

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

Introduction

1. This draft appears to be a compulsive escape from omission to specify the same in TRAI regulations in 2012 and the deficiency adjudicated by High Court judgements regarding ICO for Cable Operators..
2. However, the draft **demonstrates lack of empathetic feel of Cable TV Networking**. Environment, prevailing in the country, in general, and DAS implementation ,in particular.
3. In Brief, the scenario is as under :-
 - 3.01 Cable TV Networks are operating on distinguishable RF channels (7 or 8 MHz wide in 47-862 MHz spectrum) numbering 106.
 - 3.02 In analogue mode of transmission every program occupying one such channel restricting max number of programs transportable to 106. Hence Program synonymised with Channel. This is NOT the case in DAS hence right connotation is imperative.
 - 3.03 Liberal licensing of TV programs from Broadcasters by MIB exceeding 106(the capacity of CATV Networks) in terms of RF channels). Hence, the necessity creating eyeball reach to viewers by digital compression and encryption. This too had limitations in DTH operations due to scarcity of transponders. But Cable TV, due to capability of HFC (Hybrid Fibre Coaxial) medium, could provide such reach.
 - 3.04 Hence DAS enacted, for advantage broadcaster, but popularised announcing that this was for the benefit of subscriber.
 - 3.05 DAS implied (a) Registration of Headend with MIB (b) Demise of Analogue Transmission from Headends (c) Encoding and encryption of all content transmitted from Headends (d) Installation of CAS and SMS at Headend (e) Requirement of addressable STB at subscriber end to view such encrypted content by subscribers, in a phased time frame.
 - 3.06 Implementation was to be executed through a task force constituted for the purpose at the MIB, with representation from TRAI , amongst others.
 - 3.07 All hardware for DAS headend and STBs were to be procured/sourced by registered Headend Service Providers(HSP) resourced entirely by private capital..
 - 3.08 The entities in the DAS revenue chain system were (a) Broadcasters (b) Headend Service providers (c) Cable Operators (d) Subscribers and (e) Taxation authorities in revenue appropriations through SMS.
 - 3.09 The system was to address about existing 6000 Headend Service providers (about 200 corporatized, 1000 better experienced and the remaining not adequately prepared) , over 60000 cable operators (registered with Dept of Posts but NOT supposed to undertake any technical activity implied in registered DAS headend operation), over 240000 technicians in direct interface with over 120 million subscribers, but without any prescribed/accredited training for such activity involving thousands of crores of rupees from private funding.
 - 3.10 The task force constituted to oversee DAS implementation was content with statistics on seeding of STBs (addressable, perhaps by design, but not paired with subscriber ID and authorized to enable viewing all programs transmitted from Headends acting only as D2A converters), not bothering whether (a) SMS was functional (b) MoP was issued (c) Customer care was established (d) subscriber could exercise choice in programs (e) itemized bills could be issued (f) receipts for payments were being issued (g) Taxes compiled from bills issued were being remitted in the treasury. If all these aspects are checked DAS is implemented only to the extent of demise of analogue transmission and fixing STBs to act only as D2A converters. Except for entry of STB in subscriber premises, for them nothing has changed. Subscriber does NOT know “ What is DAS?”

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

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They don't know HSP or PAY TV Broadcaster. They have NOT seen a DAS application form or filled one. They have neither seen a rate card nor MoP.

- 3.11 They are neither receiving itemized bills nor being issued receipts. And task force proclaims DAS implementation with TRAI representation therein.
- 3.12 Major reason for such short fall is that Cable Operators (Not LCOs since there is no such term in the Act or Rules), numbering over 60000, do not seem to be able to understand documentation in DAS and their role therein. Nor can they comprehend lengthy consultation papers issued by TRAI. They want monthly subscription based delivery of all content from Headend with installation of STB as D2A converter. Their technician, i.e. interface with Cable operator has NOT been trained in DAS implementation and has, perhaps, NOT seen the digital headend. Their knowledge of Network ends at FTTP node in Cable Operator's area of operation.
- 3.13 Subscriber's itemized billing, therefore remained a non-starter till date. Under pressure from TRAI and MIB, helpless HSPs are reportedly billing Cable Operators, NOT SUBSCRIBERS, some Rs 275/- per month based upon number of STBs issued to them.
4. Under these circumstances, in absence of any enforcement mechanism with TRAI, such regulations will also be difficult to impose in the Cable Operator serviced Subscriber segment. They can be drafted, likely to remain shrouded in files.
5. Notwithstanding this, there are observations on the draft.
6. These comments will highlight observations first and then comment on the draft. It is hoped that observations will be read.

Observations on Draft Interconnect Offer Regulation

7. The observations are as under :-
 - 7.01 Preface para 4(iii) and (iv) Advertisers on TV programs wanted assured visibility for viewer eye balls and hence placements of their programs in visible portion of spectrum, which was in hands of HSPs. Carriage fee was started as counter-poise by HSPs in ill designed, and un-equalised, coaxial networks to nullify higher attenuation in upper frequency channels. Around 2000-2003 when PAY TV Broadcasters started increasing rates for PAY TV subscription, this practice was started by HSPs to keep their payout affordable, i.e. a barter. Now in Digital transmissions, there is no visibility degradation. Either signal is received to show all programs or NOT received. When received all programs are equally clear. Further this provision does NOT exist in the Cable Act or its Rules. Then why is TRAI trying to introduce this regulation contrary to the Act and Rules.? Is it under influence of Broadcasters ?
 - 7.02 Preface 4(vii) Distribution fee too is NOT mentioned in the statute. Its purpose, necessity and justification need to be amplified.
 - 7.03 Preliminary – Definitions :-
 - (a) Active subscriber(a) – after system, insert' with an ID paired with set top box.
 - (b)Addressable system (c) – consider making the definition simpler as 'A facility to enable or disable viewing of addressable TV content , selectively and remotely'.
 - (c)Cable Service or Cable TV service(i) –Suggest substitute 'channels' with 'programs'.
 - (d)Carriage Fee (l)- Carriage fee was created by Headend Service Providers, in analogue wireline transmission regime with restriction of capacity of network to transport 106 channels in 47-862 MHz spectrum with each program occupying one 7 or 8 MHz wide channel, an diminishing visibility to subscribers due to ill designed amplifier spacing and poor equalization to cater for skin effect. Since TV content carries advertisements, against payments to broadcasters, visibility of advertisements was dictated by advertisers. Hence broadcasters wanted their programs to be aired in visible bands on

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

ill performing networks. Hence fee was levied (i) for preferential program mapping and (ii) as counter-poise for arbitrarily increasing PAY TV charges by Broadcasters.. In DAS, this situation has changed. Either all programs transmitted can be received or none is visible. Hence this term, and its provision, needs to be prohibited.

(e) Compliance Officer (m)- In Indian environment, being on pay roll of HSP, how can this appointment be expected to report contravention by the pay master. Compliance Officers must be selected, trained and employed by independent bodies.

(f) Distribution Fee (q)- Not heard off so far. Perhaps this is a camouflage for Carriage fee in accounting books. As per statute, Broadcasters has to offer programs on 'a-la-carte' rates. The act does NOT envisage bundling. This term is contrary to services between Broadcaster and Headend Service Provider. At best it can be an incentive to promote a new program.

(g)EPG (t)- in line 3 after programmes, suggest insert 'packed there in'

(h)HITS (x) – means 'Integration of TV programs for multi-channel, multi program transmission over remotely operating wireline networks for delivery to subscribers. The transmission is partly wireless and partly wired.

(i)LCO (dd)- This term LCO does NOT appear in the vocabulary of Cable Act. In DAS context a cable operator (one who does NOT perform any functions of a DAS Headend) is registered with Deptt of Posts for transporting digitally addressable stream, from a DAS headend to subscriber premises, over wireline medium for viewing through an addressable STB.

(j) MSO (ff)- This term was aped from foreign environment where (i) LCOs do NOT exist and (ii) Headend Service Provider delivers TV content, voice telephony and Broadband over networks driven by the Headend. In Indian context only uni-directional TV content is delivered. Hence there are NO multi-services. High time connotations are corrected.

(k) pay channel(ff) – Suggest call it PAY TV Content.

(l)Service Provider(kk)- Line 2 – delete word 'local'.

(m)STB (ll) – WRONG..... it essentially means a device, external to TV set, to enable viewing of digitally addressable content. If it is made a part of TV receiver, it shall cease to be an external BOX since circuit will have a sub-system . Such TV sets could be called Digitally Addressable TV receivers or DAS compatible TV sets.

(m)SMS (oo) Line 1- delete words ' or device'. Line 4 – delete word 'channels' and substitute 'programs'

(n) Television Channel(qq)-Suggest substitute 'channel' with 'Broadcaster's TV content'. Channel has a very different connotation in broadcasting.

7.04 Interconnection

(a)General Provisions (3)- Suggest delete word ' Local' wherever it precedes Cable Operator. Internationally word LCO is non-existent in Cable TV environment.

(b)General Provisions (6)- Make it simpler. No broadcaster can ask for particular channel positioning in the Program Mapping Table at the DAS Headend.

(c)General Provisions (9)- It seems TRAI needs to understand mis-connotations. Max No of channels in 47-862 MHz spectrum is 106. Broadcasters content is PROGRAM. In digital compression 10 to 24 programs can be packed in each channel. Hence this needs to be re-drafted by substituting PROGRAMS for CHANNELS.

(d)General Provisions(11)-(i) substitute PROGRAMS for Channel and (ii) How will credibility of first come be established ? System will be required to prepare a program transportation request register to record and file requests in the chronological receipt order duly allotted a serial number.

7.05 Inter-Connect Offer

(a) Contact Officer –Will be appointed on paper. What happens when such contact officers don't respond ?

(b)ICO-HSP&LCO 11(2)- How can Cable Operator access Broadcaster's content without registration with MIB? Cable Operators are registered with Dept of Posts for

transportation of programs stream from Headend Service provider over wireline network to subscribers.

(Page 04 of Pages 22)

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

(c) ICO-HSP&LCO 11(6)- This is impractical with the management competence of Indian Cable Operators. Hence provision may be made to automatically renew the agreement with amendments if any resting responsibility with the HSP.

(d)ICO –HSP&LCO 11(7)- Line 2 after agreement insert ‘ but recorded in the ICO with ID created for the Cable Operator’..

(e) ICO –HSP&LCO 11(7)-‘Provision’... How will this be determined in absence of (i) Rate Card shown to Subscriber (ii) Subscriber Application not filled and punched in SMS (iii) Subscriber ID Not Allotted (iv) itemized bills not generated and (v) Distribution Fee neither defined nor existing in regulations.

7.06 Subscription Report and Audit

(a)Subscription Report & Monthly Fee 13(2)- Is TRAI encouraging/legalising bundling contrary to provisions of Cable Act Amdts 2002 and 2011?

(b) Subscription Report & Monthly Fee 13(3) Before introducing this clause TRAI should get Cable Act amended to create provision for carriage fee. Or else it shall be NOT-MAINTAINABLE.

(c) Audit 14(1)- Who would be considered competent by (i) qualification

(ii)competence(iii)experience and (iv)advisory acumen ? Or just being in Govt sufficient without experience ?

(d) Audit 14(3)- Provide that auditors can only read subscriber data from the SMS, if functioning, but cannot copy/print such data, which is service provider's business property, and take it out of Headend premises.

7.07 Misc

(a)Listing of Channels in EPG(17)- Suggest being technically right. Channel is a 7or 8 MHz frequency band in RF Spectrum 47-862 MHz numbering 106 in numbers. TV content from broadcasters are programs and are contained 10-25 in each channel. PMT(Program Mapping Table) is prepared in the Headend and tabulates the number to be punched by subscribers on their remote controllers to punch to view a particular program. This can be contained in EPG in tabular or mosaic form for viewer to reckon from.

(b)Appointment of Compliance Officer19(1)- (i)What would be the minimum qualifications for Compliance officers, their undertaking on oath for such performance and accountability? And (ii)What will be accountability of such compliance officers in terms of (aa) awareness assessments for subscribers (bb) competence of technician regarding DAS and its communication to subscribers and (cc) enforcement of EoL(End of Line) parameters for signal delivery

(c)Appointment of Compliance Officer19-6(b). This provision is considered absurd. In Indian sycophancy which employee will report against the employer ?

(d) Appointment of Compliance Officer19-6(c) How is this to be done to appear complied in records?

7.08 Schedule II

(a)Application form 9- Add after distributor – (i)‘Headend Signal flow schematic with details on test points and parameters which can be monitored at each test point (ii) Schematic of SMS to depict layout of data base server and application server with accessibility and security and processing capability (iii) MIS generation from Application Server’. Screen shots of all pages in SMS too should be provided for scrutiny. Unless this is done how will people sitting in offices, without training, process the application?

(b) Application form 16- Add after YES/NO –‘with proof of performance’.

7.09 Schedule III – (A) CAS

(a)CAS and SMS (3)- Specify limit on number of personnel who can access data in application server.

- (b) CAS and SMS (5)- This clause would have been redundant if simple definition of addressability (facility for enabling or disabling viewing of addressable TV content remotely and selectively) been incorporated.

(Page 05 of Pages 22)

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

- (c) CAS and SMS (8)- CAS only encrypts content and generates EMMs. SMS undertakes activation or deactivation but both work in tandem. Activation is generally piece by piece but deactivation can be in bulk. How will this be checked and at what frequency. A draft installation report is attached at the end of these comments.
- (d)) CAS and SMS (9)- This stipulation has remained violated since 2012. How will this regulation ensure retrospective compliance and safeguard against repetition.
- (e) CAS and SMS (11)- add as '1' - ' Make, Model and Type of STB and Date of Activation'.
- (f) CAS and SMS (13)- add as 'vi' - Total number of STBs procured, balance in ware house, numbers issued to subscribers, No activated No active on date, Reasons those NOT active.
- (g) CAS and SMS (16)-In line 1, add after subscribers 'indicating (i) Subscriber ID (ii)Cable Operator ID (iii) STB Make and Type (iv)STB and VC Ser Nos(v) Date of Registration(vi) Basic Tier/Distribution Service Charges (vii) FTA charges over and above FTA ,if any (viii)PAY TV a-la-carte charges (ix) Pay TV bouquet Charges(j) STB provisioning charges if any (x) Any other charges (xi) Sub Total for distribution services (xii) Service Tax (xiii) Entertainment Tax (xiv) Total Payable for the month.
- (h) CAS and SMS (18)-TRAI should list what details regarding SMS shall be declared?
- 7.10 Schedule III – (B) Finger Printing
- (a) Finger Printing 3 – Clarify 'Except POWER key since that switches STB off'.
- (b)Finger Printing 7 -Max number of characters to be specified with max font size so that up to 20 characters remain visible on viewers TV screen in one row. Some stupid Broadcaster Auditors have asked for font size 96 in finger prints.
- 7.11 Schedule IV – Model Interconnect Agreement – HSP-Cable Operator
- (a) Rights of HSP(MSO) 6.3-Such rates shall be reflected in a rate card to be shown to subscribers to chose programs to be watched and be billed thereafter through the SMS.
- (b)Rights of Cable Operator 7.1 – Add 'Cable Operator shall provide changed strand diagram for network for updating STB locations in SMS'.
- (c) Obligations of HSP(MSO) 8.2 – line 2 – after channels, insert' from 1 to 106 and programs packed there in genre wise in the form of a table'.
- (d) Obligations of HSP(MSO) 8.4 – Line 2 after SMS, add after Subscriber ID and Cable Operator ID have been created. Such STBs will then be sent for installation activated for choice of programs filled in the application form for installation. On completion an installation report shall be filled by the technician authenticated by subscriber for satisfactory installation. (Sample installation Report trails comments)
- (e) Obligations of HSP(MSO) 8.5 – Line 1- after generate insert 'Itemized bills essentially reflecting Subscriber ID, Cable Operator ID, STB Make and Type, STB Ser No and VC No'.
- (f) Obligations of HSP(MSO) 8.7- 'Cable Operators only transport received program stream from the headend to registered subscribers. They have no copy right issues. Piracy, if any, is alleged on Headend Service Provider when clued and detected.
- (g) Obligations of HSP(MSO) 8.10 -Not necessary, since unencrypted transmission from Headend is prohibited and should invoke prosecution of the HSP.
- (h) Obligations of HSP(MSO) 8.13- Line 2 after spares insert 'temporary service substitutes for rectification of faulty/unserviceable STB with the subscriber.
- (i) Obligations of Cable Operator 9.1-Line 1 after shall, insert 'Get the CAF completed by the subscriber, keep a copy and forward the original to the Headend

for creation of Subscriber ID, release of STB and Viewing card and their pairing for necessary entries in the SMS’.

(j) Obligations of Cable Operator 9.2- Line 1 after ‘responsible’ insert ‘Obtaining itemized bills from the Headend, handing them over to the Subscriber, payment

(Page 06 of Pages 22)

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

collections, issue of receipts entering details in the data base server of the HSP, forwarding payments to HSP along with one copy of receipt issued to subscriber.

(k) Obligations of Cable Operator 9.6-after LCO in sub head insert ‘Registered with Dept of Posts for operating HFC network in specific geographical area only (and NOT permitted for aggregation of any data, program or signal into received stream of digitised programs from HSP) .

(l) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- For roles Ser No 1 to 68, 10, 12 to 15, 17 and 21 responsibility, in column 3, has to rest with HSP. Ser 5- responsibility, in Ser5 column 4, for setting up customer care has also to rest with HSP.

(m)) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser 7 a to d in the table- responsibility Cable Operator.

(n) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser 7f- Cable Operator assigning one of the reasons as (i) Subscriber premises not served by existing wireline network (ii) cascading limit of 3 amplifiers exceeded (iv) easement rights not held (v) un-economical.

(o) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser 9 – Responsibility to rest with Cable Operator with installation report reflecting EoL specifications at INPUT to STB recorded.

(p) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser 10-Responsibility to rest with HSP since bills are to be generated at the Headend where SMS is installed.

Ser22 –Incorrect terminology. Usage based billing applies to time based usage. Cable TV subscription are monthly charges irrespective of time for which watched. Hence word subscription is suggested. TELCO bills are usage based, NOT cable TV. Ser 22-In the DAS process flow chart, if envisaged creatively, subscriber records are archived at Headend and entered in SMS for generation of itemized bills including entertainment tax and service tax on each bill as items. Hence responsibility for tax compliance rests only with HSP. Cable Operator is only responsible for his income tax as applicable to their professional tax liability.

(q) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser 15 – Responsibility HSP since all complaints are to be registered at the Call Centre established by HSP.

(r) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10- Ser16 – (i) and (ii) responsibility Cable Operator through trouble ticket generated by Customer Care through SMS, (iii) and (iv) responsibility joint with HSP and Cable Operator, Ser 20- Responsibility Cable Operator.

(s) Table Roles and Responsibilities HSPs(MSOs) and Cable Operators (LCOs)-10-

7.12 Revenue Settlement

(a) Ser 12.1(b) _In DAS, as legislated, there is no provision for billing by HSP to Cable Operator. This is an aberration of DAS, conceived in task force, due to failure of DAS implementation as in all phases since STBs were got issued with all programs authorization and necessary pairing by HSPs resulting in inability to generate itemized bills against subscriber ID linked to Cable Operator ID.

(b) Ser 12.2 – In DAS as legislated there is no provision for billing by HSP to Cable Operator. This is an aberration of DAS wrongly conceived in task force due to failure of DA in all phases since STBs were got issued with all programs authorization and necessary pairing by HSPs resulting in inability to generate itemized bills against subscriber ID linked to Cable Operator ID.

- 7.13 Piracy 15. These clauses are NOT well drafted. Piracy in Television Content business is alleged invariably by Broadcasters. But the details of evidence considered adequate to allege piracy is never stated. In absence of professional piracy detection agencies in India, TRAI must specify that agencies engaged to allege piracy must be

(Page 07 of Pages 22)

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

Lt Col VC Khare (Retd) Cable TV Industry Observer

(i) registered for such investigation (ii) must carry a laptop with a wireless dongle and TV program card with AV input (iii) tune the program connecting to the STB (iv) should call up Headend and ask for finger print (v) save and print screen shot with date time stamp and (vi) send the screen shot to headend and (vii) instruct the Headend to disable STB for life and (viii) gather statements of some independent witnesses from the location. The report must include date and time of visit, LAT/LONG coordinates of piracy site and other general description along with qualifications of the piracy detective to depose in a court of law at a later date.

7.14 Definitions

(a) Cable Service or Cable TV Service (g)- Needs correction. Cable Service means transmission of any communication (Voice, Video and/or Data) through cables, copper or fibre. Cable TV Service means transmission of TV content only which is the case in point with Cable TV Act.

(b) Channel (i)-In context of this paper, needs to be renamed as program. Technically channel refers to a band of frequencies in telecommunication engineering.

(c) Customer Care Centre (j) – line 3 – Linked Local Cable Operators - Should be deleted FIRSTLY because Cable Operators cannot afford to establish such a facility and SECONDLY they will neither read these regulations nor comply with this requirement.

(d) Encryption or encrypted (l)-Line 3 Suggest substitute 'addressable' with 'decryption'.

(e) Hardware (n) -Vague and incorrect. What will mini dish and LNB in DTH be grouped against? Hardware.

Hardware, in telecommunication engineering (including but NOT limited to TELCO services). Hardware are circuits, boxed or otherwise, to perform designed functions in transmission, reception and transducing. Refer to physical artefacts of technology.

It implies performance and invariability, a collective term which may include network infra-structure. Correct connotation for Hardware needs to be used.

Hardware will include drop cable, wall outlet, coaxial cable connectors, STB, AV/hdmi cable and TV set too.

(f) Piracy (s) – In Addressable PAY TV Content is covered by Interconnect Agreements between PAY TV Broadcaster and Headend Service Provider who is registered with MIB. However, procedure for proof of piracy is not well described therein. Also refer comments in 7.13 above.

(g) STB (v)- STB means an information appliance device that generally contains a TV tuner input port for connection to an addressable wired signal transport external stream source of input and displays output to a TV receiver enabling viewing of source input TV content enabling its viewing on television receiver screens or such other display devices.

- 7.15 Schedule VI- Model interconnect agreement, in this draft, is NOT considered implementable. A simpler and suggested draft is attached at the end of the comments.

Comments on Draft Interconnect Regulations

8. From 2003 (CAS implementation Era) onwards, it appears that characteristics of Cable Operators as a vocational community have neither been appreciated. While content is technically turned around and packed in the Headend, the content transport stream, except for DTH, is delivered to the subscriber through this intermediary in general, and their technician 'the cable wala' to the subscriber. This community, largely has area dominance, as first movers, lacks formal

academic or technical qualifications, does not possess easement rights, and has connected subscribers with 'SOME HOW CONNECT' practices, without any concern for specifications from BIS or TRAI.

(Page 08 of Pages 22)

COMMENTS ON DRAFT TELECOMMUNICATION (BROADCASTING AND CABLE SERVICES) INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2016

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9. Yet they are united in their approach that they resisted implementation of SMS in DAS in the spirit it was legislated. TRAI, though represented on Task Force, perhaps did NOT take notice of such undercurrent. The task force reckoned DAS implementation based upon number of STBs deemed seeded. Addressability, the soul, of the drive was never brain stormed.
10. TRAI Regulations have been in vogue from 2003 onwards. Except for HSP broadcaster entities, litigated several times, the rest of it has remained monumental like the Cable Act and its Rules.
11. It is, therefore, imperative that in all such exercises right connotation and feasibility is considered and field tested first and then proclaimed.
12. It is hoped that observations in these comments will be read by TRAI staff and connotations understood and. rectified, wherever required.

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

TECHNICAL AND COMMERCIAL INTERCONNECTION AGREEMENT (DAS)

This Technical and Commercial Interconnection Agreement along with its Schedules and Annexures is executed on this ___ day of ___ by and between :

M/S _____, a company incorporated under Companies Act 1956, having its registered office at _____ {hereinafter referred as Headend Service Provider, i.e. HSP,, also popularly connoted as 'multi service operator (MSO)'} which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns} of the ONE PART

AND

M/S _____ a _____, having its office at _____ owned by _____ carrying on the business of CABLE SERVICE in the name and style of _____ (hereinafter referred to as an affiliate, which expression shall unless repugnant to the context or meaning thereof, be deemed to include the successors in business and permitted assigns, legal heirs executors of the OTHER Part.

WHEREAS

A -The Headend Service Provider (HSP) is engaged in the business of distribution of television programs through a Digital Addressable System in the areas notified by the Central Government under section 4A(1) of the Cable Networks Regulation Act 1995 Amendment 2011.

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(Page 09 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

B- The affiliate is registered as a Cable operator with the local post office having its postal registration No _____ dated _____ - and is authorized to provide Cable TV Service to subscribers connected on the affiliate's Cable TV network (Optical fibre and/or coaxial cable) connecting subscribers in the territory spanned by such network.

C- The parties have mutually agreed to execute this agreement between them to govern the rights and obligations in regard to the subscription and description of Television programs in the territory served by the network.

NOW THEREFORE, in consideration of the foregoing and mutual covenants contained herein, constituting good, valuable and feasible consideration, the Parties agree as follows :

1. DEFINITIONS/CONNOTATIONS

The words and expressions used in this agreement shall have the meanings as assigned to them and described as under:.

1.1 CABLE OPERATOR means a person or a group of persons, registered with the Department of Posts, who provide cable service (transmission by cables of programs of any television broadcasts, satellite casted, terrestrial telecasts, integrated at headends or server based when encoded, encrypted, multiplexed, modulated and transported in digitally addressable format at the DAS Registered Headend with the MIB) through a cable television network to subscribers who applied to receive such programs, transmitted over wireline medium, by a DAS Headend, through an application form.

1.2 Cable Television Network means any system consisting of closed transmission paths and associated digitally addressable television content including but NOT limited to Headend and HFC network (designed to provide cable service for reception by multiple subscribers), terminating into subscribers dwelling premises.

1.3 'DAS area' means areas where in terms of notifications issued by the Central Government under sub section 1 of section 4A of the Cable TV Networks Regulation Act

1995, it is obligatory for Headend Service Provider to transmit or re-transmit television programs, authorized in the list of such programs with the MIB, in an encrypted form through a digital addressable system.

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(Page 10 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

1.4 Free to Air (FTA) programs are those for which the HSP is NOT required to make any payment to the Broadcaster when transmitted over Cable TV Network connected to Headend of the HSP.

1.5 Headend Service Provider, popularly also referred as Multi System Operator, granted permission under Rule 11C of Cable TV Networks Regulation Act Rules 1994, who receives television programs from a broadcaster or their authorized agents, to re-transmit the same along with their own programming services, after encoding, encryption, multiplexing, modulating, authenticating viewing by authorized viewers through digitally addressable set top boxes, simultaneously or through Cable Operators and includes their authorized agents by whatever name called.

1.6 ICO (Inter Connect Offer) concluded by HSP specifying terms and conditions on which Cable Operator may seek interconnection of programming services from the HSP.

1.7 PAY TV programs are those for which the HSP has to pay to the Broadcaster at rates as well as terms and conditions mentioned in the RIO (Reference Interconnect Offer) signed between the Broadcaster and the HSP.

1.8 Program means any television program and includes :

(a) Exhibition of Motion Pictures , feature films, dramas, advertisements and serials through video cassette recorders, video compact disc players or captured from storage in a server.

(b) Any audio, or video or audio-visual live performance or presentation and the expression 'programming service' shall be construed accordingly.

1.9 Set Top Box (STB) means a device which is connected to coaxial cable TV service feed from Cable Operator on input side and domestic Television Receiver on the output side enabling the authorized subscriber to receive and view digitally addressable programming services from the HSP directly or through their Cable Operator.

1.10Subscriber means any subscriber who receives addressable television programming service from HSP directly or through their linked Cable Operator for viewing in the dwelling unit at the address/location intimated to the HSP in the application form, i.e. domestic purposes, and neither transmit nor facilitate any such further transmission outside the dwelling unit.

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. (Page 11 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

1.11 Subscriber Management System (SMS) means a system comprising of devices which store subscriber data containing details with respect to name, address, subscriber ID, linked Cable Operator ID, viewing choices of the subscriber, paired STB and Viewing Cards for authorization of the programming service, activation or de-activation details of the STB, rates to be charged for the programs authorized for viewing, logs of all actions taken regarding provision of service and issuing itemized monthly bills and record of payments (invoices raised, amounts paid including discounts, if any allowed) received against all such bills for the subscriber..

2. PROVISION OF SERVICE

2.1The Headend Service Provider(HSP) hereby grants to the Affiliate and the Affiliate hereby accepts from the Headend Service provider, the right to receive from the HSP, Digitally Addressable Cable TV Signals through the TRUNK wireline (Optical Fibre and/or coaxial cable) for further instant and real time re-transmission by the affiliate to the subscribers connected on the network in the territory on the terms and conditions herein set out.

2.2 The HSP shall make available TV programs to the affiliate based on demand derived from application forms submitted by the subscribers through the affiliate as per prevailing norms, policies applicable laws, regulations, notifications, directions of concerned authorities so as to make the service wholesome and subject to commercial feasibility. The HSP shall prepare a list of programs transmitted from the Headend on the trunk line to be received at the reception node on the affiliate's network for further real time transmission and reception by subscribers This shall include Basic Service Tier (BST) comprising of 100 Free to Viewer TV programs under the law for viewing in the authorization of the Set Top Box installed at the premises of the subscriber. The charges for BST, as on date, are Rs 100/- per month per subscriber per month exclusive of taxes. If any subscriber chooses to order more than 100 free to viewer programs, then those shall be charged at rates mentioned in the list over and above the BST charges of Rs 100/- per month per subscriber. PAY TV programs shall be chargeable at rates mentioned in the list from which selected by the subscriber on bouquet or 'a-la-carte' basis. . If any program on the list is not received and/or transmitted by the HSP for reasons not solely attributable to HSP, Affiliate will NOT hold HSP responsible for the same.

2.3 Based upon conclusion of this agreement, Cable Operator's ID for the Affiliate shall be created in the SMS of the HSP to be linked with each itemized monthly bill generated by the

Contd.....

(Page 12 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

SMS at the Headend. This ID will facilitate automatic electronic transfer of Affiliates share in the revenue generated by each bill paid in the SMS. +

3. BILLING AND PAYMENT

3.1 The BST, restricted to 100 FTA programs, is chargeable from the subscriber @ Rs 100/- per subscriber per month.

3.2 Any FTA programs ordered by the subscriber, in excess of 100 programs, shall be payable by the subscribers at rates mentioned in the list.

3.3 PAY TV programs, bouquets or 'a-la-carte', too shall be chargeable from the subscriber at rates mentioned in the list, also exclusive or taxes.

3.4 Entertainment Tax and Service Tax are levied on the billed amounts for each bill.

3.5 Set Top Box provision charges (outright purchase, renting or hire-purchase amounts accruing as the case may be) too shall be billed.

3.6 Itemized bills shall be generated for each subscriber mentioning Subscriber ID, Cable Operator ID, Set Top Box Ser No and Viewing Card Ser No every month payable by _____. Provision can be made to print the itemized bill on Affiliate's stationary mentioning particulars of HSP also.

3.7 Share of affiliate on itemized bills, for computerized re-appropriations, shall be as under :-

3.7.1 Basic Tier _____ %

3.7.2 Additional FTA, over and above BST, _____ %

3.7.3 PAY TV _____ %

3.7.4 STB Provision _____ %

3.7.5 Consideration on Booking Advertisements _____ %

3.7.6 Other Shares in Services _____ %

3.8 Any short fall in amount billed to the subscriber shall be debited to the Affiliate's account unless regularised by HSP's Accountants.

Contd.....

(Page 13 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT

3.9 The HSP shall give due notice of any change in rates chargeable in the bills of a minimum of 21 days to be communicated by the Affiliate to the subscribers. In addition such revisions shall be posted on the web site of the HSP as well communicated through mandatory customer care. Such information should also be posted on the Home Page of the EPG for the service.

3.10 The HSP shall generate, every month a statement of account showing:-

- (a) Period Covered by the Statement of Account
- (b) Particulars of Cable Operator with ID
- (c) Subscriber-wise list of Subscriber Name, ID amount billed. Bill No and Amount Received and Difference.
- (d) Total amount billed for the period for subscribers on Affiliate's Network.
- (e) Total Amount Received
- (f) Difference
- (g) Difference Credited/Debited to Affiliate's account.

3.11 The HSP shall NOT bear any liability for Income Tax Payable by Affiliate on amounts appropriated to Affiliates account as amounts payable for providing the service. However TDS may be deducted and Certificates of Deduction at source may be issued..

4. CARRIAGE CHARGES

No charges shall be payable by the Affiliate to the HSP. However, if mutually agreed, share of affiliate in the carriage fee collected by HSP from broadcasters may be ____%. Such accruals cannot be linked to subscriber bills and shall be appropriate3d at the SMS in the Headend with details reflecting in the Cable Operator's Account.

5. SECURITY DEPOSIT

The Affiliate shall deposit with the HSP a sum of _____ (Rs _____) as non-interest bearing security deposit. This security deposit may cover the cost of set top boxes provided by the

HSP. At the time of expiry or termination of this agreement, the Affiliate to refund the amount of security so deposited, subject to adjustment of arrears of bills, and/or any other payments due from the Affiliate. This shall be settled within 30 days of expiry/termination of agreement.

Contd.....

(Page 14 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

6. TAXES

The HSP and the Affiliate shall be responsible for payment/deposit of all taxes, levis, charges and penalties levied or imposed by or under a statute, law, regulations, relating to Services which are due to be paid by them, respectively.

7. DEFAULTS

7.1 Without prejudice to such rights and remedies that the HSP may have in law or under the provisions of this agreement, the HSP shall have the right :

- (a) To disconnect the services to the Affiliate subject to compliance of applicable rules, regulations, directions or orders of the competent authority.
- (b) To terminate this agreement, subject to compliance of the applicable laws in force.
- (c) To charge simple interest at the rate of 15% per anum from the date such amounts became due until they are fully or actually paid.
- (d) To appoint another affiliate, other than the defaulting Affiliate, for the territory.
Provided that the HSP, may at their discretion, waive its right to disconnect the service and to terminate the agreement, upon such terms and conditions as the HSP may deem fit and proper, which shall inter-alia include the receipt by the HSP:
 - (i) Of entire arrears of subscription amounts, together with simple interest accrued thereupon, at the rate of 15 % per anum from the date immediately succeeding the due date, till they are fully paid. : and
 - (ii) reasonable re-connection charges as may be mutually decided.

7.2 Upon disconnection of service as mentioned in clause 7(i) above , whether accompanied by termination of this agreement or not, the Affiliate shall be able to deposit forthwith all sums payable by the Affiliate to the HSP. In case of termination accounts shall be settled within 30 days, and for delayed payments by either party, simple interest at 15% per anum shall be charged.

8 AFFILIATES COVENANTS

The affiliate hereby undertakes that it shall be responsible for :

8.1 Completion of Application Forms for DAS TV Services from Subscribers, new or already existing, showing them the rate list, getting signatures of the subscribers under his

Contd.....

(Page 15 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

(DRAFT)

certification, collection of first payment for the service ordered, forwarding the same promptly to the HSP, along with associated payments, duly countersigned by the affiliate for expeditious processing of the same. This would include physical verification of the address of the subscriber with ID and Address proof.

8.2 Upon submission of the application form, getting subscriber ID created for release of an STB paired with the customer and Affiliate ID and authorized to enable viewing of FIRST choice of program as mentioned in the application form.

8.3 Arranging installation of STB released against the subscriber ID at subscriber premises and getting installation report completed with readings of BER and C/N at 47, 550 and 862 MHz, with endorsement by technicians acknowledged by subscriber having informed subscribers about features of STB, EPG, Customer Care Contact Nos, Complaint booking and Redresal etc as per TRAI Regn No 12 and 13 of 2012.

8.4 Instructing technicians installing STBs to inform Customer Care about installation of STB and getting it activated by communicating Subscriber ID, STB Serial No and Smart Card Ser No.

8.5 Providing HSP the details of technicians on roll and their association with subscriber from installation report or area allocation so that on receipt of a complaint the same technician is scheduled from central SMS. Weekly off data, technician wise to be fed in the customer care for scheduling technicians and generating trouble ticket.

8.6 Protecting, safeguarding and maintaining services provided to the existing and prospective subscribers.

8.7 Ensuring that only STBs approved by HSP and compatible with the network and SMS are deployed in the network by the technicians.

8.8 Neither transmitting or re-transmitting or mixing any content which is NOT transmitted from the Headend and included in Program Allocation Table of MPEG System in use.

8.9 Not providing any feeder line from their node to any other cable operator, commercial establishment, institution or any other person, association of persons (whether registered or un-registered) without knowledge of the HSP.

8.10 Inspecting the STBs and Smart Cards with subscribers, on a sample basis, every month so as to ensure that STBs and Smart Cards are NOT altered, tampered

Contd.....

(Page 16 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

misused, replaced, removed or shifted without written consent of the HSP from their recorded and installed address.

8.11 Neither performing nor inducing another person to perform or offer to perform any piracy or other such activity which has the effect or shall have the effect of or which shall result into infringement and violation of logo and copy rights of the HSP, the Broadcaster or any other person associated with cable network casting of the television content.

8.12 Intimating the HSP promptly about any alteration, tampering with the Hardware, including the seal, misuse, replacement, removal and shifting of the STB without written consent of the HSP from their respective installed addresses and also about the use, either before or after the STBs of any decoding, receiving, recording, equipments, counterfeit STBs, Smart Cards or any such item which enables without the use of duly paired STB, Smart Card and Subscriber ID.

8.13 Not providing any connection to any person for further re-transmission of Cable TV signals for any purpose. Also ensuring that no signal transmitted or retransmitted is received, directly or indirectly, transmitted or re-transmitted from any third party.

8.14 Neither recording nor re-transmitting Cable TV signals or otherwise blocking or adding or substituting or otherwise tampering with signals being transmitted by the HSP with their Trunk line are assisting any other person to do so.

8.15 Assisting all reasonable cooperation, to the HSP to enable conduct of inspections so as to satisfy the HSP about fulfilment of conditions on part of the Affiliate in this Agreement.

8.16 Providing to the HSP, true and accurate information about details of subscribers and sub-operators, if any, within two weeks of signing this Agreements and thereafter upon occurrence of changes in this information.

8.17 Conducting a physical verification independently when any STB is to be relocated about the address and such confirmation to the HSP to effect the change in the SMS.aty the Headend

8.18 Undertaking to HSP to maintain and continue to maintain their Postal Registration Certificate renewed from time to time in accordance with Cable TV Networks Regulation Act 1995 as amended from time to time.

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(Page 17 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

9. RIGHTS AND OBLIGATIONS OF THE HSP

9.1 Carrying out modifications, if necessary, in the transport network for Signals transmitted from the Headend, including but NOT limited to changing optical fibre or coaxial cable, if applicable, along its path to the territory of the Affiliate to ensure delivery of prescribed parameters regarding the signal to be received by the Affiliate.

9.2 To establish 18x365 Customer Care and educate the Affiliate, their technicians and the subscribers about the contact details and facilities available at such Call Centre.

9.3 To establish and install SMS (Subscriber Management System) at the Headend to facilitate viewing of authorized programs only by the STBs installed at the subscriber premises. Including but NOT limited of generation of Finger Prints for piracy detection if any and associated investigations.

9.4 To ensure that only STBs conforming to BIS are allowed to be installed and activated through the SMS at their Headend.

9.5 To make physical verification about location of subscriber on the network as recorded in the SMS.

9.6 To assist in anti-piracy investigations initiated by the Broadcasters, in HSPs as well as Affiliates portion of the Network, and prosecution where necessary.

9.7 To disable STBS reportedly detected as involved in piracy on intimation from Broadcasters and inform the Affiliate about such action.

10 PREVENTION OF PIRACY

10.1 The affiliate shall not indulge or allow any person to indulge or involve in reverse engineering any technology used in the STB or any component thereof nor shall they allow connection of the STB to any other hardware such as a mini headend for re-transmission of HSP's Headend Signals.

10.2 Affiliate shall represent, warrant and undertake that all STBS and Smart Cards as provided by the HSP are installed as a pack only at the designated address in the Subscriber Application Form.

10.3 Affiliate shall insist with the HSP that STBS, Smart Card, Subscriber ID and Cable Operator ID are and remain paired in the SMS at the Headend of the HSP, so that during any investigation of reported piracy the STB, its location and Affiliate get linked through the Finger Print generated for such purpose.

Contd.....

(Page 18 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

10.4 Affiliate shall upon intimation about piracy assist in getting the rogue STB disabled by the HSP and assist in prosecution proceedings to follow, if any.

11 DISCLAIMERS AND INDEMNITY

11.1 In no event, either the HSP or their employees shall be liable to the Affiliate or to any subscribers of the Affiliate for any person or any indirect, special, incidental or consequential damage arising out of a connection with the disruption, interruption or information or for any indirect or consequential loss or damage, whether or not attributable to any act or omission of the HSP or their employees or otherwise.

11.2 Affiliate shall indemnify the HSP from all cost, expense and damages by reason of any claim, action or proceedings from any third party or from subscribers for any inconvenience, loss or annoyance caused to them due to any default of the affiliate or termination of the Agreement or suspension of services due to Affiliate's breach.

12 TERMS AND TERMINATION

12.1 The Agreement until terminated shall remain in effect.

12.2 This Agreement can be terminated by either party if the other party :

(a) fails to comply with any of the terms and conditions of this agreement and such failure, if capable of remedy, is not rectified within 30 days of receipt of written notice of such failure from the other party.

(b) goes into liquidation or becomes insolvent either compulsorily or voluntarily (save for the purposes of reconstruction or amalgamation) or if a receiver is appointed in respect of the whole or any part of their assets.

12.3 This Agreement can also be terminated if the Affiliate indulges in, or allows or induces any person to indulge in Piracy after following the procedure prescribed in Schedule

I of the TRAI Regulation No 9 of 2012 and Amendments made thereto from time to time

12.4 In case of default by the Affiliate, the HSP may instead of terminating the Agreement, suspend the transmission of the Cable TV Signal after complying with the requirements under regulations made by TRAI in this regard, without any liability, responsibility or obligation to any subscriber for such period until the Affiliate rectifies the default.

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(Page19 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

12.5 In the event of termination, the Affiliate shall pay all amounts due and payable by the Affiliate to the HSP up to the date of termination.

12.6 The Affiliate, within 5 days of expiry or termination of this Agreement, in terms of provisions mentioned herein, hand over to the HSP all properties and assets belonging to the HSP which are in possession of the Affiliate. The Affiliate shall also be liable to make good all losses and/or damages caused to such properties belonging to the HSP in the custody of the Affiliate within 7 days of termination of this Agreement.

12.7 The expiry and termination of this Agreement shall be without prejudice to the rights which have already accrued to either party.

12.8 Upon termination of this Agreement, the parties may, by mutual consent, revive this agreement through a written document to such effect clearly referring to the Agreement, its termination and revival.

13 GOVERNING LAW AND DISPUTE RESOLUTION

13.1 The rights and obligations of the Parties under the Agreement shall be governed by the laws in India.

13.2 The Parties agree that they shall not seek injunctions or any interim/ad-interim orders from any court or judicial tribunal/authority in India with respect to any claims, disputes or differences between the Parties arising out of this Agreement save and except before TDSAT (Telecom Disputes Settlement and Appellate Tribunal). The PARTIES agree that all disputes between the PARTIES shall be resolved solely through the proceedings instituted before the TDSAT.

14 FORCE MAJEURE

14.1 Force Majeure connotes act of GOD, earth quake, tides, storm, flood, lightening, explosion, fire, sabotage, quarantine, epidemic, arson, civil disturbance, terrorist

attacks, riots, war like situation or enactment of any law or rules and regulations by the Authorities, or any circumstances beyond the control of the Parties herein that directly or indirectly hinders or prevents either of the Parties from commencing or proceeding with the consummation of the transactions contemplated thereby.

14.2 Failure on the part of the HSP/Affiliate to perform any of its obligations, shall not entitle either part to raise any claim against the other or constitute a breach of Agreement to the extent that such failure arises out of an event of the Force Majeure.

Contd.....

(Page 20 of Pages 22)

FIRST ATTACHMENT TO COMMENTS BY LT COL VC KHARE

SUGGESTED A DIFFERENT DRAFT MODEL INTERCONNECT AGREEMENT HSP-CABLE OPERATOR

15. NOTICES

Any notice to be served on any party by the other shall be deemed to have been validly sent if despatched by REGISTERED POST ACKNOWLEDGEMENT DUE (RPAD) or through private courier services when mentioned in the courier consignment note with proof of delivery (POD) solicited at the address mentioned at the beginning of this agreement or any changes in address intimated in writing and such communications annexed to this Agreement.

16 MODIFICATIONS

This Agreement cannot be modified, varied or terminated except when so done in writing. Any variation in the Agreement, including Addendum Agreements, Annexures, schedules or any other document, called by whatever name, but executed relating to this Agreement, shall have to be mutually agreed to in writing and executed by or on behalf of the Parties.

17 BINDING EFFECT

17.1 The Parties shall also bind their employees, officers, advisors, managers, associates, contractors, agents authorized persons and other similar categories who are involved in conduct of the activities under this Agreement.

17.2 This Agreement modifies all prior understanding of the Parties as to the subject matter hereof and shall not be amended except in writing by both the Parties.

IN WITNESS WHEREOF the parties have set and subscribed their respective hands to this Agreement on the date and year appearing hereinabove.

Signed on behalf of the Headend Service provider

Signed on Behalf of the AFFILIATE

Witnesses

SECOND ATTACHMENT TO COMMENTS BY LT COL VC KHARE

Suggested INSTALLATION REPORT

Subscriber No. (To be allocated by HSP)

Name _____ Address _____

Telephone No. _____ email _____

Profession/Occupation _____

No of TV sets _____ Colour _____ B&W _____

Make & Type of Set Top Box _____

Cable length in metres- Amp to tap _____ Tap to TV set _____

Carrier level in dB μ V for (64/256 QAM) Ch2 _____ Ch-S10 Ch5 _____

Ch-S21 _____ Ch-S31 _____ Ch-S39 Ch-U41 _____ Ch-U51 _____

Ch-U61 _____ Min signal level 47-64dB μ V(64QAM); 54-74
db μ V _____ Max slope 12dB

MER 30 dB (64QAM) / 34dB (256QAM) _____

Details of PC ,if any _____

Remarks _____

Installation fee status Paid Rs _____ Complimentary _____

(Signatures of Engineer)

(Signatures of Subscriber)

Name of Engineer _____

Date of Installation _____

Entered in Computer on (Date) _____

Entered by _____ Checked By _____

SECOND ATTACHMENT TO COMMENTS BY LT COL VC KHARE

Suggested INSTALLATION REPORT

Note – STB is released for a particular Subscriber ID with choices filled up first time in Application Form. The STB is paired with Subscriber ID, Cable Operator ID, STB Ser No and Viewing Card Ser No. This report when punched in SMS, helps in issuing trouble tickets giving these parameters for restoration of services as installed. Such data also helps in appraisals and incentives determination for technicians.