

COMMENTS ON PRE-CONSULTATION PAPER ON EASE OF DOING BUSINESS IN THE BROADCASTING SECTOR

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Introduction

1. For doing any justice to the intended consultation, it is necessary to re-capitulate the statutory environment in the broadcasting premises :-
 - (a) There is no Broadcasting Act legislated in India as yet. No one is questioning this activity but in absence of a valid legislation can it termed legal?
 - (b) “Broadcasting” means assembling and programming any form of communication content like signs, signals, writing, pictures, images and sounds, and either placing it in electronic form on electro-magnetic waves on specified frequencies and transmitting it through a medium (space or cables) to make it continuously available on the carrier waves so as to be accessible to single or multiple users through receiving devices either directly or indirectly; and all its grammatical variations and cognate expressions;
 - (c) “ Program” in relation to broadcasting service, means:
 - (i) Any matter the purpose of which is related to entertain, educate or inform public or
 - (ii) Any advertising or sponsorship matter, whether or not of a commercial kind.
 - (d) There is a general connotational misunderstanding prevailing with regulators in particular and others in general that **channel** is synonymous with program. Technically, “Channel” means a set of frequencies used for transmission of a programme. In the context of Cable TV Channel refers to a 7 or 8 MHz wide lane in the 47-862 MHz RF band which comprises 106 channels. In DAS environment , 10 or more programs can be compressed into each channel. Hence channel and program are different. This assumes need for clarification in view of TRAI tariff order 2017 wherein Channel capacity charges have been created as an item for billing. Channel capacity is a maximum of 106 channels in CATV but depending upon compression ratio programs capacity can be 1060 to 2500 in SD and less in HD.
 - (e) Maximum TV broadcasting reach in is wireline residential segment (over 150 million)
 - (f) Cable TV is backed up by a statute, Cable TV Networks Regulation Act 1995 as amended. HITS and DTH are in accordance with Govt Policy Guide Lines as different from an Act legislated in the Parliament.
 - (g) Cable TV Networking is funded by total private investment from inception. Bureaucracy is largely interested in taxing the revenue being generated.
 - (h) MIB is a policy maker, licensor and content regulator (NOT network regulator). Content is provided by Broadcasters hence a general impression prevails that the Ministry is concerned more about Broadcasters. Further in wireless broadcasting, the Pub caster hardly knew their viewers/listeners while the service was free. In CATV, the wireline broadcasting network, subscriber shells out revenue which gets appropriated to Headend Service Provider (a better term than MSO), Broadcaster and Taxation Authorities besides meeting CAPEX and OPEX.
 - (i) TRAI regulates(not enforces) tariffs, interconnections and QoS(not QoE) by drafting regulations. Disputes settlement falls in the TDSAT domain.

- (j) Cable TV, a point to multi-point (Headend to several thousand subscribers), multi RF channels(106), multi program(over 500), digitally addressable transmission (47-862 MHz) over wireline medium, while meeting technical definition of broadcast is NOT accorded that status by the MIB or TRAI. Broadcast is a Union Listed subject. Since this is NOT treated as Broadcast, it is left to State Govts to administer who, akin to cinematograph, levy Entertainment Tax. It will be very interesting to note that the same content watched in residential segment over TELCO Broadband does not attract Entertainment Tax because Telecom is a Central Govt Subject and hence outside the jurisdiction of State Govts.
- (k) Paradoxically Broadcast Engineering, wireless or wireline, is NOT taught in India at degree, diploma or certificate level. Even Prasar Bharati engineers do not hold an academic Broadcast Engineering Qualification. But this flaw impacts Cable TV segment adversely. From Headend to Cable Operators Technicians, there is total lack of recognized qualifications.
- (l) TRAI being a telecom regulator primarily, by charter, appears to be regulating Cable TV services the telecom way. A comparative table below will highlight the perils in such perception:

S.No	Description	CATV	TELCOS
1	Aggregation	Called Headend	Called Central Office or Exchange
2	Building Type	Mostly Rented and congested	Constructed for purpose with proper design
3	Technical Flooring	Few hap-hazard false floors	All well designed and wired false floor with anti-static charge grounding
4	Air Conditioning	Mostly split/window types with rough estimation	HVAC Professionally installed
5	Mains Power	Commercial Connections	Generally with dedicated sub-station
6	Standby Power	Mainly for Headend	100% for complex
7	Manpower at Aggregation Centre	Working Experience through Vendor Installation exposures	Certified Trained Manpower
8	Distribution TRUNK	Fibre Network just thrown around without RoW and sanctions	Engineered and approved with RoW
9	Fibre Routing	Indifferent	Engineered under-ground or pole mounted with RoW
10	Fibre Termination	Into one way nodes (O2E)	Bi-Directional DLC with designed MDF outputs
11	Copper Drops	Somehow connected without skilled outside and in-house installation as per norms	Designed with proper Easement Rights and by trained installers
12	Network Maintenance Skills	Poor SOMEHOW CONNECT style	Professional and mostly out-sourced
13	Recognized skills	Deemed semi-skilled without any accredited training	Formally and Professionally Trained mostly ITI certified at least
14	Billing	Unprofessional/unorganized	Very Robust itemized usage based billing
15	Documentation Style (0-5 Scale)	National MSOs Score <2 Others zero	As per Established Norms with formal education Score 4

16	Organized Training Facilities	Non-Existent with No-Demand	Sufficiently trained for installation and Maintainability norms
17	Existence of professional Infra-structure	Non-existent	At least 60% compliant with international norms
18	Awareness on Statutory Compliance	80% with National MSOs 20% with Municipal Limit MSOs Less than 10% with other MSOs Less than 2% with Cable Operators	100% with recognized TELCOs
19	Awareness on QoS Compliance And EoL conformity	In CATV Headend Managers can only vouch for program stream quality up to the point of egress from Headend. Least Concern over Fibre long Runs. Cable strands are without RoW, on SOMEHOW CONNECT practices. Staff is neither trained on Network Engineering nor on In-house Installations.	TELCOs take responsibility up to the DEMARC point i.e. point of entry into subscriber premises covering underground and aerial cabling and distribution cabinets. Networks with RoW laid to prescribed standards by qualified engineers and contractors.
20	Interactivity	Largely uni-directional downstream communications.	Bi-Directional Networks with addressability
21	Billing	Hap-hazard without issuance of itemized bills and receipts there for.	Robust usage based billing system proven over 100 years.
22	Regulatory	MIB is Policy maker, content regulator and Licensor. Have not demonstrated experience on Network Engineering, Headend Architecture or Enforcement Mechanism	TRAI is aware and works with TELCO mindset.
23	Focus on Concerns	Broadcasters first always and every time.Cable Operators and Subscribers by exception	100% compliance demonstrated
24	Qualification Accreditation	Broadcast engineering in general and wireline broadcasting, in particular, are not listed in educational schedules of any educational Institution in India	Telecommunications Engineering is taught at Degree, Diploma and Certificate levels.

(m)TRAI drafted DAS regulations after promulgation of DAS Act in Nov 2011 and its Rules in Apr 2012. While MIB and TRAI both claimed that DAS was for the benefit of Subscribers, with TRAI forming a part of the task force, the stress remained only on FIRST registration of DAS Headend Service Providers SECOND on demising Analog transmissions from such registered Headends and THIRD on Number of Set Top Boxes sent out of Headend Operators ware house to mark the index for DAS Implementation. Phases I, II and III are being claimed as completed. If a check list, as shown below, was to be compiled, based upon DAS Act, Rules and TRAI Regulations No 9,12 and 13 of 2012, it would reveal a different picture.

S.No	Activity	Done/Not Done	Remarks
1	Registration with MIB for establishing DAS Headend. Service & Entertainment Tax Registration with State Govt	Mostly Done	
2	Installing CAS & SMS capable of Handling one million concurrent Subscribers	Cannot be vouched for	
3	Secured and Access Controlled enclosures For locating CAS gateway and SMS Application Server in Headend with structured cabling	Not every HSP aware of	
4	Signing ICO and obtaining IRDs from PAY TV broadcasters for DAS services and de-activation of IRDs obtained under ICO for analog re-transmission. Ready reckoner list : Broadcaster, IRD Make and Type, IRD Ser No, Programs to be downloaded, Validity date for operation as per agreement	Likely Complied	
5	System Integration of all hardware in Digital Headend and checking performance of CAS, SMS, STB Control System and issue of itemized billing by SMS.	Not likely since HSP would Not appoint System Integrator	
6	Preparation of Rate Card to be provided to Subscriber (i) for selecting programs in SAF and for loading on web site.	Reportedly Not done	
7	Establishing web site	Cannot be vouched for	
8	Establishing 16x365 Call Centre with toll free Nos and IVR facility – Level 1 – Language Option, Level 2- Broad Category of Complaint – Level 3 – Subscriber Page details – Level 4- Speak to A Complaint Customer Care Executive. Customer care to allocate Complaint Docket No, Record Date and Type of Complaint, Generate Trouble Ticket and punch in Customer Complaint Register(Customer ID, Name and Address of Customer, Date and Time of Complaint, Name of	Some in Phase I had outsourced but later all closed down	

	<p>Customer Care Executive recording Complaint) as well as in Customer Page.</p> <p>Complaint Attendance/Closure report punching to include complaint attendance and rectification time and registry in Central Register as well as customer Page</p>		
9	<p>Has customer awareness on DAS been checked as under:-</p> <p>(a) Does Subscriber/Customer know about DAS?</p> <p>(b) Requirement of Digital addressable STB to view DAS services ?</p> <p>(c) Procurement options for STB i.e. Outright Purchase, Hire Purchase or leasing and implications on Commercial inter-operability.</p> <p>(d) Payment plan option for pre-paid or post paid</p> <p>(e) Provision of Rate Card for choice of programs, both ‘a-la-carte’ and bouquets, for selecting programs to be charged in itemized bills and be prepared to be disconnected on default in payment of bills?</p> <p>(f) Establishment of 18x365 days customer care with toll free Nos.</p> <p>(g) Provision of Complaint Redressal mechanism with details of Nodal Officer facility?</p> <p>(h) QoS for DAS Service?</p>	Reportedly NOT done	
10	Preparation of manual of Practice to be supplied to each subscriber as well as loading on web site	Reportedly Not done	
11	<p>Designing Subscriber Customer Application Form (Bi-lingual) with Machine Numbers and providing Option for STB on direct sale, hire purchase or leasing with relevant after sales service.</p> <p>Form to mention Terms and Conditions of service on reverse.</p>	Few forms sloppily drafted but NOT enforced	
12	<p>(a)Ensuring that Technicians carry ID proofs.</p> <p>(b)Training technicians to understand the importance of SAF, what is to be filled up in each entry to be able to assist filling up of Forms by subscribers and reporting service feasibility while submitting forms:-</p> <p>CNR >47dB for 64 QAM/54dB for 256 QAM, SNR 4 dB above carrier level, MER > 30dB for 64 QAM/34dB for 256 QAM</p> <p><i>Since DAS was being launched on existing subscribers while seeding STBs, likely to be released with authorization to view all channels, Technician should have taken EoL readings and recorded them under feasibility check. STB Ser No and Viewing Card Ser No too were to be got noted. Once form was submitted, UID can be generated. Second visit by Technician would have been required to intimate UID details(As per Ser 9</i></p>	<p>Hardly any</p> <p>Not done</p>	

	<i>below), show access to programs of choice and appraise complaints redressal mechanism through customer care.</i>		
13	Training Technicians to operate and punch S/CAF on Line, from a remote terminal, into SMS Portal.	Not Done	
14	Training Accounts Department to create unique Customer ID and feeding in SMS	Reportedly NOT done	
15	Training Accounts Department in releasing order to warehouse to release STB, and Viewing Card (VC) duly paired in carded systems, for viewing choice of customer in the application form. <i>In practice in DAS application, STB may have been installed and then SAF details received. Accounts Department would still have been required to allocate UID and note STB & VC serial Nos for billing purposes. SMS would have had to punch data from SAF into system with first time choice of programs and check on the Customer page.</i>	Not Done	
16	Warehouse checking STB pairing and program choice before Packing STB, and Unique ID, to customer address for installation	NOT done	
17	Carriage of STB packed by warehouse to viewer location by Technician for installation and activation for billing to start. <i>In case of pan-India operations, it was likely that paired STBs and VCs were bulk dispatched to distant locations with provision in SMS to be able to pair the UID from remote portals and Authorize viewing of programs remotely. Activation would have reckoned from the time when UID, STB Ser No, VC No and Program authorization were punched in SMS to commence billing.</i>	NOT done	
18	Completion of Installation Report by technician with signatures of viewer/customer, explaining EPG and functions in STB, Intimating Customer Care Telephone numbers and contact details of Nodal Officer.	NOT done	
19	Briefing of Customer Care Dept about installation and service activation. Checking Details of Subscriber on screen page of customer	NOT done	
20	Revisit customer after 10 days for feedback on performance of STB, explaining procedure for change of choice with Customer Care, registering service requests with Customer Care 18x365 service and how to read itemized bill when received.	NOT done	
21	Check if SMS generates itemized bill showing :- (a) Headend Service Provider Details including Entertainment and Service Tax Registration. (b) Subscriber ID, Name, Address, Location of STB, Ser No	Not Done	

	<p>of STB and VC, Date of Last change in Viewing Choice, Current Month Charges, Previous Dues if any, Basic Tier Charges, FTA over and above Basic Tier, PAY TV ‘a-la-carte’ charges, PAY TV bouquet charges, Sub Total for Content Charges, Additional if any, Entertainment Tax, Service Tax, Total Payable and Date by which Payable.</p> <p>(c) Cable Operator ID , Name and Contact Details.</p> <p>(d) Any other Information</p>		
22	<p>Check MIS generation by SMS :-</p> <p>(a) Customer Page on Particulars (Name, address, contact Nos, UID, STB and VC Ser Nos, STB procurement choice outright purchase, hire-purchase or leasing and instalments/rentals per month, book value , initial program choice and changes record, payment mode, date of installation, complaints log etc).</p> <p>(b) Entity chain i.e. details of Distributor and LCO for revenue appropriations.</p> <p>(c) Broadcaster’s Report – No of Subscribers program wise on first and last day of the month and its average for the month.</p> <p>(d) STB Status report (Total No of STBs procured, Nos installed, Nos in remote locations to be installed, Nos returned field unserviceables and their locations, Balance Nos in Stock)</p> <p>(e) Tally of Total No of Installed and Active STBs against total No of subscribers.</p> <p>(f) No of bills generated tallying with total No of Active Subscribers.</p> <p>(f) Ageing Report</p> <p>(g) Subscriber’s List –</p> <p>1 - No of Active Subscribers, No of Subscribers for Basic Tier, No of Subscribers for ‘a-la-carte’ services, No of Subscribers for Bouquet Services</p> <p>2- Program wise Choice List of Subscribers and derived summary of program wise No of Subscribers</p> <p>(h) Total Billing for the month showing details of amounts for basic tier, PAY TV content, STB dues, Other charges,</p>	<p>May NOT be established in strict audits</p>	

	<p>Entertainment Tax, Service Tax.</p> <p>(i) Reconciliation of Amounts Received against billing and explanatory notes on differences if any.</p> <p>(j) Month wise billed amounts due to Broadcasters, CAS and SMS Vendor's Royalties , Distributors, LCOs , Entertainment Tax and Service Tax Authorities and Balance Amount in HSP(Headend Service Provider's Account).</p> <p>(k) Invoiced amounts account details on (j) above from Broadcasters, CAS and SMS Vendors and differences from (j) above</p> <p>(l) Service and Entertainment Tax accruals and remittance details.</p>		
22	<p>Monthly Internal MIS for HSPs including HITS</p> <p>(a) Total No of programs transported.</p> <p>(b) No of Free to Viewer Programs</p> <p>(c) No of PAY content Programs</p> <p>No of Nodes/Downlink Consoles</p> <p>No of Basic Tier Subscribers</p> <p>No of Pay Tier Subscribers</p> <p>No of Distributors</p> <p>No of LCOs</p> <p>Basic Tier of = No of Subs x Rs 100.00</p> <p>Pay TV revenue</p> <p>Average PAY TV revenue = $\frac{\text{Total Pay TV Revenue}}{\text{Total No of Pay TV Subs}}$</p> <p>No of Active STBs</p> <p>Carriage Fee Payment Details if Any</p> <p>Content Payment Dues Broadcaster's Invoice wise</p> <p>Content Payment accruals As per SMS</p> <p>Entertainment Tax Accruals</p>	<p>Most HSPs think that SMS is bill printing software.</p> <p>These functions have NOT been solicited in MIS to appear on finger tips at any moment</p>	

Entertainment Tax Remittance		
Service Tax Accruals		
Service Tax Remittance		
No of New STB Activations		
No of STB de-Activations		
Increase/Decrease in Active STBs		

- (n) From some door to door studies conducted on checking DAS implementation status the following emerged :-
- (i) Subscriber does NOT know what DAS is. For them one STB was installed by the Technician against payment to receive more programs, in comparatively better picture clarity. No rate card, MoP(Manual of Practice) shown, No Subscriber Application Form Filled, No choices sought and nothing informed on customer care. Subscriber neither knows Broadcaster, nor MSO nor Cable Operator. The only know the Technician i.e. CABLE WALA.
 - (ii) Cable TV technician, has NOT received any awareness generation training on Subscriber education, QoS, EoL or EPG functions. The task allocated was to install STB against payment by a particular date. Most technicians have not seen a professional DAS Headend. They only know the Copper laid by them up to PoP in their locality.
 - (iii) Cable Operator did NOT want to reveal their true connectivity. Hence they did NOT complete Subscriber Application Forms and preferred to continue with fixed monthly subscription based TV content delivery as before. Neither bills are being issued to subscribers nor any receipts issued.
 - (iv) Headend Service Providers installed DAS headend with CAS and SMS to seek Registration from MIB but did not prepare rate card, MoP, Itemized billing format or receipt formats. Initially some Customer Care outfits were outsourced, for name sake, and closed down. No ICOs were signed with Cable Operators. Cable Operator IDs were not generated. In absence of this state of affairs, and under pressure from the TRAI, a via-media was evolved to bill the Cable Operator based on a fixed monthly rate on per STB basis and compliance reported and accepted by the task force.
 - (o) Since 2003, till date, neither TRAI nor MIB, regulating content and its delivery, have been able to obtain from PAY content Broadcasters the basis for pricing of content i.e. Content price as per Content Manufacturer's invoice, mark up on that price(say 100 %) for contribution from such trading, OPEX for uplinking, taxation if any, and fair retailing of such aggregated costs over expected viewership, say 25% of Digital Subscriber Base of 150 million, to arrive at MRP

for Subscriber. Provided that if viewership was more than 25% that would yield extra profits. For fairness of price determination, this is considered essential.

- (p) It must be realized that Cable TV services entail four entities FIRST Broadcaster, SECOND Headend Service Provider (Estimated about 6000 with approx 20 National/State Level) required to be registered with the MIB to install and Operate a DAS Headend, THIRD Cable Operators (estimated over 60000) registered with Deptt of Post to receive Digital Content Stream from the Headend Service Provider and enable its delivery over HFC network erected and maintained by them to the Subscriber through an Addressable STB and FOURTH the Subscriber for whose benefit DAS has been legislated. Broadcasters and Some Headend Service Providers can be deemed organized and Corporatized in Management. Cable Operators have shown acute business acumen in establishing this business but are technically and administratively NOT literate. Worse is that they service the Subscriber through 240000 Technicians who have neither received formal training in strand engineering/In-house installation nor in Customer appraisals. No attention has been paid to plug the voids in each of the entities to professionalize the service. It appears that drafting Regulations and promulgating them assumed automatic dissemination and compliance at all levels. One wonders how much are MIB and TRAI aware of this serious void. Cable operators resisted CAS Implementation in 2007 leading to entry of DTH as competitors. From 2012 onwards these operators resisted DAS implementation, network upgradation resulting in TELCOs likely entry in residential segment to deliver 3Play through FTTH which will dent Cable TV Networking business with engineered bi-directional networks.

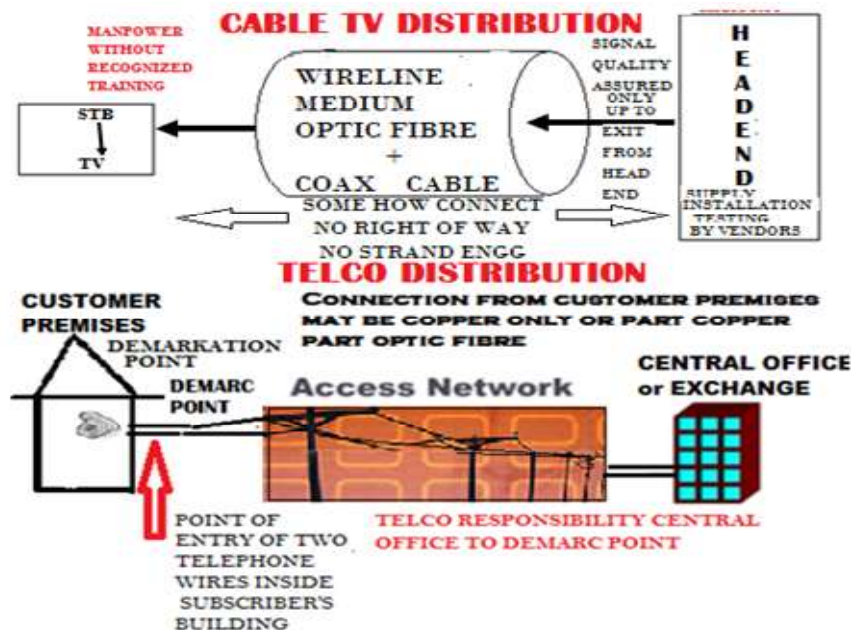
2. That from an observer's point of view is the prevailing scenario in Cable TV business.

RoW For Cable Networks

3. Cable TV Networking, in India, was a technology entrant by stealth. Practice preceded the legislation. In absence of legislation, total absence of training facilities and treatment of such activities as NOT LEGAL, the SOMEHOW CONNECT practices evolved encroaching a 15 to 20 ft layer in space to hang strands. There was no concern for earthing and bonding. The networks looked like an umbrella without the canopy. By the time Cable Act was promulgated connectivity had risen to about 20 million in 1995. The excuse for poor aerial strands was that there was no provision for RoW. In some cases Electric Supply Companies were charging for pole rights where their poles were used to hang the cables. This got remedied in DAS Act amendment in 2011 but by then mal practices had taken roots. Cable TV business was established by Cable Operators stringing cables (Optical Fibre or Coaxial) over public utility poles, Building to Building strands or any other support to hook a cable. Optical fibre too was thrown along streets, through sewer manholes, nullahs and so on. Cable Operators have got used to free passage for their strands. There is no visible enforcement mechanism to remedy the malady. These Cable operators do NOT seem to be looking at bi-directionality to deliver Broadband. And now the attitude is 'YEH TOH AISE HI CHALEGA'. The challenge, therefore is in changing the mind set of Cable Operators and their technicians.

Up Skilling Man Power in CATV Segment

4. As on date, Cable TV networks SOMEHOW connect over 150 million subscribers on HFC networks over uni-directional wireline. The service comprises of three stages of Network Management (a) Within Headend up to point of egress from the headend (b) long haul optical fibre from Headend to PoP in Cable Operators network proximity in fibre termination to Subscriber home on coaxial Cable and (c) installation inside Subscriber home. There are no formal training/upskilling facilities established so far on these skills.
5. Here again, a birds eye look for comparison with TELCOs is as under :-



6. National level or some large HSPs have employed professionally trained staff for Operations, Finance and Legal cases handling but hardly have personnel holding accredited qualifications in Headend design, conformity to Indian Standards or formally designed and Implemented Network Engineering. Hardly any of them would have professional bodies membership of BES, IETE, SCTE or Cable Labs. Worst is their demonstrated lack of understanding of anti-piracy management.
7. Networks engineers concerning runs from HSP's POP in Cable Operators vicinity back to Headend are hardly to be found in the SOMEHOW CONNECT syndrome.
8. Any purposeful scrutiny would reveal that hardly any technicians (out of approx 240000) have received formal training in INSTALLATIONS. Even ESSI has not focussed on this aspect.
9. Worst is that BECIL has been designated to audit and certify DAS compliance. They hardly have any one on their staff reputed to have designed installed and commissioned a digital addressable Headend/Earth Station from dot on paper to picture on screen. Many auditors visiting Headends from Broadcasters side to check Headend suitability for issue of IRDs are from IT background and do NOT impress with experience in checking a Headend in general and SMS in particular. Had this aspect been addressed, DAS implementation would have been in a different shape. It

is time that TRAI establishes or organizes training in Headend Audits. In the existing environment audits cannot be confined filling up of an audit form. Auditors should also be able to counsel the remedies, assist the HSP in rectifying the voids and then certifying the compliance.

Conclusion

10. An effort has been made to highlight aspects concerning Cable TV Networking aspects only for pre-consultation.
11. Ease of doing business is directly proportional to enabling professional management and establishing pride in the business.
12. The contents of this write up are blunt since tact has been sacrificed to drive home the voids. Rectification required is NOT easy but is feasible if administrative will persists.