

## **COMMENTS ON TRAI CONSULTATION PAPER No 6/2016**

### **Issues related to Quality of Services in Digital Addressable Systems and Consumer Protection**

Lt Col VC Khare (Retd) Cable TV Industry Observer)

### **Observations on the Consultation Paper**

1. The paper is clearly drafted with TELCO mindset ( QoS is totality of characteristic of **telecommunications service** that bear on its ability to satisfy stated and implied needs of user of service), dwelling upon interactivity and established QoS in that identified domain. TELCO domain has operated in govt approved organized and recognized manner as a Central Govt Subject which is NOT the case for Cable TV
2. It essentially attempts to address Digital Addressable Systems pertaining to Cable TV services in India, which are neither BROADCAST nor TELECOMMUNICATION, for consultation..
3. Cable TV in India is a marvellous example of rapid connectivity establishment in SMEHOW CONNECT philosophy driven by market pull expansions. Its nature is that of broadcast( point to multi point, multi channel, multi program, uni-directional delivery of TV content over wireline medium) but is NOT accorded the status of Broadcast and yet placed under Broadcasting ministry which is yet to get Broadcasting Law enacted.
4. Telecommunications, from inception :-
  - (a) Were never a free service. It remained a usage based point to point connectivity service without CONTENT to be secured or paid for.
  - (b) Had technically defined and enforced OSS and BSS norms
  - (c) Central Offices (Equivalent of Headend in Cable TV) was well designed, installed, tested and commissioned by professionals with documentation required a good engineering practice. The distribution cable network had properly assigned right of way(RoW) and supports whether overhead or underground. The distribution points were well housed in closets clearly identifiable as TELCO DPs. The drops inside the house were properly supported in casings, conduits or clipped on batons. Earthing was invariably ensured. The technicians had initiation training and were always detailed from complaint cells, equivalent of present jargon on Customer Care.

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- (d) CPE was provided on payment, without being questioned.
  - (e) System was supported by stout usage based billing system. Itemized bills were generated and services got terminated in defaults on payments.
  - (f) Technical Management had prescribed qualifications reinforced with procedures implementation training.
  - (g) Service providers were a respected strata in society.
  - (h) Service was placed under Central Govt subjects leading to uniformity in principles and practices. It enjoyed recognition and respect from the Govt of India
5. Cable TV has been a technology entrant by stealth, in that, practices (generally incorrect) preceded legislation. The peculiarities are :-
- (a) De-facto area possession holding , without any RoW, in SOMEHOW connect mindset. Cable and/or optical fibre is just thrown around and terminated in house holds forming Cable TV Networks registered with the Department of Posts after 1994..
  - (b) Subscriber knows a person who interacts with them as CABLE WALA( signifying lower strata in Indian society).
  - (c) Remained NOT LEGAL till Sep 1994 with the then connectivity at about 20 million from total private investment. The Cable Ordinance promulgation in 1994, removed its NOT LEGAL stigma and gave rise to the MSO segment in these services. That was the beginning of a very rudimentary corporatization, perceivable in a few Headends out of estimated 6000 in India. This drew better marketing and financial managers but remained devoid of technically qualified and trained personnel. The improvements, if any, were visible only in the Headends, largely supplies, installed, tested and commissioned by vendors. Technical documentation such as ‘as-built drawings’, Headend Management Checks and Audits, Record of

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modifications/upgrades, Replicated EoL quality checks etc are conspicuous by their absence in most Headends.

- (d) The technical services get clearly demarcated at the exit of fiber or copper from the building housing the Headend. Thereafter, the route is largely encroached overhead routing without RoW, closets, hangars brackets, pole vaults or earthing right upto subscriber drops. Network engineering and in- house installation practiced have never been established. Over 200000 estimated Cable Walas in the country are ignorant on this count. No investments appear to have ever been made on their upskilling. Internationally recognized training is imparted in three tiers viz Installer's module for cabling inside a dwelling unit, network technician spanning the domain starting at entrance of service drop in a dwelling unit going back to the Headend covering the Coaxial and optical fiber segments and Headend Operations Engineers.*(paradoxically cable wallas changing employment to DTH service providers undergo organized training in installations and subscriber interface and are NOT addressed as DTH Wala in the same residential segment)*
- (e) In such an environment, CAS implementation remained an implementation fiasco. DAS is no different.
- (f) Statute and Rules have been enacted, Regulations have been framed and promulgated to the advantage of a few Broadcasters and National level MSOs (should be called Headend Service Providers i.e. HSPs).
- (g) Success of DAS implementation is being reckoned from the statistics of number of Set Top Boxes(STBs) sent out of HSP ware houses and deemed demise of analog transmission. If a DAS implementation check sheet was to be compiled and filled, it will have about 23 serials out of which just about 2.5 might get ticked
- (h) DAS is deemed to benefit the subscriber( nuances in service offering, ease in subscription, service management and redressal of complaints in a time bound manner), who does'nt know DAS except for having paid for the STB only to receive more programs

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- (i) with comparatively better picture and sound quality. Hardly has any one seen a rate card, a SAF form filled after understanding its entries, MOP (Manual of Practice), intimation about subscriber ID or communication about Customer care and Grievance redressal. Hardly any subscriber receives an itemized bill showing Subscriber ID, STB Ser No, Cable Operator ID, Basic Tier Charges, FTA over and above FTA, Pay TV 'a-la-carte' charges, Pay TV Bouquet charges, STB Provisioning charges if any, Service Tax, Entertainment Tax, Total Amount Payable by a due date and receipts for payments thereof.
  - (j) The tragedy is that their service provider the Cable Wala too is ignorant about it. They have NOT been upskilled on DAS deliverables.
  - (k) Neither MIB nor TRAI appreciated as to how will the intended benefit of DAS reach the subscriber, firstly by communication, second by acquisition third by experience and fourth by conviction.
  - (l) The execution has remained confined to descriptions on paper without a mental walkover that revenue by way of flow charts or such operations research tools. The saga of combined failure management does'nt seem to attract any attention.
  - (m) The insistence of clubbing IPTV, a TELCO domain( more sensitive to distribution network compliances) activity, with wireline broadcasting deliveries does'nt stand to reason. IPTV, in practice, remains a point (server station) to point (subscriber premises) bi-direction communication and NOT a point to multi-point broadcast. TELCO'S insensitivity to PAY CONTENT is another differentiator.
6. Drafting QoS on lines of TELCOS ( ref para 3.1 of the paper stating **totality of characteristics of telecom service**)for Cable TV segment and expecting feed back i.e. QoE on such QoS sounds wishful in a largely un-organized segment.

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7. Table below highlights the essential differences between the two services underlying this consultation :

<b>S. No</b>	<b>Aspects Compared</b>	<b>Wireline Broadcasting</b>	<b>Telecommunications</b>
1	Nature of Operation	Point to Multipoint i.e. Headend to several subscribers	Point to Point connecting identified users at both ends
2	Directionality	Uni-directional largely in CATV without any usage data	Bi-directional with usage time recorded
3	Corporatization	Limited	Total
4	Charges for Service	Fixed per subscriber per month basis	Fixed rate for subscription and usage based for service from day ONE
5	Networks Construction	Un planned without RoW SOME HOW connect basis	Designed, sanctioned and constructed as per specified norms for overhead and underground layouts with vaults and street side closets
6	Occupied bandwidth	7-8 Mhz	4 kHz
7	Carrier	Analog	Analog
8	Content	Digitally encoded and encrypted	Packetized without any encryption
9	Content Security	Implied for PLAY Content	Not Applicable
10	Conformity to Standards on Networks Construction	Un-intentional or exceptional	Complied
11	Listing	State Govt Control	Central Govt Subject
12	Entertainment Tax	Applicable	NOT Applicable
13	Service Tax	Applicable	Applicable
14	Training Facilities	Nothing Formal for acredition	Exist and are broadly laid down
15	Stratification	Treated wanted in House holds but deemed unskilled and rudimentary	Treated organized and recognized with familiar QoS
16	Billing	Itemized billing legislated but NOT implemented. Formal billing non-existent and not insisted upon by subscribers	Formal monthly bills are issued, payments received and proper receipts documented
17	Customer Care	Required but hardly established	Call Centres exist and function

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18	Service Plans	Most users are unaware	Well publicised and available on web sites
19	Triple Play	Video allowed Data with Broadband Licence Voice Not allowed	All allowed but largely delivering data and voice

8. Electrical to Optical Conversions, coupled with Subscriber Management System for entitlement control and authorizations) registered with Deptt of Posts are estimated to number over 60000, with about 240000 technicians interfacing with the subscribers. This category was expected to instinctively generate DAS awareness amongst subscribers.

Comments on this paper are, therefore, confined to the Cable TV Networks which is NOT a TELCO service.

9. It may also be noted that Broadcast Engineering in general, and wireline broadcast engineering in particular, are not taught in India. Even those employed in Prasar Bharti have collegiated from different disciplines. This void assumes importance when it comes to addressability (a facility to enable or disable viewing of TV content remotely and selectively) and undertaking advisory functions in government forums.

#### 10. Answers to Questions in Consultation Paper

***Q 1. What should be broad contours for a QoS Regulatory framework for digital addressable systems? Please furnish your comments with justification.***

TRAI should realistically appreciate the ground realities in which the CATV services are being delivered by un-organized segment comprising of about 60000 cable operators and their estimated 240000 technicians, both literate, but without formal recognized technical or service education, who have proved that TRAI Regulations no 12 and 13 of 2012 are neither read or understood by them for dissemination to subscribers nor have they any responsibility towards that presumption. Hence contours would best be drafted by a central agency like TRAI, promulgated for compliance, and monitored through a suitable mechanism (like undertakings from HSPs for upskilling, investigation on reported non-conformity, punitive action including but NOT limited to revoking their registration. Audit agencies for this could also be established under TRAI supervision and snap audits conducted for enforcements all at the cost of service providers. A few punitive actions will send the compliance message LOUD and CLEAR.

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**Q 2. Should there be a uniform regulatory framework for Quality of service and Consumer protection across all digital addressable Platforms? Please provide your comments with justification.**

At the customer premises level Yes ! ... since picture on TV is being viewed through the service. However these are using different frequencies and spectrum bands. Hence their EoL at subscriber premises would be different. What, therefore, needs to be promulgated is a list of measured technical parameters at the input to the STB and a compliance installation report, duly signed by the subscriber, to be annexed to the SAF and details punched in the customer data in the SMS.

\For awareness generation, MoP delivery needs to be mandated at the time of commissioning the service and an acknowledgement regarding delivery of MoP would largely serve the purpose.

**Q 3. Should timelines relating to various activities to get new connection be left to the DPOs for transparent declaration to the subscribers? If so, how can the interest of the subscriber be best protected if the connection is not provided in given time frame?**

MoP is expected to be total reference communication from HSP, the service provider, to the Subscriber. It is supposed to be issued with Subscriber details , ID and CPE details entered therein. Recorded issue of such a document and an acknowledgement on the installation reprt(to be mandated) would meet the requirement. An improvement could be guide CD embedded in the EPG.

**Q 4. What should be the time limits for various activities, as mentioned below, to get new connection? Please provide your comments with justification.**

In practice, conversion is taking place from existing and connected analog service user to DAS by way of installation of STB at the same premises (wherein service exists). No subscriber is requesting for DAS. It is HSPs sending STBs for seeding through Technicians of Cable Operators to meet seeding STBs and reporting DAS implementation based upon these numbers. When request is made(or even without it since DAS deadlines were to be met) technicians bring STBs for installation (with all programs authorized but without pairing), install the STB, get SAF filled, and are supposed to 'ex-post-facto' inform the HSP to punch data. Some two or three days flirting experience could be granted for getting used to the features of the service. However in most cases SAF was not filled neither were subscriber details and pairing of STBs undertaken. This malpractice would be as difficult to remove as corruption in India.

Theoretically ! 4 days in Indian CATV environment would be reasonable.

**(a)Response time for processing new service request and conveying feasibility of providing connection at the desired location**

NOT more than 7 days

**(b)Time line for completion of CAF, installation and activation of service**

Deemed included in the above 7 days.

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**Q 5. Should minimum essential information that must be included in the CAF be mandated through regulations so as to maintain basic uniformity? Give your suggestions with justification.**

This is enshrined in TRAI Regulation No 9 of 2012 and aims at facilitation of itemized bill generation.

- a. Unique Customer Id
- b. Subscription Contract number (SAF Machine Number in Practice)
- c. Name of the subscriber
- d. Billing Address
- e. Installation Address
- f. Landline telephone number
- g. Mobile telephone number
- h. Email id
- i. Service/Package subscribed to
- j. Unique STB Number
- k. Unique VC Number
- l. Unique check digit based verification of viewing card for carded CAS

**Q 6. Should minimum font size be specified for CAF? If not, how can it be ensured that important information provided in CAF is given in a manner such that a consumer can read it easily?**

Not Necessary

In practice no one, like signing insurance policies, reads the fine print. These are generally one sided and are NOT amenable to changes. TAKE IT AT OUR TERMS OR LEAVE IT is the practice. They are referred for interpretation only when adjudicated. Main issues could be (a) efficacy of changes in subscriber choice (b) duration after which changes take effect (c) termination of service or shifting of connection procedure and implications and (d) return of security deposits if any. The could be printed in bold.

**Q 7. Should use of e-CAF be facilitated, encouraged or mandated? Please provide your comments with justification.**

Every subscriber does not have access to internet. Further this form constitutes a B2C agreement and hence requires physical signed hard copies in law. Further since CABLE TV is left to be administered by state bureaucracy, essential information can vary from state. Hence e3-CAF is NOT considered practical. Cable TV is NOT a Central Govt Subject like Telecom.

**Q 8. Should the minimum essential information to be included in the MoP be mandated through regulations to maintain basic uniformity and to ensure that consumers get all relevant information about the services being subscribed?**

It is already listed in TRAI Regulation No 12 of 2012 Section 9 and reads as under :-

- (a) name and address of the service provider;



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- (b) terms and conditions of service offered by the service provider;
- (c) customer care number, name, designation of the Nodal Officer and e-mail, contact telephone number, facsimile number and address of the Nodal Officer;
- (d) procedure and benchmark for redressal of complaints through complaint centre and procedure to approach Nodal Officer;
- (e) instruction for activation and operation of Set Top Box;
- (f) the details of duties and obligations of the multi-system operator or its linked local cable operator and rights and duties of the subscriber as specified in these regulations;

A copy of the manual of practice(MoP) has to be provided by the HSP through its linked local cable operator to each subscriber at the time of his subscription for service. The manual shall be prepared in English language and Hindi language and in the language of the state in which the service is provided to the subscriber.

For Further ease these could be embedded in the HOME PAGE of EPG in the EPG

### **Q 9. What should be the minimum information to be included in MOP Give details with justification?**

Refer above

### **Q 10. Should it be necessary to provide printed copy of MOP to all the customers at the time of subscription to the service? If not, how it can be ensured that all required information is available to subscribers when required?**

In organised service provision, MoP accompanies the STB in the packing box delivering the STB for installation. While packing at the dispatching warehouse location the following information should be printed on first page of the MoP :-

- (a)Subscriber ID
- (b)Subscriber Name
- (c)Installation Address
- (d)STB Make . Model and type
- (e)STB Ser No
- (f)Viewing Card Ser No
- (g)Cable Operator ID
- (h)Whether all information paired ?
- (i)Customer Care location and Contact No
- (j)Headend Location and Contact No
- (k)Nodal Officer Details
- (l)Warranty if any?

### **Q 11. Should there be an initial subscription period while providing a new connection to protect the interest of both the subscriber as well as DPOs?**

In spirit, DAS is deemed to be for benefit to the Subscriber.

This question seems to be inclined towards the DPO.

However in Indian context, subscribers exist and are connected.

Due to digitization an addressable STB is to be inserted before their

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TV receivers by specified dates(issue of payment mode for STB apart). So ! where is the question of such a provision for CATV ? The same applies to HITS in wired segment.

DTH does not indulge in such suggestions particularly in Pre-paid mode.

IPTV in TELCO domain too does NOT encourage this being a usage based billing process.

**Q 12. If so, what should be the duration of such initial subscription period?**

Not Recommended.

At best service could be obtained on a week's trial, if HSP has capacity. The charge, with all programs authorised, may be Rs 500/-. However such an STB need NOT be new and unused. Further such promotional activations need NOT be reflected in Broadcaster's report.

**Q 13. What protections should be provided to subscribers and DPOs during initial subscription period? Give details with justification?**

DPOs should receive the payment in Advance.

Subscriber should make a non-interest bearing refundable security deposit for the STB in addition to Rs 500/-

**Q 14. What should be the framework for compensation to the subscriber for dropping of a channel due to its non availability on the DPOs' platform?**

All accounting is on a month to month basis. Charges should be levied, proportionately, only for the number of days the program was available on the network out of those 30 days.

**Q 15. How should the reduction in subscription charges be calculated in case of discontinuation of channel from DPOs platform? Please provide your comments along with justification.**

There is Basic Service Tier charge which does not reduce.

For 'a-la-carte' PAY content, the basis is per program per subscriber per month. So ! charge for the number of days for which content was available on the network proportionately out of monthly rate..

**Q 16. What should the maximum permissible time of disruption beyond which subscriber must be compensated in following cases?**

This practice is non-existent in India.

However, in India, CATV systems have an excellent MTTR (Mean Time Taken to Restore) of less than 24 hours. Hence outages more than 3 days only should be considered for PAY TV Content only on proportionate basis

**(a) Disruption due to technical fault on the DPO network or at the subscriber's end**

DPO's network, i.e. core Network – 3 days.

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- Cable Operator's network cable i.e. edge Network – 3 days.

### **(b) Disruption due to technical fault of CPE at the subscriber's end**

Subscriber end – CPE fault Service STB can be provided within 14 hours but CPE repair time forecast is difficult since field returned unserviceables (FRUSs) are despatched in batches,

### **Q 17. What should be the duration of disruption in service warranting compensation to the consumer and how the compensation should be calculated in following cases?**

Refer answer to 16 above.

#### **(a) Continued Disruption due to technical fault on the DPO network at the subscriber's end beyond the pre specified time.**

#### **(b) Continued Disruption due to technical fault of CPE at the subscriber's end beyond the pre specified time.**

### **Q 18. What should be the framework and terms and conditions for shifting of connection including timelines in respect of PAN India DPOs where provision of connection at new location is feasible?**

Suggest confining service to radius of operation of core network from one Headend Location. There are hardly any HSPs providing HFC on PAN India basis.

### **Q 19. Is there a need to prescribe procedure for transfer of the TV connection? If so, what should the procedure, terms and conditions for transfer of services connection and timelines?**

No ! Connection once provided should be confined to location of Installation. Any shift should attract termination at one location and new connection at the changed location.

### **Q 20. What should be the framework to address the concerns of stakeholders (Subscribers and DPOs) relating to temporary suspension of service?**

Billing on aggregated days the service is provided.

### **Q 21. How issue of abrupt closure of service due to non payment can be addressed while protecting the interest of subscribers and DPOs?**

Provide for pre-payment system with provision for automatic disconnection when credit balance is exhausted. As a deterrent, restoration after disruption due to payment defaults, a penal restoration fee of Rs 1000/- is recommended.

### **Q 22. Is gradual closure of service as discussed in para 8.23(????) is a feasible option? If so what should be procedure and the framework?**

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- Such an eventuality is to be foreseen and enshrined in the Terms & Conditions for service in the SAF as well as MoP. When such an eventuality arises, notice should be broadcast on all STBs repeatedly under global messaging feature of the SMS followed by communication through eMail and SMS on mobile numbers, all available in the SMS.

**Q 23. What should the procedure and timeframe to inform the subscriber regarding closure of service due to closure of business?**

Refer Answer to Q22 above.

**Q 24. Why uptake of mandated schemes for set top box (Outright purchase, Hire purchase, and on rent) is so low at present? How consumer awareness on these issues can be increased?**

MIB and Task Force are squarely to blame. When DAS was to be introduced promotional clip with Ms Shweta Tewari only said SET TOP BOX LAGWAIYE NAHIN TAU and showed a TV screen with rice particles i.e, NO SIGNAL syndrome.

Thereafter young actresses from small careen have also been harping on SET TOP BOX LAGWAIYE. The height of it was one in phase III saying Set Top Box means DISH TV

This apparently was due to misconception, prevailing today also, that digitization relates only to demise of analog transmission by a specified date and seeding of STBs in subscriber premises and claiming progress of digitization based on that statistics.

The promotional message story board should have been :-

(a) DIGITIZATION BHARAT SARKAR KE AADESHANUSAR ANIVARYA HAI.

(b) ISKE LIYE AAP KO EK ADDRESSABLE SET TOP BOX LAGWANA HOGA.

(c) DIGITAL SERVICE KE LIYE AAVEDAN FORM BHARNA HAI.

(d) SERVICE KE LIYE APNE CABLE OPERATOR SE SAMPARK KAREIN JO AAP KO SAARI AUPCHARITAYEN SAMJHAH DENGE.

(e) DIGITIZATION DWARA PICTURE AUR SOUND QUALITY MEIN SUDHAAR HOGA.

(f) UPBHOKTA KO NIRDHARIT DARON PAR TV PROGRAMS UPLABDH HO SAKENGE.

(g) PROGRAMS KA CHAYAN RATE CARD DEKH KAR KAREIN AUR AAVEDAN FORM MEIN BHAREIN

(h) AAVEDAN FORM KE SAATH HI AAP KO STB KE MULYA KA BHUGTAAN KARNA HOGA.

(i) STB PURCHASE KE TEEN VIKALP HAIN – OUTRIGHT SALE, HIRE PURCHASE YA RENTING. INKA VARNAN AAVEDAN PATRA MEIN KIYA HUA HAI. APNI SUVIDHANUSAR CHAYAN KAREIN.

(j) SERVICE CHALU HONE PAR NISCHIT KAREIN KI AAP KO SUBSCRIBER ID AAVANTIT KIYA GAYA HAI.

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(k)SEVA SHURU HONE KE BAAD ITEMIZED BILL MILNE PAR HI BHUGTAN KAREIN AUR BHUGTAN KI RASID AVASHYA LEIN.

No thought was given by MIB and Task Force on such communication.

Hence STBs, many not conforming to Indian Standards, were bulk procured by HSPs and got seeded by Cable Operators of HSPs , though their technicians, and success of DAS implementation triumphed based on number of STBs seeded.

It is thus a comedy of errors.

**Q 25. What should be the consumer friendly common framework of CPE Schemes for providing CPE to consumers in digital addressable system? Please provide your comments with justification?**

BIS compliant CPE should be provided as a part of service by the Headend Service Provider (HSP) against a non-interest bearing refundable security deposit to the subscriber, duly punched in the SMS, with responsibility to maintain its serviceability, including but NOT limited to providing replacements when restoring serviceability. Since its price is flowing back as security, earning interest for service provider, this will NOT be a burden on the HSP.

**Q 26. What should be minimum essential information related to a CPE scheme that must be made available to the consumers to safeguard their interests? Please provide your comments with justification.**

Make, Type, Model, Version, Manufacturer, Marketing Agency in India, Details of HSP providing the CPE, Location and Address of Service Centre, Operating Instructions/guide, Conformity to Indian Standards and broad features.

These should be included in the MoP.

If the suggestion in answer to Q25 above is implemented, this information would be of no interest to the subscriber.

**Q 27. What measures may be adopted to ensure availability of good quality CPE to consumers?**

Cable Act as drafted stipulates CONFORMITY to Indian standards and NOT an ISI mark. Hence the onus of resourcing and installing CPEs conforming to Indian Standards should rest squarely with the HSP. Provisions for dealing with the defaulting HSP, when reported, including but NOT limited to revoking DAS Headend registration need to be implanted. In short it means making the HSP accountable for conformity to Indian Standards.

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**Q 28. Should any charges such as visit charges, etc. be charged from the subscribers during guarantee-warranty period?**

If suggestion in answer to Q 25 above is accepted this eventuality will NOT arise.

For Cable TV subscriber the immediate service interface i.e. the Cable Wala Technician is in close proximity and just a phone call away. The practice so far established in the industry is that visits are not charged for. The whole issue dwells upon expenses involved in truck roll. In India only warranty, i.e. restoration of serviceability, if attributable to fair wear and tear and not attributable to misuse or abuse, is implied. Visiting charges would thus be applicable as a business cost. Imagine a pan India network with a core network and edge network architecture. If truck roll implies travelling from a different municipal conglomeration, charges shall have to be payable. The simple principle is that in business nothing comes free.

**Q 29. What should be provisions for maintenance of CPE after the expiry of guarantee- warranty period?**

Costs involve (a) expenses for transportation of CPE to the repair centre, (b) spares required, if any, for restoration of serviceability, (c) labour charges including charges for Quality Assurance Instrumentation, (d) expenses in sending the serviceability restored CPE back to Subscriber Premises, (e) reasonable profit and (f) taxes.

Defect in performance should be reported to customer care, who, on such calls should explain all provisions to the caller and take consent before the truck roll. Such estimated amount should be payable in advance to the visiting technician should CPE be required to be sent to service centre.

**Q 30. What should be the simplified provisions for surrender of CPE in case of closure of service by the subscribers in order to protect their interest?**

Refer Answer to Q 25 above.

**Q 31. Please suggest the standards and essential technical parameters for ensuring good quality of service for the following digital addressable platforms:**

**(a). Digital Cable TV**

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There is No difference in the technical parameters for HITS and Digital Cable TV. The drop cable is 75Ω coaxial cable as input to STB and AV cable sets output to TV set. The modulation is QAM, largely 64 and scarcely 256 QAM. In most Cable Hones wall outlets are NOT fitted. Hence measurements to be complied with are ;

- (i) Maximum and Minimum Carrier levels
  - 64 QAM 47 dB μV min. 67 dB μV max.
  - 256 QAM 54 dB μV min. 74 dB μV max.
- (ii) Signal to noise ratio –
  - 64 QAM 26 dB min fall-off-the-cliff
  - 256 QAM 32 dB min fall-off- the-cliff.
- (iii) Operating Margin (Noise Margin) > 4 dB
- ((iv)) MER
  - 64 QAM 30 dB min.
  - 256QAM 34 dB . min
- (v) Frequency – 47-862MHz

### **(b) DTH**

- (i) Maximum and Minimum Carrier Level
  - 55dBμV Min – 95 dBμV Max
- (ii) Input Frequency – 950-2150 MHz
- (iii) MER – 28dB min

**(c). HITS** – Same as Digital Cable TV at Subscriber Premises

**(d). IPTV-** It is at present in TELCO domain. Not being delivered in multi-program multi RF channel addressable mode.  
On connection IPTV STB will send a broadcast query request to DHCP server and seek IP Address for STB to cover Live Media Broadcast (Uni-cast or Multi-cast), Media Broadcast with trick (Uni-cast only) or Content on Demand (Uni-cast only)  
Connected 10/100 Base T Cat5e cable on RJ45

**Q 32. What are the different methods to effectively increase consumer awareness?**

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First and foremost is understanding of the immediate interface for Subscriber. It is CABLE WALA Technician for CATV including HIS , Installation Engineer in DTH and IPTV( in TELCO domain largely)

Hence, at the time of installation, these individuals commission the service. Installation report submission needs to be mandated with EoL measurements at the input to CPE.

The performance and features need to be explained to the subscriber, compliance recorded in the installation report and so signed by the subscriber.

In addition issue of a detailed MoP at the time of installation needs to be mandated.

Features of service could be embedded in the Home Page of the CPE which can be played by exception on the TV receiver as a refresher.

**Q 33. How consumer related information can be effectively provided to Subscribers through DPO website. What minimum information should be provided through consumer corner?**

In DPO domain, there is no consumer. There is a content provider, i.e. Broadcaster, with a B2B Interconnect Offer, and a Subscriber with a B2C interconnect offer.

Consumer Corner perhaps means the prescribed 16x365 customer care

SMS has to have a subscriber page accessible to subscriber remotely and on any console in the Headend. In terms of service, access shall have to be provided on READ ONLY basis.

This page should display

- (a)Subscriber ID
- (b)Subscriber Name
- (c)Installation Address
- (d)STB Make . Model and type
- (e)STB Ser No
- (f)Viewing Card Ser No
- (g)Cable Operator ID
- (h)Billing History for 12 months
- (i)Current chosen program delivery schedule with rates for authorized viewing
- (j)LAT LONG coordinates of Subscriber premises Location and Contact No
- (k)Truick Roll History
- (l)Warranty status, if any?



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**Q 34. Can outsourcing to the third party for various web based operations be permitted especially for smaller DPOs? If yes, what precautions are taken to ensure that such provisions are not misused?**

No !

The statute does not distinguish the service providers by business sizes. Incorporation of CAS and SMS in the Headend architecture is mandatory for registration of DAS Headend. Hence this aspect cannot be deviated. Customer care, however, can be assigned to a third party provided the arrangement meets the requirements in TRAI Regulations.

**Q 35. In case of the use of “In Channel” communication means, what should the guidelines for running scrolls or other onscreen displays, so that it does not impact the viewing experience?**

Any item appearing on the TV screen, other than the content, including but NOT limited to logos, is an eye sore. Messaging appearing on screens in Finger Printing, broadcaster’s messages, statutory warnings and disaster Management provisions. All STBs have a yellow button on the remote leading to messages from the service provider. But this cannot be relied upon because many subscribers don’t know anything about these special keys.

**Q 36. What options can be used for verifiability of subscriber communications for any change in service or provision of additional service?**

SAF is the one time first time hard copy documented submitted by Subscriber to HSP. On receipt it is punched into Subscriber Information Page, scanned for dumping on data base server with access icon on the subscriber base and then archived with had copy location in the subscriber page on the SMS.

Thereafter all references to this document are supposed to be on line through Customer Care.

Response to any subscriber communication could be sent on the STB message box followed by scroll on FTA programs and messages on mobile telephone numbers.

Generally, as a good Customer care practice, all customer care interactions are supposed to be closed after an affirming confirmation telephonic call back.

**Q 37. What should be the duration to preserve such verifiable subscriber communications requesting change in service or provision of additional services at DPO level?**

Recommended ONE year in the customer care log history of the customer page in the SMS

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**Q 38. What should be optimal number of channel packages which meets the subscriber demand and are well understood by the subscribers?**

This implies extensive market research which is NOT practiced in India.

From personal experience, it could be (a) BST, (b) up to 10 'a-la-carte' PAY TV, (c) One or Two popular bouquets covering News in regional language, kids programs, religious programs, free movies, life styles and educational content. Generally no viewer surfs more than 20 programs.

**Q 39. How the package offerings can be improved in case of cable TV services so that effective choice is made available to the consumers?**

FIRST and foremost, extract basis of pricing content from Broadcasters which neither TRAI nor MIB have been able to achieve till date.

After this is done then the reasonability can be scrutinized.

**Q 40. Whether the choice of Pre or Post paid method should be mandatorily made available to the subscribers?**

Yes !

Learning from DTH and TELCO prepaid domain, prepaid should be mandated and post paid withdrawn gradually.

**Q 41. What should be the essential information contained in the monthly Bill/ Usage details to be provided to subscribers in post paid or pre-paid system?**

(a) Name and style of Headend Service Provider, (b) Address of business office (c) Address/Location of Headend (d) Cable Operator Name and ID (e) Subscriber Name and ID (f) Billing Address (g) Installation Address (h) Make and Type of CPE (i) Ser No of CPE (j) Ser No of Viewing Card (k) Date of Installation (l) present Status ACTIVE or NOT (m) Taxes Registration Numbers (n) Itemized bill (i) BST (ii) FTA over and above BST (iii) PAY TV 'a-la-carte' (iv) PAY TV bouquet (v) STB provisioning Charges if any (vi) Misc if any with details (vii) sub total for service (viii) Entertainment Tax (ix) Service Tax (x) Total payable (xi) Due date for payment. (n) Mode of Payment (o) **NO USAGE DETAILS are applicable since TV content delivery services are on per subscriber per month basis.**

**Q 42. Should pre-paid method is encouraged in case of cable TV services provided though LCOs? Support your comments with justification.**

In DAS environment NO SERVICES are to be provided from LCOs (registered with Deptt of Posts) prohibiting any technical functions of Headend (turn around, encoding, encryption, multiplexing, modulation, combining, transmission level corrections integrated with CAS and SMS. Any billing, pre or post paid is an activity peculiar to Headend where SMS is located. LCO can however print a bill generated

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by SMS on his stationery if so provided in the ICO with the HSP.

**Q 43. What should be the billing cycle both for pre-paid and post paid? Please give your comments along with justification.**

Monthly but staggered throughout the month to ease generation and delivery. Three weeks time for payment should be allowed for post paid.

**Q 44. Should deduction of maintenance related charges for CPE from the pre paid subscription account be prohibited?**

No ! because depreciation is NOT built in service charges.

**Q 45. How Toll Free number and call centre details can be widely publicised among the subscriber?**

(a) By pasting stickers on remote hand set and at the back of STB

(b) printing on bills and receipts

(c) Home Page of the Service on the STB and

(d) Including the same in MoP

**Q 46. How response time and accessibility of call centre including that of the Call centre executive can be enhanced?**

This is a possible function in the SMS costing extra.

Initially in phase I implementation, involving National Level HSPs, Call Centre operations were outsourced. At least for name sake the activity was established.

Since task force reckoning of implementation dwelt upon number of set top boxes sent out of HSPs ware house, and further in absence of an enforcement mechanism these services faded away.

From a practical experience on a customer care desk, time reckoning from greeting to opening of Customer Page by enquiring Name/Sir Name/ Id/House Address/Locality Address/ Mobile No or Land Line Number takes about 2 minutes.

Next nature of complaint – Service Related or Accounts Related  
**Accounts Related-** Delivery of Bills, Discrepancy in Billing, Extension of Due Date, Mode of Payment etc, Status of Payment Received, Issue of Duplicate Bill etc – Can take up to 3 minutes.

**Service Related** No Signal, No Video on Some Programs, No audio or unclear audio, picture freezing/pixelization buzzing noises, moving horizontal or vertical lines etc. Each type of complaint is to be allocated a number under Complaint as Described by Subscriber. This enquiry too can take 3 minutes.

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Asking convenient/subscriber availability time for visit and noting the same – Activity takes 1 minute

A docket Number for the call is allocated and read out to subscriber with estimated time in which complaint is expected to be resolved.

This is followed by sending SMS at mobile number or e-Mail at registered mail ID

Generally in Indian Environment – each subscriber takes 5 minutes.

The calls need to be picked up in less than 8 rings. This involves at least one minute between calls.

If the executive was a Robot handling calls continuously, an 8 hours shift could handle 80 subscribers and two shifts period of 16 hours 160 subscriber calls could be attended.

Depending upon average number of calls received per day and working to 80% efficiency 120 calls per day would be the executive capacity and thus number of seats in call centre could be calculated.

Duration of conversation for each executive is recorded, can be compiled and analysed.

Response time can be enhanced by enhancing number of executives and accessibility by increasing number of telephone lines.

The above data may NOT be available with most MSOs unless they have people experienced in establishing, training and grooming executives.

In view of the violation in establishment of call centres in DAS implementation so far this question is difficult to comment upon.

**Q 47. Please provide your comments on the following performance parameters discussed in preceding paras related to call centre?**

**a. Call centre availability hours**

16 hours is considered adequate since outages are NOT life threatening in nature. Hardly any calls can be expected after 2200 hrs and before 0700 hrs

**a. Multiple languages in IVR**

Minimum 3 – Hindi, English and Regional Language.

**b. Response time for answering IVR and voice to voice calls**

Less than 10 rings . This data can be accessed in call logs.

**c. Sub menu and accessibility of customer care executive**

Refer answer to q46 above for compiling sub- menus

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**Q 48. What should be the timelines for complaint resolution for different type of complaints at call centre and Nodal officer level?**

Calls received at Call Centre for service outages have to be routed to Local Cable Operator's Technicians whose availability (weekly offs etc) have to be recorded in the SMS. One practice, as far as possible, is to schedule the person who installed the STB if present on the day. If SMS has the necessary data, trouble ticket gets communicated by SMS or e-Mail to concerned technician with information to Cable Operator. Unless preferred time for call attendance is indicated, Technician should respond to Subscriber in NOT more than 30 minutes and call in NOT more than 4 hours. Barring provision of a service replacement for STB, other service faults should be resolved in less than 4 hours. THIS EXCLUDES FEEDER DAMAGES by other agencies. After rectifying the fault the technician calls up the customer care from Subscriber premises and reports action taken. Call centre will record time action taken reported and data on time taken gets compiled. Call is NOT closed unless Customer Care Supervisor confirms resolution of complaint and takes permission from complainant to close the call. Accounts related calls should NOT take more than 48 hours. Services outages should NOT take more than 24 hours.

**Q 49. Can outsourcing of call centre and web based complaint monitoring functions to third party help in increasing efficiency and compliance levels?**

Outsourcing is a business economy decision. Whatever arrangement is made is of no concern to subscriber. The time lines indicated above need to be met irrespective of integral our outsourced arrangement.

**Q 50. What should be the innovative ways to develop a speedy user friendly complaint registering and redressal framework using Mobile Apps, SMS, Online system etc.**

Television Content delivery has become an essential ongoing service in connected house holds used by persons other than subscription title holder. Unlike TELCO services, visuals are involved in this service. Hence these would be best attended by personal conversation with customer care executive. Remote complaint submission cannot be as effective particularly when every member in the household may NOT be computer savvy.

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**Q 51. What should be framework for implementation of electronic PMR**

This is a function of SMS in the MIS generation.  
Software needs to be automatically generated and submitted.  
Should be accessible to Management at finger tips.

**Q 52. What should be framework for auditing of the records for QoS regulatory compliance by DPOs? Please suggest appropriate measures along with justifications.**

SMS should be certified by experienced auditors and access provided to the Authority on READ ONLY basis in the proxy application server. For any documentary action, the authority can take a print out and seek explanation.

**Q 53. What should be framework for carrying out survey for QoS compliance and subscriber satisfaction?**

QoS specifications are a staff function drafted in closed rooms. QoE constitutes the conformity template for QoS. This is best done by appointing experienced surveyors scrutinizing against a pre-determined template. Sample size and Universe can be laid down while ordering surveys which have to be physical and door to door.

**Q 54. What should be the framework and quantum for financial disincentives for non compliance to the prescribed QoS benchmarks? Please suggest appropriate measures along with justifications.**

In India only financial fines or detention in jail are feared about.  
Any imposition will invite protracted litigation. It will also depend upon resources in enforcement mechanism.  
Since all the data rests with the HSP, the responsibility for QoS compliance should also rest with them. They could be fined up to 10 days revenue of the month or asked to show cause why Head End Registration should NOT be revoked.

**Q 55. Should all channels carried on the platform of a DPO must be included and shown in the EPG? Justify your comments.**

Yes !  
Programs transmitted from Headends are dynamic in nature. Subscriber can make changes or even make an impulse buy decision ( Pay per View) in interactive networks. Hence this information needs to be made available in the EPG for the benefit of the Subscriber.

**Q 56. Stakeholders may also provide their comments on any other issue relevant to the present consultation.**

Training needs to be organized at all levels in CATV Networks. Minimum skill statements too need to be specified.

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Some more agencies, besides BECIL, need to be recognised for Audits. It seems they were assigned being a Govt organization without any proven experience, in the existing staff, of design, installation, testing and commissioning of a Digital Addressable Headend and associated IT architecture. BECIL used to counsel on improvements when engaged for audits . Now they, reportedly, just fill up a GO or No-GO form since they stand empowered. As a result many Broadcasters doubt/question their certification. Alternatively TRAI may consider establishing Audit in their organization.

### **Conclusion**

11. TELCO and Cable TV are two different technologies and services, under two different ministries, and managed by differently educated and experienced persons.
12. Rules which cannot be implemented should never be enacted.
13. Subscriber in cable TV will be served by approximately 240000 technicians employed by about 60000 cable operators. Subscriber has to appraised by this force. Unless they are upskilled, DAS enforcement and associated regulation will remain buried in volumes of files.
14. QoS may be drafted by TRAI, but the end user i.e. Subscribers have to understand DAS, deemed to be legislated for their benefit, their obligations in its implementation, including but NOT limited to QoS, demand all that DAS is intended to deliver, measure QoS and feed back as QoE.
15. Without comments through QoE from subscribers QoS on paper has no meaning.