be a digital service while those consumers who want to continue with the analogue service can continue to do so. No specific targets are being made for penetration in terms of the number of subscribers, in these cities/urban agglomerations. These would be done later, once there is more experience and there is also a complete policy package in place.

2.5 ***Entertainment Tax***

A consumer availing digital services would either have to buy a digital box or rent such a box. This box could be either a complete Set Top Box with an inbuilt CAS or it could be a simple digital decoder without any CAS. In either case, the consumer would have to make a substantial investment or incur a recurring expenditure if it is taken on rent. According to the survey conducted by TRAI last year, as well as international experience, this is likely to be the biggest barrier to the introduction of Set Top Boxes, with or without CAS. Provision of any tax concession to consumers for buying a set top box or a decoder would not be the correct way of encouraging digitalisation. Most of the consumers who would buy these boxes initially would be upper end consumers. But the process of digitalisation would ultimately lead to higher levels of revenue to the State governments from Entertainment Tax. This could initially be due to higher demand for more niche and value added services. Further the number of subscribers can be easily identified. Once the process of digitalisation catches up and with gradual introduction of addressability, there is bound to be an increase in the amount of collection. But as already indicated elsewhere an intensive effort would be required to help and educate the consumers to come over the barrier indicated earlier. It is therefore in the interest of the State governments to give an impetus to the process by educating the consumers about the benefits of digitalisation in collaboration with the local service providers so that the benefits accrue to a wider section of the population. **Accordingly it is suggested that the Government of India should recommend to the State Governments that the proceeds of the entertainment tax during these four years (2006 -2010) should be used for an intensive consumer education programme to be conducted by the state Governments along with the local digital service providers.**

2.6 ***Customs and Excise Duties***

The other issue which has a bearing on the cost of the Set Top Box is the rationalisation of import and domestic duties. At present the import duties for the Set top box used for cable TVs (HSN No.8528) are of the order of 15% while excise duty is nil and custom duties on important components like ICs is 16%.CETMA (Consumer Electronics and Television Manufacturers Association) had proposed that the import duty be brought down to 10%

and the excise duty be increased to 8% to make up for the loss in revenue. It has also been proposed that import duty on important component like ICs should be brought down to 8% so as to give a positive rate of protection to domestic manufacturers. The MAIT (Manufacturers Association of Information Technology) have pointed out that for internet Set Top Boxes (HSN No.8517), the import duty is nil with a 16% excise duty. They have requested that the import duty for both types of Set Top Boxes should be the same since there is very little difference between the two and in future with converging technologies the two would become identical. These alternative proposals have been carefully considered. At present there are two duty regimes for Set Top Boxes for cable television and internet respectively. It would be necessary to promote the domestic manufacture of these Set Top Boxes since these would bring with it advantages of continued backend support for the operators apart from the establishment of a domestic manufacturing base. Currently there are differences in the two types of boxes and that is why there are two sets of regimes. The recommendation of CETMA to bring down the import duty to 10% and correspondingly increase the excise duty has considerable merit. It could be the starting point of convergence in the duty regimes for the two types of Set Top Boxes. As time passes and convergence becomes more pronounced it would become more difficult to maintain this difference and therefore over time these two rates should converge and become uniform. Further there could be new set top boxes that may be introduced with changing technology – to avoid confusion it would be best if over time all rates are uniform.

2.7 Service Tax

At present the service tax of 10.2% is being levied on cable services. This can be offset against the duty paid either in the form of import duty or excise duty. Thus giving any concession on service tax may not yield any net benefit to the consumers. It could also lead to distortions in tax administration since the service tax is charged on the basis of a percentage of the value of the service. For these reasons no proposal is being made at present for any concession in the form of service tax.

2.8 Price Control

At present, there is a Tariff Order in force. This applies to all cable television services and there has been no exclusion of digital services. It was proposed as an issue of discussion in the consultation paper as to whether there should be any deregulation of prices for the digital services. The Authority had in its recommendations of October 1, 2004 and in the Tariff Order indicated that once there is competition the Tariff Order would be withdrawn. Recently the Government have given LOIs for two new DTH operators. After these new operators start providing services the Authority would consider the withdrawal of the Tariff Order, after assessing the level of competition. Therefore at this stage it is not necessary to go into this issue.

2.9 It is thus recommended that -

a) There should be a national plan for digitalisation from 1st April, 2006 till 31st March, 2010. This plan would be indicative and would not be mandatory in any form.

b) The essential components of this plan would be :

(i) Introduction of digital service in all cities/urban agglomerations with a population of one million plus by 2010 (list attached as Annexure-I). In all these cities the existing analogue service will continue simultaneously.

(ii) Licensing for new entrants and automatic licensing for existing operators. (details given in chapter-3)

(iii) Rationalisation of import and domestic duties by April 1, 2006.

(iv) Use of Entertainment tax for a consumer education programme during these four years (2006-2010)

c) Custom duties on Set Top Boxes for cable televisions (HSN No. 8528) be reduced from 15% to 10%.

i) Excise duty be raised from 0% to 8% and

ii) Import duty on ICs be reduced from 15% to 8%.

Over a period of time the import duties should be brought down to zero and the excise duty be made uniformly 16% for all components so that ultimately there is one duty regime.

d) The Government of India should recommend to the State Governments that the proceeds of the entertainment tax during these four years (2006 -2010) should be used for an intensive consumer education programme to be conducted by the state Governments along with the local digital service providers

CHAPTER 3 : LICENSING ISSUES

3.1 Issues for Consideration

3.1.1. The industry has not been subject to any entry regulation excepting for a simple registration procedure. This unregulated growth has led to high levels of penetration as also considerable fragmentation in the distribution chain. There is no firm data on the number of operators and their subscriber base. Absence of addressability has also implied low transparency with frequent disputes. Most networks are currently analogue and if licensing is to be introduced it should be done now, when digitalisation is just starting to happen.

3.1.2 There is a vast body of cable operators/MSOs some of whom (about 6000) already have head ends. A few have converted to digital while others could be in the process of conversion from analogue to digital. In this background the need for licensing of digital services has to be examined first. This examination would cover both, existing as well as new MSOs. It also needs to be established as to what a digital license would mean in terms of coverage of the segments involved in the Digitalisation process. Also there is the issue of whether the digital license would be only restricted upto the segment of establishment of digital headends or it would extend to the distribution network upto the level of local cable operator or even beyond upto the last mile operator. This would be necessary, as any proposal for introduction of a licensing system would require stipulations as regard to the rights and obligations of a licensee and the licensor and these rights and obligations can be ascertained only when the scope of what the license would cover is determined.

3.1.3 If there is a case for licensing then the issue arises whether this should be automatic or restricted to a few players for each area and whether there should be pre specified minimum eligibility conditions. In the case of limiting the number of players what should be that number and what should be the criterion which should determine the number, are other issues which have to be decided.

3.1.4 While the DTH platform provides for a very high entry fee and annual license fee, the licensing fee structure in the case of ISP is different with the provision for a range of bank guarantee for different type of licenses and a token license fee. The existing provisions in the Cable Act provides for only a payment of Rs.500 p.a as annual license fee. Though no scarce resources of spectrum would be involved in the case of transmission through cable TV, the issues that would need to be determined is what should be the desirable structure of license fee keeping in mind the need for a level playing field with other platforms and also to facilitate recovery of regulatory cost.

3.1.5 It has been proposed in TRAI's recommendation on Broadcasting and Distribution of TV Channels, that the Authorised Officers being the nodal officer for enforcement of various regulations and orders should also be declared the registering authority for operating cable services. The purpose was to have one nodal point at the local level for enforcement of regulations given the fact that there is a large body of registered cable operators widely spread throughout the country including in far flung areas. The issue to be considered therefore is what should be the appropriate level at which licenses would be given.

3.2 Stakeholder's comments

The comments received from stakeholders are summarised below:

- Current system of registration should continue, as introduction of licenses will only benefit the telecom players.
- In the interest of competition no licensing should be introduced and only if services such as VOIP, etc are included should licensing be introduced.
- Some stakeholders are in favour of automatic route making the applicant eligible provided he satisfies the prescribed conditions of eligibility.
- The eligibility conditions can be framed on parameters such as, minimum net worth, promoter track record, technology expertise, past experience, etc.
- Whatever be the licensing regime there should be level playing field across all delivery platforms and should promote competition.
- Some stakeholders have suggested restricted number of players for specified areas. Restrictions may be in terms of number per area and no of area(s) /states per licensee. The smallest area for a license should be city or town defined by Municipal limit.
- The licensing pattern as prevailing in the telecom sector for cellular licensing can be adopted. The existing players, registered MSOs/cable operator or who are already providing digital services may however be given automatic route.
- Licenses can be awarded through auction or bids or on satisfying the given criterion.

3.3 International Experience

- Globally licensing provisions were already in place at the inception of the cable TV industry and when the units shifted to digital networks there was legislation providing for licensing.
- In UK licenses were given by the Cable Authority to a number of operators.

- In the USA the license are issued at the local city level council for a period of 15 years and are done through the process of bidding and is restricted to one operator per city. Local monopoly is recognised officially.
- In China all major MSOs are local monopolies owned by various municipal authorities.
- The roll out of digital licenses in Taiwan was as a natural extension of original Cable TV license.
- Different systems seem to exist in different countries as to the authority responsible for issuing licenses.

3.4 **Recommendations of the Authority**

i) ***Need or otherwise of Licensing of Digital Services***

3.4.1 A licensing mechanism exists in most countries. However, in India there is in force only a simple process of registration. Section-4 of The Cable Television Networks (Regulation) Act 1995 read with Rule 3-5 of The Cable Television Networks Rules provides for an application to be made in the prescribed form along with a fee of Rs.500/- The reasons for rejection of registration can be on grounds of either the application being incomplete or registration fee not been tendered or applicant not being a citizen of India or less than 51% of the paid up share capital of the applicant company is held by citizens of India. The Cable Act and Rules however do not prescribe any requirements as to the area where one can operate, number of operators in an area or any qualifications in terms of financial, managerial, or technical capabilities of the units for getting registered as a Cable Operator.

3.4.2 One of the results of the simple procedure of registration with nominal annual payment is a proliferation of players. Though there has been lately some consolidation, the extent of consolidation and manner thereof has not helped promotion of competition. At the same time many of the large MSOs are not financially healthy and have been making losses.

3.4.3 Introduction of digital services involves substantial investment at the Head End and could also require upgradation of the distribution network depending on the status of the plant. It was noted during the process of consultation that there was hardly any interest shown by new entrants. The possibilities are there for consolidation amongst existing digital/analogue head end operators but it would primarily be dependent upon the judgments made by the players of the commercial opportunities which digitalization can provide. Licensing can provide a framework for consolidation of existing operators and help in getting institutional finance. There has been one proposal for cable operators to join together and form a joint venture – these initiatives can be encouraged if specific interest is shown and more concrete proposals are formed.

3.4.4 A licensing regime in whatever form, once introduced, would facilitate prescription of a standard set of rights and obligations to which any licensee

would be subject to. It may provide the basis for evolution of a standard code of business practices and operating conditions. An industry built around a well defined code of business practices and transparency is likely to attract the lenders and financiers. Licenses would also be a differentiating factor and basis for an operator to claim concessions which the Government may announce from time to time. There is a need for the establishment of an administrative mechanism for actual delivery of these incentives and its monitoring. The criterion for delivery and monitoring of the implementation of incentives is best done through a licensing mechanism which while providing for certain minimum eligibility conditions specifies the rights and obligations of the licensee in the execution of the license. Among other things the licensing process can also be used to implement the suggestion made in the recommendations sent on October 1, 2004 regarding the need to revoke registration if an operator has been found to have been convicted of a criminal offence.

3.4.5 The question of continuance of the existing registration process even for new entrants for setting up a digital cable network was examined. The provision of registration as existing could have been adequate at the nascent stages of development of cable television. Digitalization would bring in vast changes in the Cable Industry in the form of bundling and delivery of large number of services including addressability, tiering of channels, triple play of voice, data and video, video-on-demand. The Authority has already recommended a framework of unified licensing. However as on date the telecom operators do not need any license to offer cable services and have simply to follow the process of registration applicable to the cable operators. In case the proposals for unified licensing are approved the telecom operators can take a unified license to provide all services including cable services. Similarly, it would be useful for operators coming from the cable industry to have a licence which could be the basis for giving them various fiscal and other benefits.

3.4.6 For the reasons mentioned above, it is proposed that licensing should be introduced for any new operator wishing to offer digital services. The Authority had noted that there have been some misgivings on the part of stakeholders representing the Cable Operators on the issues posed for consultation on licensing of digital networks. The issue as to why the existing cable operators be subject to licensing when they are in possession of registration certificate as provided under the Cable Act has been raised. This is a valid argument and therefore it is being recommended that –

- i) No person shall be allowed to offer a digital service after 1.4.2006 without a licence for digital services. Such a license would be required for putting up a headend and providing signals to cable operators but the licensee will also be allowed to provide services directly to consumers.**
- ii) All operators who have an analogue headend on the date of notification of the policy will be allowed a digital licence on**

an automatic basis but they will have to apply separately for this.

- iii) Those few operators who are already giving digital service will have to merely inform the licensing authority and will be treated as licensees pending issue of a formal licence.**
- iv) If a licence is not given or refused (for reasons to be given in writing) under (ii) and (iii) above within 6 months of the application or intimation, the licence will be deemed to have been given.**

ii) *Approach to Licensing - Automatic Licensing Vs Restrictive Licensing, Area of Operation*

3.4.7 The system of Automatic Licensing would mean that whosoever applies for a license to provide digital TV Channel services will be given a license. This automatic process has advantages in the form of simplicity in the implementation and an equal opportunity to everyone applying for a license. Provision of services in digital format through the medium of cable may not involve use of scarce public resources unlike the case of Terrestrial TV channels which involves usage of spectrum. A barrier to entry on number may not therefore be justifiable. Given also the lack of interest there would be little point in restricting the number of new entrants.

3.4.8 The above analysis would indicate that it is desirable to consider the Automatic Licensing Route on a non exclusive basis. This would mean that there would not be any restriction on the number of players for a designated area. As indicated in Chapter-2 it has been decided to promote digitalization in phases, the list of 35 cities/urban agglomerations identified for the 1st Phase could become designated areas to start with. As the identified cities/urban agglomerations are only a part of an indicative plan for digitalization of Cable TV, an existing operator whose location of operation even if not covered by the identified cities/urban agglomerations will have to be allowed to convert to digital service if the operator so desires. The license could be issued either for the designated city or district or state or whole of India, but the smallest area for license could be a city or town as defined by its municipal limits.

3.4.9 Thus licenses would be given on a non- exclusive basis just as registration is done today. However to ensure that serious players only enter the market all licensees would be required to provide a bank guarantee of Rs.50 lakhs for each city/urban agglomeration of over one million and of Rs.25 lakhs for each city/urban agglomeration that has a population of less than one million in case such a city is also considered for a digital license. This bank guarantee would be returned once the digital service has started. Such a bank guarantee would obviously not be required for those who have already commenced digital service before 1.4.2006.

iii) ***Minimum Eligibility Criterion for a License***

3.4.10 The Authority has examined the current position in regard to the procedure for registration. A combined reading of the provisions of section 4 of the Cable Act and Rules 3-5 of Cable Rules provide for the reasons for rejection of registration. It can be on grounds that either the application is incomplete or registration fee has not been tendered or applicant is not a citizen of India or less than 51% of the paid up share capital of the applicant company is held by citizens of India. The minimum requirement can be deduced from the above. In terms of section 2(e) read with section 3 of the Cable Act a person whether an individual or association of individuals or body of individuals whether incorporated or not and a company are eligible for registration. The Authority in its detailed recommendations had proposed to add an enabling proviso in the Cable Act under Section 4(3) to provide powers to the registering Authority to revoke or refuse registration if a cable operator has been convicted of any criminal offence involving imprisonment.

3.4.11 **Provision of FTA/Pay channel TV services in digital format requires a very high level of investment and conditions have to be created for entry of serious players having credentials in terms of capacity to make investment, a good business track record, capacity to comply with the conditions of license. With the current low level of interest it would not be necessary to lay down further barriers. A Bank Guarantee can be stipulated to keep out non-serious players as indicated in the previous section. For the present no further conditions appear to be necessary. Imposition of such conditions can be considered once there is sufficient degree of interest in new players wanting to come in.**

iv) ***Authorisation and authority for issuing a license***

3.4.12 The power to license cable networks is available with the government under section 4 of the Indian Telegraph Act. Private DTH and FM radio operators are also licensed under this Act. Since Cable TV Networks (Regulation) Act is exclusively created for the cable networks and regulatory functions are performed by Authorised Officers at the local level under this act, the license for digital service should also be issued under the Cable Act.

3.4.13 The Authority in its recommendations on Issues relating to Broadcasting and Distribution of TV channels” had recommended that registration of Cable Networks should be done by the Authorised Officers. This recommendation is based on the small size of the operation of most of the existing cable operators. On the other hand digital headends need heavy capital investment and therefore only a large cable network spreading mostly across the municipal boundaries would be providing digital cable services. In some cases operators may also provide digital services in more than one state with a single digital headend. Considering the large

investment needed for the digital head-ends and upgrading a vast cable distribution network, the number of operators would be limited and therefore licensing at central government level would not be a cumbersome process. This would also be in line with a near unanimous view of stakeholders. **Thus since digital operators would be operating in wide areas with jurisdictions falling under a number of Authorised Officers, the licensing authority for digital services should be the Central Government.**

v) ***Period of License***

3.4.14 Introduction of digital services require sizeable investment and therefore the license period should be sufficiently large so that the operator is able to recover its investment. The Authority has noted that the validity of a DTH license is 10 years. On the other hand the Internet license has a validity of 15 years which may be renewed for a period of 5 years or more at one time. Many of the existing MSOs who have deployed digital head-ends are also ISPs. Digital cable service and Internet services can be delivered through common infrastructure. In view of this it desirable to provide for provisions similar to that of an ISP Licensee. **The license period for digital service provider should be 15 years which may be extended for a period of 5 years.**

vi) ***License Fee – Entry Fee and Annual License Fee***

3.4.16 Digital cable networks would have to simulcast TV channels in Analogue and Digital mode for a considerably long period of time. Analogue transmission is needed as a large segment of the market would not immediately shift to digital mode and would therefore continue to receive signals in the analogue mode. Imposition of a high license fee would make them more expensive and may impede its growth. It is desirable that the cost of inputs including license fee as a result of regulatory measures should be kept to the bare minimum so that the final product is available at an affordable price.

3.4.17 TRAI in its various recommendations have proposed that the license fee on broadcasting and telecom services should not be treated as a source of revenue for the Government. Imposing lower license fee on the service providers would encourage higher growth, further tariff reduction and increased service provider revenues. With increased growth, it would be beneficial for industry, consumers and the government. Any imposition of a high entry fee or license fee on digital services would only impede the growth of digital services.

3.4.18 In the case of the DTH platform a licensee is required to pay an initial non refundable entry fee of Rs.10 crores before the issue of Letter of Intent and an annual fee equivalent to 10% of gross revenue. The conditions of license also stipulate that the licensee also provides a Bank Guarantee of Rs.40 crores valid for the duration of license. TRAI has already

recommended in the case of DTH, reduction of 2% in annual license fee and for adoption of the principle of application of License fee on Adjusted Gross Revenue as in the case of the telecom sector. In the case of Cable TV the registration fee is only Rs.500 p.a.

3.4.19 In the case of ISPs there is no provision of entry fee and a nominal annual fee of Re.1 p.a is required to be paid by licensees who have obtained a license on or after 1.11.2003. The license conditions also provide for furnishing by the licensee of a Performance Bank Guarantee ranging from Rs.3 lakhs to Rs.2 crores, depending upon the category of area for which a license has been applied, for each service area with a validity of 2 years. As in the case of DTH platform the tariff is not subject to any regulation.

3.4.20 The above analysis would indicate that the primary concern of imposition of Entry Fee and/or Annual fee is the impact it would have on the ultimate price of service. Another concern is the need to provide a level playing field as far as possible. There is also the consideration that the amount of license fee should be relatable to usage of scarce public resources and it should not become a factor putting the very process of digitalisation at a distinct disadvantage vis a vis analogue transmission. **Considering all these factors no incremental licensee fee is being recommended now either as an entry fee or as an annual fee i.e. licensee would also continue to pay the Rs.500 per annum that they are required to pay under the existing registration process.**

vii) ***Foreign Direct Investment***

3.4.21 At present the limit on foreign direct investment for cable networks is 49%. This limit was fixed when digitalisation was not on the horizon. In the case of DTH the total foreign equity combined under all routes of FDI/NRI/OCB/FII (Foreign Direct Investment, Non Resident Indians, Overseas Corporate Bodies, Foreign Institutional Investors) is 49% with an internal limit of 20% for FDI. With digitalisation, operators will be able to provide triple play i.e voice, data and video and would be in direct competition with the telecom companies. The internet service providers on the other hand are allowed FDI upto 74%. Government has also decided to permit upto 74% FDI for telecom companies. **The Authority has already stated in its recommendation of “Issues relating to Broadcasting and Distribution of TV channels” that there should be consistency in policy and level playing field between competing technologies and therefore had recommended that there is need for a complete review of the FDI policy so that it is consistent across all sectors. This would ensure that policies are not a stumbling block where there is a natural convergence of technologies. This recommendation is reiterated in the context of digitalisation also.**

viii) **Cross Holdings**

3.4.22 The need to limit equity holding by broadcasters arises from the potentiality of this resulting in vertical integration and being prejudicial to competition. The anti competitive behaviour includes non-sharing of content, discrimination in pricing etc. The Authority has already notified a regulation on interconnection to check anti-competitive practices. Other methods to check vertical integration abuses is to keep the broadcaster's equity in TV channel distribution firms at such levels so that they are not able to control the management decisions of that firm. In case of DTH the equity from broadcasters is placed at 20%. However for cable service no such restrictions are imposed.

3.4.23 Another issue that has to be considered is whether the restriction on equity holding would be enough to achieve the purpose of preventing the anti competitive behaviour of vertical integration. A lender through the instrument of loans / deposits or in any such form which legally may not provide any voting rights could still be in control of the company. Though there seems to be no precedent in terms of international practice to reckon the funding in forms without voting rights while determining the extent of vertical integration, this would need a closer look.

3.4.24 It may need to be clearly defined as to what type of equity holdings would be reckoned for determining a 20% cap. This may be necessary to bring within the ambit of the cap all such indirect holdings which are resorted to by adopting practices of multiple layers of funding through surrogate sources, which when traced and linked, results in equity holding in excess of the cap. It is extremely difficult to provide as to how many layers of holding or what would constitute indirect holdings. But an enabling provision in the licensing conditions can be provided to include all forms of indirect equity stake by the broadcaster which when traced and linked either establishes a commercial or a financial link with the broadcaster or establishes in the opinion of the licensor, the capacity to control or influence the decision of the broadcaster. Such a provision could act as a deterrent for surrogate funding through sources which on the face indicate no links with the broadcaster. **Keeping the existing situation where several broadcasters have interest in cable networks, a decision on this issue of restrictions on the equity/loans of broadcasters in cable networks needs to be taken after getting a clear picture of the interest of new licensees and after taking a general decision that will apply to all forms of delivery.**

viii) **Right of Way**

3.4.25 The cost of digital cable services per user can be substantially brought down in case service from a digital head end is supplied to a larger area through optical fibre cable network. The right of way is not available to

MSOs/ Cable Operators as they are not licensed under Section 4 of the ITA. In the absence of this right it may not be always possible for a MSO/cable operator to lay their optical fibre network and may have to depend on telecom operators for lease of their optical fibre network. This in many cases may not be beneficial when compared to having own infrastructure. It is therefore imperative that such rights are available to licensees of digital cable systems. On the lines of the provisions contained in the Convergence Bill, 2001 the following can be considered for incorporation in the 'The Cable Television Networks (Regulation) Act, 1995. The salient provisions are:

- (i) Any licensee may from time to time lay, and establish cables and erect posts under, over, along, across, in or upon any immovable property vested in or under the control or management of a public authority.
- (ii) Any public authority under whose control or management, any immovable property is vested shall, on receipt of a request from a facility provider permit the facility provider to do all or any of the following acts namely:
 - (a) to place and maintain underground cables or posts
 - (b) to enter on the property from time to time, in order to place, examine, repair, alter or remove such cables or posts.
- (iii) The permission mentioned in (ii) above shall be promptly given and shall not be unreasonably withheld or denied. In case of an emergency the facility provider may at any time for the purpose of examining, repairing altering or removing any cable or post enter upon the property for that purpose without first obtaining such permission.
- (iv) Nothing in this section shall confer any right upon any licensee other than that of user for the purpose only of laying underground cables or erecting posts or maintaining them.
- (v) The facility of right of way for laying underground cables, and erecting posts, shall be available to all licensees without discrimination and subject to the obligation of reinstatement or restoration of the property or payment of reinstatement or restoration charges in respect thereof at the option of the public authority.
- (vi) Where any shifting or alteration in position of the underground cable or post is required due to compulsive causes like widening of highways and construction of flyovers or bridges, the said licensee provider shall shift or alter the

same at his own cost within the period indicated by concerned authorities.

3.5 On the basis of the analysis made the Authority recommends that:

- (i) **No person shall be allowed to offer a digital service after 1.4.2006 without a licence for digital services. Such a license would be required for putting up a headend and providing signals to cable operators but the licensee will also be allowed to provide services directly to consumers.**
- (ii) **All operators who have an analogue headend on the date of notification of the policy will be allowed a digital licence on an automatic basis but they will have to apply separately for this.**
- (iii) **Those few operators who are already giving digital service will have to merely inform the licensing authority and will be treated as licensees pending issue of a formal licence.**
- (iv) **If a licence is not given or refused (for reasons to be given in writing) under (ii) and (iii) above within 6 months of the application or intimation, the licence will be deemed to have been given.**
- (v) **Licenses would be given on a non- exclusive basis just as registration is done today. However to ensure that serious players only enter the market all licensees would be required to provide a bank guarantee of Rs.50 lakhs for each city/urban agglomeration of over one million and of Rs. 25 lakhs for each city/Urban agglomeration that has a population of less than one million in case such a city is also considered for a digital license. This bank guarantee would be returned once the digital service has started. Such a bank guarantee would obviously not be required for those who have already commenced digital service before 1.4.2006.**
- (vi) **Provision of FTA/Pay channel TV services in digital format requires a very high level of investment and conditions have to be created for entry of serious players having credentials in terms of capacity to make investment, a good business track record, capacity to comply with the conditions of license. With the current low level of interest it would not be necessary to lay down further barriers. A Bank Guarantee can be stipulated to keep out non-serious players as indicated in the previous section. For the present no further conditions appear to be necessary. Imposition of such conditions can be considered once there is sufficient degree of interest in new players wanting to come in.**
- (vii) **Since digital operators would be operating in wide areas with jurisdictions falling under a number of Authorised Officers,**

the licensing authority for digital services should be the Central Government.

- (viii) The license period should be 15 years which may be extended for a period of 5 years.**
- (ix) Considering all the factors no incremental licensee fee is being recommended now either as an entry fee or as an annual fee i.e. licensee would also continue to pay the Rs.500 per annum that they are required to pay under the existing registration process**
- (x) The Authority has already stated in its recommendation of “Issues relating to Broadcasting and Distribution of TV channels” that there should be consistency in policy and level playing field between competing technologies and therefore had recommended that there is need for a complete review of the FDI policy so that it is consistent across all sectors. This would ensure that policies are not a stumbling block where there is a natural convergence of technologies. This recommendation is reiterated in the context of digitalisation also.**
- (xi) Keeping the existing situation where several broadcasters have interest in cable networks, a decision on this issue of restrictions on the equity/loans of broadcasters in cable networks needs to be taken after getting a clear picture of the interest of new licensees and after taking a general decision that will apply to all forms of delivery.**
- (xii) The right of way is not available to MSOs/ Cable Operators as they are not licensed under Section 4 of the ITA. In the absence of this right it may not be always possible for a MSO/cable operator to lay their own optical fibre network and may have to depend on telecom operators for lease of their optic fiber network. It is therefore imperative that such rights are available to licensees of digital cable systems. It is proposed to provide for Right of Way on the lines of provisions contained in The Communication Convergence Bill 2001 through appropriate amendments in the Cable Television Networks (Regulation) Act 1995.**
- (xiii) The Cable Television Networks (Regulation) Act 1995 may be amended**
 - a) to give powers to the Central Government to issue Licenses specify rights and obligations for providing services of Cable TV channels on digital format.**
 - b) to give powers to prescribe conditions of eligibility for grant of licenses and for relaxation of the same.**

- c) to prescribe procedure for application and grant of licenses**
- d) to specify terms and conditions containing restrictions on cross media holdings, accumulation of interest, License fee, and other conditions, like the roll out obligations.**
- e) to facilitate right of way as indicated in (xii) above**

CHAPTER 4 : CARRIAGE ISSUES

4.1 Issues for consideration

4.1.1 On the issue of mandatory carriage of channels, it was noted, in the recommendation on Broadcasting and Distribution of TV Channels that the majority of cable TV networks (barring the big MSOs in big cities /metros) are carrying signals in analogue mode and are capable of carrying upto 60 channels. Recognising the capacity constraint it was provided in the recommendation of 1.10.2004 that the Authority would introduce regulations for mandatory carriage of channels as and when the capacity is augmented. With video compression techniques, it is possible to provide upto 12 digital TV channels in the bandwidth space occupied by one analogue channel. Accordingly, digitalisation was seen to be capable of providing a solution for augmenting the capacity.

4.1.2 Given the fact that many broadcasters have a stake in cable distribution, there is need to also guard against anti-competitive behaviour.

4.1.3 The present mandate on carriage of channels is provided through section 8(1) of the Cable Television Network (Regulation) Act 1995, which provides that cable operators must carry at least 2 Doordarshan Terrestrial Channels, and one regional language channel of a state in the prime band. In terms of para 7.8 of the standard license agreement of a DTH licensee, the channels of Prasar Bharati shall be carried on the most favourable financial terms offered to any other channel. In terms of para 7.6 the licensee shall provide access to various content providers /channels on a non-discriminatory basis. DTH unlike Cable TV is not subject to any price regulation. The issue is whether the carriage regulations for cable TV should have provisions similar to those of DTH.

4.1.4 Digitalisation is expected to create more capacity in cable bandwidth. The market forces on its own may bring about more competition leading to corrections in the infirmities existing in the market on account of imbalance in the bargaining power between groups of stakeholders. The Government of India is in the process of issuing two more DTH licenses (LOIs have been issued) for distribution of TV channels in KU Band and this is expected to drive competition amongst platforms for carriage of channels. On the other hand digitalisation is likely to bring along with it more demand for cable bandwidth on account of a number of value added services and the growth of larger number of new and niche channels. This could mean there could still be constraints of space in cable bandwidth. Addition to this bandwidth is also not without cost implications. If carriage issues are to be left to be governed by the market forces it is necessary that there is increased competition which can go to mitigate a lot of existing infirmities. The issue is therefore what would need to be done to give further impetus to competition through carriage regulations.

4.1.5 There are channels of public importance much beyond mere value of entertainment, which may not have the highest of TAM ratings and regional language channels that may need regulatory support to be carried on reasonable terms. Then there are Free to Air Channels, which entirely depend on advertisement revenue and without a reasonable chance of being carried may not survive. The issue is whether the regulations would need to provide a mechanism to promote carriage of these channels or the market forces would itself address these concerns in a scenario of increased competition.

4.1.6 The process of digitalisation and creation of additional capacity involves upgradation of network. This involves investment in different measures at different stages of distribution chain. This raises the question of need to define transparent method of determination of sharing of revenue arising out of enhanced quality of services provided through the digital network. During the course of consultation the lack of any transparent method of revenue sharing has been brought up as one of the major issues.

4.1.7 Then there is the question of protection of interests of analogue viewers who are expected to be there for a long time to come. A regulation or a market practice, which unduly harms their interests, has to be addressed.

4.1.8 The above issues for consideration are linked to one another and are also interdependent with other issues discussed elsewhere in the report particularly in the area of licensing.. Therefore, these issues would have to be approached in a holistic manner and not in isolation.

4.1.9 In the background of the above the following are the issues that would be addressed in this chapter:-

- i) Whether 'Must Carry' of TV channels be imposed on Digital Cable Networks?
- ii) If yes what should be the terms of carriage TV channels?
- iii) In the event of leaving the issues to be determined by market forces the manner as how the market distortions can be corrected and interests of viewers of certain types of channels be protected?
- iv) What should be the principles of non-discriminatory carriage? Are the practices currently in vogue in the industry would guarantee a non-discriminatory carriage of channels?
- v) Whether the Authority should regulate carriage charges on digital and analogue cable networks?
- vi) If so on what basis should this be done and how carriage charges be calculated?
- vii) Should there be different sets of regulation for CAS areas and Non CAS areas?

4.2 Stakeholders Comments

The comments received from the stakeholders on consultation paper are summarised below.

- a) On Imposition of Must Carry
- The views have varied from enforcement of Must Carry to No Must carry. The proponents of Must Carry Regulation point out that the market mechanism is not effective at the ground level. The constraints of space are being used as an arm-twisting tool to extract carriage fees and FTA channels and regional language channels are the most affected. Another argument is that since there is a 'Must Provide' regulation there has to be a 'Must Carry' regulation for pay channels.
 - On the other hand the proponents of 'No Must Carry' recommend that both the issue of what is to be carried and on what terms and conditions should be left to the market forces and the commercial arrangements between service providers and more so in the case of pay channels.
 - There is also a middle path view which is in favour of Must Carry regulations for a limited number of analogue FTA channels, channels of public broadcaster like Doordarshan or channels of high interest to public and regional language channels in the respective regions.
- b) On terms of carriage and principles of non discriminatory carriage
- The proponents of regulation have wanted broad criterion to be laid down which could be based on number of subscribers and it should be common to all platforms.
 - The proponents in favour of market-regulated system have suggested that the consumer demand and uptake of digitalisation should be allowed to determine the terms and conditions and principles of carriage through commercial arrangements between the service providers.
 - The group concerned with the growth of FTA /Regional language channels are in favour of mandatory carriage without any carriage fees.
 - The determination of carriage fees depends on factors, which vary from region to region, and a single regulation may not work in diversity of situations.

4.3 International Experience

- In some countries there is provision for mandatory carriage of Terrestrial Free to Air Channels through the cable network. The experience of some of the countries are given below
 - Brazil : Laws drafted by ANATEL requires cable operators to follow must carry regulations but the MMDS and DTH system to carry local terrestrial broadcasting.
 - China- SARAFT requires that 4 of State Owned Broadcasters CCTV channels (including the prime time CCTV 1) be carried on the basic FTA tier offered by cable networks while all municipal authorities require certain provincial and city channels to be carried on relevant cable networks. It has also been decreed that digital cable networks in Shanghai, Guizhou, Chongqing and Sichuan must carry CCTV package of six digital pay TV channels
 - Germany- In respect of digital channels there is a choice yet there are two dozen must carry channels.
 - Japan MIC requires all the major national digital terrestrial channels be carried by all digital cable networks. As these channels are popular the cable operators support this and there is no regulation of carriage charges
 - Korea- The broadcasting law of 2000 requires cable , relay, and satellite TV services to simultaneously retransmit FTA Terrestrial TV channels but only within areas in which they are mandated. This requirement also applies to digital cable networks all of which carry terrestrial TV channels as part of their basic tier.
 - Taiwan : The Government stipulates that cable operators must carry terrestrial channels but it has yet to provide regulation for must carry of digital terrestrial channels on the digital cable network
 - USA – For digital terrestrial channels and digital cable networks there are no must carry rules, as yet, due to lack of agreement. Under the standards established by the 1992 Cable Act for analogue terrestrial TV broadcast station signal carriage on cable system, each local commercial station was given the option of 'Must Carry or May carry for each cable system serving the market as the commercial television station. Each cable system with more than 12 channels must set aside upto 1/3rd of its channel capacity for must carry stations. A must carry station has a statutory right to a channel position.

4.4 Recommendations of the Authority

i) Regulation of carriage for analogue service providers

4.4.1 Beyond what is envisaged in the Cable Act for mandatory carriage of channels it is the market which is currently claimed to be determining the carriage issues relating to cable television. Due to channel carrying capacity constraints, new and upcoming channels are competing for space on the cable spectrum and these channels are either carried or not carried or suddenly dropped or shifted upwards/downwards in the bandwidth or moved out of the prime band of the cable network primarily depending upon the bargaining power of the parties involved. It is this bargaining power which goes to determine whether a particular channel is carried and on what terms and conditions. A clear trend is an upward movement in carriage fees.

4.4.2 Is it possible to prescribe in detail what should be carried in which bands and at what price across networks of different size and nature? Any form of regulation that is planned has to keep in view that it does not act as a disincentive to digitalisation itself; contain provisions comparable to the carriage regulations in other competing platform and reasonably addresses the concerns of certain channel providers which in the absence of regulatory support could be left out by the market forces.

4.4.3 Considering the vastness of the country, different consumer behaviour patterns with regard to choice of channels, networks of varied size and nature across the country and wide variation in costs of carriage, total lack of information on existing practices on carriage related issues, influx of large number of new channels in quick frequency, the attempt to provide for detailed regulation seems to be not feasible or desirable at this stage. Primarily the reasons are seen in impracticability of laying uniform rules for a wide variety of situations and secondly the lack of a monitoring mechanism at the local level to ensure its implementation. The infirmities in the market have, therefore, a better scope of being addressed by providing for incentives for creating additional capacity in the cable networks through digitalisation. Once this process is sufficiently advanced regulations could be laid down for non-discriminatory access on the lines of DTH. The detailed regulations can evolve over a period of time based on experiences gained.

4.4.4 Once the option of detailed regulation is foreclosed at least for the present when there are hardly any digital service providers, it needs to be seen as to how best to facilitate the scope for increased competition. The scramble for placing a TV channel in the Prime Band is expected to go away automatically with digitalisation as unlike in the analogue mode the consumer either receives a digital signal or does not receive the digital signal at all of a given quality, irrespective of the spectrum where it is placed.

ii) Carriage regulation for digital service providers

4.4.5 One method of promotion of competition is through alternative platform for carrying the signals such as DTH, IPTV and the other is to facilitate more players to carry the signals of a channel provider. There is need for a broad framework of procedure for carriage of digital channels on non-discriminatory basis across all competing platforms on the lines of 'Must Provide' regulations. TRAI has already in its detailed recommendations recognised DTH as one of the potential tools for promoting competition to Cable Television. The Government has recently provided LOIs for two more private players in the DTH platform. TRAI has also separately considered the question of opening terrestrial TV broadcasting to the private sector.

4.4.6 The above analysis leads to the following conclusions:

- i) Laying down detailed regulations on what is to be carried and on what terms and conditions is not feasible for the present when there is insufficient capacity and very limited digital service.
- ii) Allow the market forces to determine the issues relating to carriage for analogue service providers .
- iii) Provide for regulations prescribing a procedure to bring in a reasonable level of transparency in carriage related issues once there is considerable spread of digitalisation. This procedure can be laid down in the form of regulations on the lines of the 'Must Provide' regulations.
- iv) Promote alternate forms of delivery to get over the present lack of capacity in the cable networks.
- v) Provide conditions in the digital licence for non-discriminatory carriage on similar lines as for DTH.

4.4.7 Accordingly it is recommended that the licences for digital service should have only a provision for non-discriminatory carriage of channels on the basis of the existing DTH licence conditions which require that the licensee shall provide access to various content providers/channels on a non discriminatory basis.

CHAPTER-5 : UPGRADATION OF NETWORK AND TECHNICAL CHOICES

5.1 Issues for consideration

5.1.1 A Cable TV network is comprised of the following three elements.

- Head end
- Distribution Plant &
- Customer premises Equipment (CPE)

5.1.2 Delivery of digital TV channels to the subscriber requires a digital headend to be installed. Since the distribution plant is transparent to analogue or digital transmission no upgradation should ideally be required. However, in practice some upgradation of the network would be generally required and consequently fresh investment by the MSO and the cable TV operator is necessary. The extent of such upgradation would depend upon the status of the network. The consultation paper has provided in detail the changes and upgradation required for switching from analogue to digital service. The additional monthly cost per subscriber was estimated to be Rs.50-Rs.110 depending on the size of the network. These costs would be a little lower (Rs.5-Rs.10) if the system does not have bi-directional capability. Keeping in mind the costs the present standards allow for CAS to be implemented in both analogue and digital mode. The question that needs to be answered now is whether the option of implementing CAS in the analogue mode should be removed and therefore whether it should be mandated that this should be done only in the digital mode.(Detailed recommendations have already been given last year on CAS but the question of whether this should be done compulsorily in the digital mode was left open).

5.1.3 One of the biggest obstacles to digitalisation is expected to be the cost of customer premise equipment. In this context the question that needs to be answered is what alternatives are there to the set top box to make the transition to digital service cheaper. Specifically should the development of digital decoders (i.e. a set top box without a CAS) be promoted and standards for such equipment laid down? There are other possibilities also like plug and play which need to be explored.

5.1.4 Finally there is a need to look at the standards for digital TV and to see if these need to be revised. There is also a need to look at what needs to be done for improving consumer choice for black and white TVs which still account for 30% of the annual production.

5.2 International Experience

5.2.1 Analogue and Digital CAS

In most of the countries, CAS has been implemented on voluntary basis without any mandate from the Licensor or the Government. Due to legacy, analogue CAS is still in use in large parts of USA, Canada and other developed economies. However, wherever the CAS is introduced in a new cable TV network, the preferred mode is through the digital cable network only. In addition, the trend is to replace analogue CAS with digital CAS.

5.2.2 Customer Premises Equipment

In USA, FCC has decided to mandate 'Plug and Play' facility in all new 13" plus TV receivers to be sold after 1st July 2007. In Korea, Plug and Play TV sets will be considered as viable option only after 2010. In UK, Plug and Play has not been found as a viable option. In China and Hong Kong, there is no initiative for Plug and Play.

5.2.3 Transmission Standard

DVB has been adopted by the European Telecommunication Standard Institute (ETSI) as European Standard. Singapore, Taiwan, Australia and New Zealand have also adopted the system. ATSC and ISDB systems have been adopted by USA and Japan respectively.

5.3 Incentives to promote local production of CPEs.

5.3.1 Presently China is the world's leading manufacturer of STBs both for domestic as well as international market. The SARFT has arranged soft loans to subsidize cable STBs. Under a state policy to boost digital cable subscribers, pushed by the Central Government, local Governments are also actively subsidizing STBs.

5.3.2 In Taiwan, the Government has reduced commodity Tax from 13% to 6.5% to promote digitization.

5.4 Comments of the stake-holders

5.4.1 Analogue and Digital CAS

A large number of stake-holders have recommended introduction of CAS in digital platform only as analogue CAS is being phased out all over the world and secondly it is not secure enough. In support of Digital CAS some have suggested that analogue CAS is obsolete and any decision to introduce it would be a short term stop gap measure. Moreover, many pay broadcasters may be averse to providing their content to analogue CAS.

5.4.2 Some stake-holders have suggested that CAS should be implemented in digital platforms but it should not be made mandatory. This is because smaller networks may still prefer the analogue route.

5.5 Customer Premises Equipments

5.5.1 Some of the stake-holders have suggested that development of both digital decoders as well as Plug and Play digital TV receivers should be arranged. A few stake-holders have suggested that combining of a digital decoder with a TV set will lower the cost due to economies of scale.

5.5.2 A stake-holder has suggested that Plug and Play compatibility agreements amongst various players including TV manufacturers is essential in rapid uptake of plug and play digital TV receivers. Another stake-holder has suggested that focus should be on concessions to STBs, two way communication devices and digital TV sets instead of Plug and Play devices which are more suitable in countries like USA. Another suggestion is that given the lack of suitable standards, attempt to encourage plug and play digital is also questionable. A few stake-holders have recommended that an external STB may be simpler choice and have therefore opposed the development of Plug and Play digital TV receiver at present.

5.5.3 For Digital Decoders many stakeholders have recommended formulation of BIS standard broadly following international standards like DVB-C with modifications in parameters suitable to the country.

5.6 Transmission Standards

Many stake-holders have suggested that the existing BIS standards on Digital Cable TV system which are essentially based on DVB-C are adequate. One stakeholder has suggested that standard for Digital TV Receiver could be added. Another stake-holder has suggested that DVB-C standard for cable TV is adequate but whether it should be 16 QAM or 64 QAM needs to be specified. It has also been suggested that country specific parameters have to be added to the DVB specifications.

5.7 Incentive to promote local production of CPEs

Many Stake-holders have recommended partial to complete waiver of import duties, surcharges, CVD for components that are required for manufacture of digital decoders. It has also been suggested that the concessions / waiver in duty structure should take into account cost of funds, capital equipment cost and distribution cost so that all segments from broadcasters to end consumers are benefited. Some stake-holders

have suggested that Colour TV should be made more affordable and concessions in duties and taxes should be aimed towards this.

5.8 Recommendations of the Authority

5.8.1 Analogue and Digital CAS

Presently most of the Cable TV systems in the country are in Analog mode. If such system operators intend to introduce CAS either voluntarily or by the Government mandate it will be a much cheaper option for them to introduce Analog CAS instead of Digital CAS. Since cable service in small towns and cities are provided by small operators catering to as low as 500 subscribers, provision of Digital CAS will be a totally unviable option for them for sometime to come. On the other hand, Digital CAS has its own inherent advantages and consequently it is the choice of the cable operators in developed countries. It would, however, be premature to insist on CAS being implemented only in digital mode. It appears to be best to leave this to the market which in any case is moving towards digitalization.

5.8.2 Customer Premises Equipments

The TV Sets available in the market are not digital cable ready. This is because these TV sets conform to old analogue technology and cannot decode the incoming digital cable TV signal. There are two options to solve the problem. One option is to place a digital decoder outside the TV set to convert the incoming digital signal into the analogue one. This decoder will essentially be a set top box without the CAS – it would have to be modified as and when CAS is introduced or replaced by a set top box which will have the CAS capability. The other option is to integrate the functions of the digital decoder inside the TV set. The choice of the digital decoder is a cheaper option as it does not require a subscriber to purchase a new digital TV set which is quite costly. In the absence of CAS also it could be expensive to insist on a set top box with CAS. Therefore the manufacture of digital decoders should be promoted and standards laid down for such devices. It would be upto the manufacturers and the operators to decide on whether there would be a market for these. Establishing standards would merely facilitate the production and use of these devices. This would also be in line with the general approach of the Authority that the entire approach to digitalisation should be voluntary and not mandatory.

The plug and play digital TV sets have not spread much beyond USA. In addition, there are number of un-resolved issues which are to be addressed. Consequently for the present it is recommended that no action is needed towards the development of plug and play digital TV receiver in the country.

In respect of black and white televisions no specific suggestion has been made. There are already tuners in the market which could provide

more choice to such consumers. It is expected that the general rationalisation of duties will also help the black and white television consumers.

5.8.3 ***Transmission Standard***

BIS has also issued specification for various elements of digital Cable TV which after examination are considered adequate. It is, therefore, recommended that BIS should formulate technical specifications for digital decoder only as explained in the previous section.

5.8.4 ***Headend in the Sky (HITS)***

Another issue that had come up during the process of consultation is the need for a policy framework for HITS which is an alternative means of delivery. Although one license was issued for HITS this service is not functional. Even so there is need for a clear policy framework for HITS which could be on the lines of the permission already given by the Government to one operator. Operators can then choose whether they would like to use this facility or the conventional one of a terrestrial headend.

5.8.5 ***Incentives to expand Digital Cable TV subscriber base***

These issues have already been dealt with in Chapter-2.

5.9 **To sum up the following is recommended:**

- A) While digitalization of cable TV should be promoted, the choice of Analog CAS or Digital CAS should be left to the Cable operators as per their business plans.**
- B) The development of digital decoders, which are considered essential for viewing digital channels on analogue TV should be promoted with a view to promoting digitalization of Cable TV in the country. To this end, BIS standards should also be formulated. These decoders may have a provision to install a CAS at a later date but this should not be mandatory. The choice of whether the decoder should have a CAS facility or not should be with the manufacturer and the operator depending on the market requirements.**
- C) There is need for a clear policy framework for HITS which could be on the lines of the permission already given by the Government for one operator.**

CHAPTER-6 : SUMMARY OF RECOMMENDATIONS

Preface :

Digital TV transmission offers a number of advantages over analogue. These include better reception quality, increased channel carrying capacity, new features such as programme guides, multi-view and interactive services as well as potential to provide triple-play; voice, video and data. Much of the television production and some distribution are already using digital technology. Other media such as DTH, broadband based IPTV, satellite TV channels are all using digital technology. Thus, digital technology in cable television is inevitable both from the view point of improvements offered by this technology as also to enable cable medium to compete with other TV distribution platforms. The immediate incentive for popularising digitalisation of cable TV is the upcoming Commonwealth Games in Delhi in 2010 utilising it as a watershed on the same lines Asiad in 1982 was for colour TV in India. Keeping the above in mind the Authority recommends the following:

6.1 Time frame for digitalisation

6.1.1 There should be a national plan for digitalisation from 1st April, 2006 till 31st March, 2010. This plan would be indicative and would not be mandatory in any form.

6.1.2 The essential components of this plan would be:

- i) Introduction of digital service in all cities/urban agglomerations with a population of one million plus by 2010 (list attached as Annexure-I). In all these cities/urban agglomerations the existing analogue service will continue simultaneously.
- ii) Licensing for new entrants and automatic licensing for existing operators. (Details given in chapter-3)
- iii) Rationalisation of import and domestic duties by April 1, 2006.
- iv) Use of Entertainment tax for a consumer education programme during these four years (2006-2010)

6.1.3 Custom duties on Set Top Boxes for cable televisions (HSN No.8528) be reduced from 15% to 10%.

- i) Excise duty be raised from 0% to 8% and
- ii) Import duty on ICs be reduced from 15% to 8%.

Over a period of time the import duties should be brought down to zero and the excise duty be made uniformly 16% for all components so that ultimately there is one duty regime.

6.1.4 The Government of India should recommend to the State Governments that the proceeds of the entertainment tax during these four years (2006 -2010) should be used for an intensive consumer education programme to be conducted by the state Governments along with the local digital service providers.

6.2 Licensing and Carriage Issues

6.2.1 No person shall be allowed to offer a digital service after 1.4.2006 without a licence for digital services. Such a license would be required for putting up a headend and providing signals to cable operators but the licensee will also be allowed to provide services directly to consumers.

6.2.2 All operators who have an analogue headend on the date of notification of the policy will be allowed a digital licence on an automatic basis but they will have to apply separately for this.

6.2.3 Those few operators who are already giving digital service will have to merely inform the licensing authority and will be treated as licensees pending issue of a formal licence.

6.2.4 If a licence is not given or refused (for reasons to be given in writing) under (ii) and (iii) above within 6 months of the application or intimation, the licence will be deemed to have been given.

6.2.5 Licenses would be given on a non-exclusive basis just as registration is done today. However to ensure that serious players only enter the market all licensees would be required to provide a bank guarantee of Rs.50 lakhs for each city/urban agglomeration of over one million and of Rs.25 lakhs for each city/urban agglomeration that has a population of less than one million in case such a city is also considered for a digital license. This bank guarantee would be returned once the digital service has started. Such a bank guarantee would obviously not be required for those who have already commenced digital service before 1.4.2006.

6.2.6 Provision of FTA/Pay channel TV services in digital format requires a very high level of investment and conditions have to be created for entry of serious players having credentials in terms of capacity to make investment, a good business track record, capacity to comply with the conditions of license. With the current low level of interest it would not be necessary to lay down further barriers. A Bank Guarantee can be stipulated to keep out non-serious players as indicated in the previous

section. For the present no further conditions appear to be necessary. Imposition of such conditions can be considered once there is sufficient degree of interest in new players wanting to come in.

6.2.7 Since digital operators would be operating in wide areas with jurisdictions falling under a number of Authorised Officers, the licensing authority for digital services should be the Central Government.

6.2.8 The license period should be 15 years which may be extended for a period of 5 years.

6.2.9 Considering all the factors no incremental licensee fee is being recommended now either as an entry fee or as an annual fee i.e. licensee would also continue to pay the Rs.500 per annum that they are required to pay under the existing registration process.

6.2.10 The Authority has already stated in its recommendation of “Issues relating to Broadcasting and Distribution of TV channels” that there should be consistency in policy and level playing field between competing technologies and therefore had recommended that there is need for a complete review of the FDI policy so that it is consistent across all sectors. This would ensure that policies are not a stumbling block where there is a natural convergence of technologies. This recommendation is reiterated in the context of digitalisation also.

6.2.9 Keeping the existing situation where several broadcasters have interest in cable networks, a decision on this issue of restrictions on the equity/loans of broadcasters in cable networks needs to be taken after getting a clear picture of the interest of new licensees and after taking a general decision that will apply to all forms of delivery.

6.2.10 The right of way is not available to MSOs/ Cable Operators as they are not licensed under Section 4 of the ITA. In the absence of this right it may not be always possible for a MSO/cable operator to lay their optical fiber network and may have to depend on telecom operators for lease of their optic fibre network. It is therefore imperative that such rights are available to licensees of digital cable systems. It is proposed to provide for Right of Way on the lines of provisions contained in The Communication Convergence Bill 2001 through appropriate amendments in the Cable Television Networks (Regulation) Act 1995.

6.2.11 The Cable Television Networks (Regulation) Act 1995 may be amended

- a) to give powers to the Central Government to issue Licenses specify rights and obligations for providing services of Cable TV channels on digital format.

- b) to give powers to prescribe conditions of eligibility for grant of licenses and for relaxation of the same.
- c) to prescribe procedure for application and grant of licenses
- d) to specify terms and conditions containing restrictions on cross media holdings, accumulation of interest, License fee, right of way and other conditions, like the roll out obligations.
- e) to facilitate right of way as indicated in para 6.2.10 above

6.2.12 It is recommended that the licences for digital service should have only a provision for non-discriminatory carriage of channels on the basis of the existing DTH licence conditions which require that the licensee shall provide access to various content providers/channels on a non discriminatory basis.

6.3 Upgradation of Network and Technical Choices

6.3.1 While digitalization of cable TV should be promoted, the choice of analogue CAS or Digital CAS should be left to the Cable operators as per their business plans.

6.3.2 . The development of digital decoders, which are considered essential for viewing digital channels on analogue TV should be promoted with a view to promoting digitalization of Cable TV in the country. To this end, BIS standards should also be formulated. These decoders may have a provision to install a CAS at a later date but this should not be mandatory. The choice of whether the decoder should have a CAS facility or not should be with the manufacturer and the operator depending on the market requirements.

6.3.3 There is need for a clear policy framework for HITS which could be on the lines of the permission already given by the Government for one operator.

Annexure-1**List of Million Plus Urban Agglomerations /Cities**

S.No	Urban Agglomerations/Cities	State
(1)	(2)	(3)
1	Agra	Uttar Pradesh
2	Ahmedabad	Gujarat
3	Allahabad	Uttar Pradesh
4	Amritsar	Punjab
5	Asansol	West Bengal
6	Bangalore	Karnataka
7	Bhopal	Madhya Pradesh
8	Chennai	Tamil Nadu
9	Coimbatore	Tamil Nadu
10	Delhi	Delhi
11	Dhanbad	Jharkhand
12	Faridabad	Haryana
13	Greater Mumbai	Maharashtra
14	Hyderabad	Andhra Pradesh
15	Indore	Madhya Pradesh
16	Jaipur	Rajasthan
17	Jabalpur	Madhya Pradesh
18	Jamshedpur	Jharkhand
19	Kanpur	Uttar Pradesh
20	Kochi	Kerala

21	Kolkata	West Bengal
22	Lucknow	Uttar Pradesh
23	Ludhiana	Punjab
24	Madurai	Tamil Nadu
25	Meerut	Uttar Pradesh
26	Nagpur	Maharashtra
27	Nashik	Maharashtra
28	Patna	Bihar
29	Pune	Maharashtra
30	Rajkot	Gujarat
31	Surat	Gujarat
32	Vijayawada	Andhra Pradesh
33	Visakhapatnam	Andhra Pradesh
34	Vadodara	Gujarat
35	Varanasi	Uttar Pradesh

Source :

http://www.censusindia.net/results/List_of_Million_Plus_UAs_Cities.xls