COMMENTS ON TRAI CONSULTATION PAPER ON

Entry Level Net Worth Requirement of Multi-system Operators

In Cable TV Services

Lt Col VC Khare (Retd), Cable TV industry Observer

General

1. There are a few infirmities in composition of the consultation paper :-

(a) Cable TV i.e. point to multi-point, wireline RF distribution, started around 1979-80 when VCR displays from one machine to different rooms in some five star hotels were enabled.

(b) Door Darshan has never been in Cable TV distribution. Somewhere around 1980-81, S-Band dish antennae were provided in Gujarat by State Govt for chaupal assembly type community satellite casts. Later they were integrated with VCR displays by enthusiastic operators limiting to 80-100 wired home. They were just two channels cablecasts (ch 2, 47-53 MHz, for VCR replays and ch 4,62-68 MHz for DD1).

(c) Cable TV networking has been a technology entrant by stealth, in that not a penny of funds from the exchequer were ever invested in this vocation. There was no govt interest till 1994. By that time connectivity had grown to about 20 million. Hardware was all imported. No facilities for training were ever established. In the capital city Delhi too, connections were existing in MIB, residences of Ministers, including the PM, and even Rashtrapati Bhawan, besides other urban dwellers. CATV had become a reality, but was NOT legal. Hence corporate houses were not interested in investments in this growing vocation. Number of programs, in skip channel headend qarchitecture (Ch Nos 2,4,6,18, 10 or 3,5,7.9,11 and so on) being cable casted were about 20, all FTA and in analog mode. What irked IMPPA was VCR replays of feature films diluting the box office revenues. If people could watch a movie on TV in comfort and safety at home why would they go out to watch a movie in Cinema House ? And, in Sep 1994, Star TV was to launch a movie programs channel. Also, the revenue department bureaucracy was eyeing revenue mopping from this occupation.

(d) Hence MIB got Cable TV Netwroks Regulation Ordinance promulgated on 30 Sep 1994 which transformed into an Act in March 1995. That imparted legality to the facility and MSOs emerged on the horizon with stronger financial and management muscle. Though called Multi System Operators, they are, in fact, Single System Operators (SSOs) till date. A better description/connotation would have been Headend

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Service Providers (HSP). The promulgated ordinance, in 1994, mandated registration of Cable Operators with Deptt of Posts to continue in business. All Cable Operators then, were running a Headend and a network with about 5 to 8 thousand subscribers with rudimentary hardware, cables hung in the air without RoW(Right of Way) and engineered stranding. The meteoric rise in connectivity attracted Broadcasters to add more genres/variety in the nature of programs, initially all FTA. In 1999, ESPN introduced PAY concept bringing addressability at headend level. IRD is nothing but a headend level facility to enable or disable viewing selectively and remotely. Thus started the era of PAY TV concept in CATV networks followed by others.

(e) But, that also triggered high headedness in Broadcasters, getting their content included in the cablecasting lists, causing appeal and addiction of viewers and increasing annual subscription with every annual renewal of content provision agreement. It may be noted that connectivity being declared for payment of PAY content charges initially was 30% , to start with, being increased at every renewal. However, Cable Operators kept providing all available content against a fixed monthly subscription. Thus subscriber did not know the difference between pay and free content. By that time number of programs had risen to about 30 and modulation had improved from skip channels to adjacent channels economizing bandwidth in use. Resentment over such arbitrary increases had echoed in MIB resulting in CAS amendment to Cable Act in 2003. This also followed appointment of TRAI as a regulator for Cable TV networking. Both, MIB and TRAI lack enforcement staff at ground level. As a result, CAS implementation remained a failure till 2007, and thereafter remained confined to parts of four metros and whole of Chennai.

(f) In 2008, TRAI made recommendations for re-structuring of CATV networks, which never saw the daylight between MIB and Ministry of Finance. DTH was introduced, as alternative to CATV, even in cabled areas unlike other countries where DTH serves areas not facilitated with Cable Networks. Then came the DAS amendment in Nov 2011, legislated for empowerment of the subscriber and loads of legalizing documentation starting from registration of Headends with MIB, RoW and tariff controls besides others. It was presumed that constituting a task force, holding meetings and recording minutes of meeting would end in DAS implementation automatically. What happened was that encryption of content got enforced largely at Headends, STBs were sourced by HSPs, issued in bulk to Cable Operators without pairing them with Subscriber ID , STB serial No and Cable Operator ID. Thus SMS never got functional in the Headend. Progress of DAS implementation was reckoned from statistics on number of STBs reported seeded.

(g) Cable Operators, established their own practice of making subscribers view all content cablecasted from Headend for a fixed monthly subscription without itemized billing and receipt. They gave some portion of such collections to MSOs. Now the NTO being implemented by TRAI is causing turmoil among the Cable Operators.

Issues needing Consideration

2. At present CATV networking is a point to multi-point transmission, in Radio Frequencies (47-862 MHz) comprising of 106 channels (7 or 8 MHz wide) carrying more than one program per RF channel encrypted and addressable. This facility, therefore, meets definition of BROADCAST, a central government subject, over wired medium. But MIB has not accorded that status to this facility as yet. Thus Ministry of Broadcasting governs Broadcast without a legislated Broadcast Bill and does not recognize CATV networks broadcasting multi-program, multi-channel digitally addressable communication over wireline medium as broadcast, leaving administration of Cable TV services to State Governments.

3. Other infirmities are mis-connotation pertaining to (a) MSOs, who do not provide multi services, should be called Headend Service Providers i.e. HSPs (b) referring to ‘programs’ as channels, dis-regarding the fact that this term neither figures in the glossary of Cable Act, nor is technically correct since channel, in technical context, refers to a 7 or 8 MHz wide strip in 47-862 MHz band, totaling upto 106 channels, accommodating one program per channel in analog transmission and 10 to 24 programs in digital transmission (c) legalizing BUNDLING of programs contrary to the act (d) legalizing Carriage Fee being charged from Broadcasters, which, in digital CATV networking, has no justification since all programs authorized viewing at the STB will be received with equal audio and video clarity or nothing will be received(*It has not been realized that in analog modes coaxial cable attenuated carriers in higher frequency more than those in lower bands affecting vision quality due a phenomenon called ‘SKIN EFFECT’, happening because of lack of training facilities for technicians of Cable Operators to effect equalization at the amplifiers to ensure clarity at the farthest point),* (e) inability of TRAI in obtaining basis for pricing of PAY

content from broadcasters (f) obtaining basis for fixing monthly charge from Cable Operators collecting subscription from subscribers for enabling viewing of all content from headend without bill and receipts and paying some amount to HSPs, (g) organizing upskilling of technical staff of CATV networks, and (h) dispelling the impression among Cable Operators that they are not joint constituents of DPO with MSO and not a separate entity, as most of them think and articulate.

4. To recapitulate, Cable TV networking, inclusive of MSOs and LCOs, is not well organized for implementation of DAS. MSOs, because of higher investment quotient, appear more organized, in varying degrees, as compared to Cable Operators. This is due to apathy by the Government in education and upskilling of personnel involved. These personnel have done a commendable job of providing uni-directional, multi RF channel, multi program delivery of digitized video content but NOT addressable. They have enjoyed virtual monopoly in residential segment. But in DIGITAL INDIA environment, this service needs to upgrade to 3Play over deeper penetration of Optical Fibre in FTTH mode to compete with TELCOs making inroads in that segment. This will not be possible unless MIB enhances their involvement in this facility. Threat persists in possible demise of cable TV networks in residential segment throwing over 300000 people out of employment. If remedies are not found, video delivery in the present form by cable operators may soon become extinct.

REPLIES TO ISSUES FOR CONSULTATION

3.1 Do the present rules and provisions as regards eligibility and net worth for MSO require a review or modification? Give your answer with justification?

At present nothing is laid down in terms of minimum networth of the applicant for registration as Headend Service Provider(HSP). All HSPs may not be registered as private or public limited companies. Many of them may be operating as proprietorship firms. One rudimentary norm for thumb rule assessment of networth could be PER PROGRAM capacity based index to arrive at Headend investment (say Rs 1.0 lakh per program totalling to Rs 3.0 crores as upfront capital outlay resourcing capability and 50% additional for OPEX i.e Rs 4.5 crores, and so on) This would be for consumer grade hardware. Estimates for semi-professional grade hardware could be 10 times. Cable TV HSPs enterprise should be kept out of networth assessment in a free economy. Hence should not be invoked.

A Headend Service Provider aspirant should demonstrate on application (a) at least 675 sq ft floor space for headend indoor electronics,(b) 500 sq ft for dish farm (c) Rs 3.0 crores for ordering consumer grade headend electronics, (d) Rs 10 crores for ordering set top boxes *(e)Rs 90 lakhs salary disbursement for 3 months for 30 employees and capacity to sustain business on inflow of Rs 90/- per subscriber per month for 100000 subscribers. An indication of probable resourcing of so much capital should be the least consideration.*

3.2 If yes, should there be provisions specifying eligibility only for registered proprietorship / partnership firms or it should continue to include individuals or group of individuals as at present? Please elaborate your comments with reasons and facts.

Answer to 3.1 was NOT yes.

3.3 Is there a need for prescribing an entry level minimum net worth for the MSOs? Please justify your comments.

No ! With observed working of MIB since 1994, in CATV governance, and TRAI in Regulations enforcement since 2003, both have a void in enforcement mechanism on ground and hands-on experience in offices. Hence it is felt that there is no need for prescribing an entry level minimum net worth for the MSOs.

3.4 If yes, what should be the procedure to check and verify the net-worth in case of individual or group of individuals? Similarly, what should be the mechanism to verify the net-worth as claimed by business entities like proprietor-ship firm, partnership firm, LLP or Company as the case may be?

Answer to 3.3 is NOT yes.

3.5 Should the net worth requirements for entrant MSO be based on its proposed area of operation? Give your comments with justification.

If the idea is mooted for enhancing income of MIB for granting registrations…. 'Perhaps YES'. With increasing use of optical fibre in long hauls, number of headends has to reduce since it is technically feasible to provide Cable TV services in entire country from only one headend. If this criterion is to be imposed, it should be based upon say Rs 1000/- per km of fibre deployed in core network which should be spelt out in the application attachments.

3.6 If yes, what could be different classification of entrant MSOs based on area of operation? Give your comments with justification.

So far nothing hard and fast is laid down. Rough patterns are territorial (confined to municipal limits), district, state and nation-wide. These could be better articulated.

3.7 What should be the entry level net worth for each of the categories of MSOs if any classification is made on the basis of area of operation? Give your comments with justification.

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If answer to 3.5 above can be digested, suggested norm is per km length of optical fiber illuminated by the signal from the Headend.

3.8 In case, license area of MSO's is classified on the basis of area of operation, what should be the mechanism and criteria to classify existing MSOs? Please comment with proposed process to re-classify.

Answer is shrouded in the observation made in 3.6 above.

3.9 Should the minimum net worth required in case of MSOs operating in North east and/or J&K be relaxed compared to other regions? Please provide suitable justification.

Technology is neutral to regions. Norms should be same for entire region.

3.10 If yes, by how much should the entry level net worth criteria be relaxed? Please give your comments with justification.
Answer to 3.9 is NOT yes

3.11 What are the components of the fixed costs incurred by an entrant MSO? Give your comments with justification.

To comprehend this, experience in establishing a multi-RF channel, multi program digitally addressable headend, is required. Indicative compulsions are FIRST building related by way of dish farm, aggregation hall, secured data base machine housings, false floors, roofs and access control doors and illumination and air-conditioning. SECOND Dish antennae, IF cable routing supports, Distribution Amplifiers, Encoders, Multiplexers, Modulators, Combiners, launch level equalisers, E2O (Electrical to Optical) converters, Encrypters and SMS with replay hardware, THIRD power supply from grids and captive power, FOURTH office spaces, FIFTH initial purchase payments and royalties for CAS and SMS and SIXTH office establishment for about 50 persons.

3.12 What are the components of the variable costs incurred by an entrant MSO?

Salaries and allowances, power consumption bills, royalties on CAS and SMS, FOL(Fuel Oil and Lubricant) expenses, out of office allowances to staff, taxes, sales and marketing expenses and hospitality expenses in courtesy management besides Corporate Social Responsibility obligations.

3.13 How do the fixed costs and the variable costs depend upon the scale of the operation that is for the small, medium and large operators?

Fixed costs depend on quality of hardware and sophistication in headend layout. Variable costs depend upon area of headend and volume of air-conditioning, by and large.

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3.14 Should the minimum net worth required be based upon the average fixed cost incurred by an entrant? If yes, what should be the appropriate criterion? Please explain

Ref to italics in answer to 3.1 above

3.15 Discuss if there could be some other criteria in context of costs incurred such as a combination of average fixed and variable costs.

Without any data ever gathered on these details by TRAI, how can averages be arrived at? At best it can be brought down to per program aggregated and approximated thumb rule.

3.16 What is the average cost incurred in establishing a minimum capacity of 100/200/300/500 channels? Should the minimum net worth depend upon the proposed channel carrying capacity of the entrant? Please justify

Insistance again on using correct English language connotation in written paper work.

Word 'Channel' does not appear in the glossary of Cable Act. Channel in Cable TV networking refers to a7 or 8 MHz wide strip in 47-862 MHz band totaling upto 106 channels, carrying one program per RF channel in analog transmission and 10 to 24 programs in digital transmission by compression. Hence number of channels in 47-862 MHz transmission band is FIXED at 106. Digitization has enhanced the capacity of networks in terms of number of programs that can be carried over a CATV network depending upon extent of compression ratio; 1060 for 1:10 compression rising upto 2544 for 1:24 compression. Somehow in bad language usage 'channel' seems to have got synonymised with program.

Consumer grade headends, if costed on thumb-rule basis, can vary between Rs 25000/- per program, for consumer grade hardware and installation, to Rs 200000/- per program for semi-professional grade quality of work. (Professional grade electronic hardware refers to military hardware with 99.999% reliability)

3.17 If the answer to question 3.16 is in affirmative, what should be the minimum net worth requirement for an entrant MSO willing to provide just the basic service tier of channels? Further, how should the minimum net worth requirement vary with increase in proposed capacity tier?

The term is out of synch with the current prevailing environment.

Headend cost per program would vary between Rs 40000/- per program to Rs 1.0 lakh per channel for hardware (excluding cost of land and building), Rs 8000/- per km of core HFC network for FTTP deployment without RoW, as is the practice now. The depreciation may be clamped at 20% per anum.

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'Pipe' as connoted by TRAI refers to Network Capacity Charges prescribed at Rs 130/- per subscriber per month for SD modes comprising of 100 programs. This count includes FTA and PAY content both including numbers in bouquets.

Fibre runs per headend comprise of about four radial runs of 34 kms each without requirement of an EDFA. Thus fibre core network at a minimum will cost about Rs 11.0 lakhs. Cheapest Headend hardware would cost about Rs 40.0 lakhs for 100 programs.

If we take 50 cable operators per headend with connectivity of 750 subscribers each, STB provisioning would work out to Rs 75.00 lacs.

This approximation for 100 programs will work out to over Rs 1.30 Crores. At the lowest.

Since network is not dependent upon number of programs, Rs 40.00 lakhs may be added in computing every additional 100 programs.

3.18 Should the minimum net worth depend upon the proposed number of subscribers that an applicant MSO would cater to? Please justify

Headend is not dependent upon number of subscribers. HSPs establish headends and lay optical fibre radials to constitute core network. This then follows edge networks terminating into Cable Operators Network in FTTP configuration. Once the signal stream leaves a headend location, HSP, in India, does not assure QoS upto ingress into subscriber homes, like TELCOs. Hence this parameter cannot be applied.

3.19 If the answer to question 3.18 is in affirmative, what should be the proposed number of subscribers and the relevant net worth for the same?

The answer to 3.18 is NOT in the affirmative**.** DAS headend may not be viable below 100000 subscribers.

3.20 Discuss if any other criterion could be used to determine the entry level net worth of the MSOs?

More than financial benchmarks such as networth, the need is to prescribe technical qualifications of the technical staff at the headend and technicians with Cable Operators. In Digital India environment, headend staff needs to be up-skilled in IT practices and Cable Operator's technicians to learn broadband delivery in homes.

3.21 Should necessary modifications be made in Cable TV rules in case of individual applicants so as to ascertain his/her net worth more prudently compared to the existing regime?

So far, financial, academic or management skills of people in CATV networking were NOT even talked about ever since promulgation of Cable TV Regulations Ordinance 1994. If this is being introduced, spirit of Cable TV act itself must be changed with ratification from the parliament and then Rules could be drafted.

3.22 Should the individual be permitted to seek MSO registration? If he/she is permitted what should be the method for calculating and verifying his/her net worth?

Why not ? Networth estimation should be the same. Headend is a system independent of ownership by one or more individuals

3.23 Which documents need to be furnished at the time of registration in order to justify the given net worth requirements for all other 3 cases, i.e., body of individual, partnership firms, companies?

Assuming that Headend will be resourced AFTER registration,(a) Capital Outlay (b) Proposed Sourcing (c) Availability of space and power, (d) Proposed number of Cable Operators to take signal feed, (e) Radius of operation of Headend signal Distribution (f) In principle RoW, (g) Previous 3 years of Income Tax returns of the applicant (h) Proof of Good Conduct and Character in previous 5 years and (i) Qualification and Experience of prospective CTO (Chief Technical Officer) in installation, testing, commissioning and operation of DAS headend, with knowledge on link budget for delivering QoS and draft strand diagram

3.24 Comments on the contents of proforma on the basis of which net worth for the new entities is to be calculated?

Serials A to J appear feasible. Others, K to N, might be applicable for existing MSOs applying for registration. A green horn venturing into virgin initiative cannot be expected to furnish K to N.