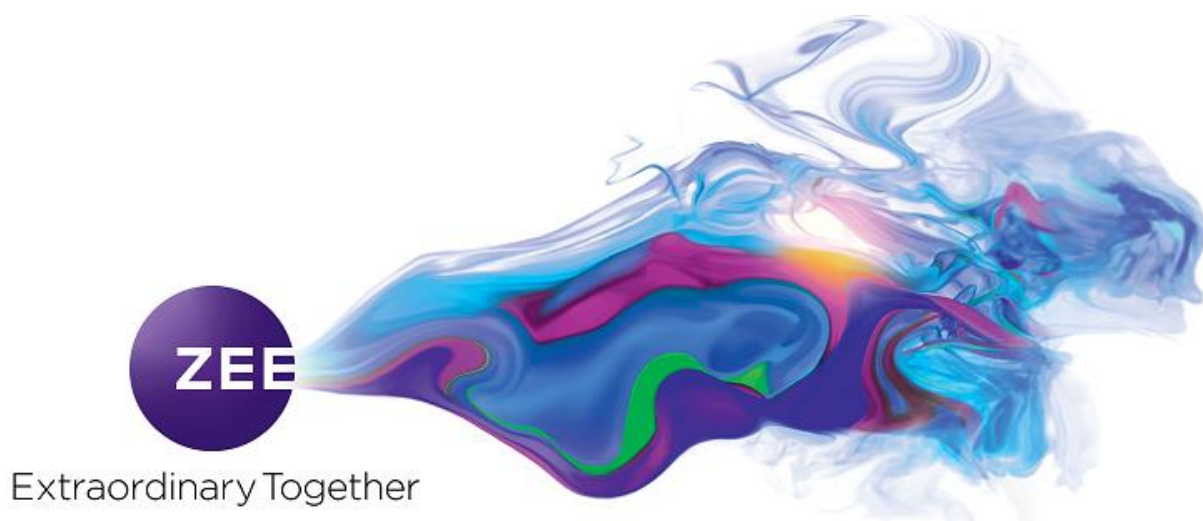


**RESPONSE OF ZEE ENTERTAINMENT ENTERPRISES LIMITED**

**TO**

**CONSULTATION PAPER ON EMPANELMENT OF AUDITORS  
FOR DIGITAL ADDRESSABLE SYSTEMS**

**ISSUED BY TRAI ON 22<sup>ND</sup> DECEMBER 2017**



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## **Introduction:**

At the outset, we are thankful to the Telecom Regulatory Authority of India (TRAI for having taken the initiative to address the impending issues relating to Audit of Distributor Operating Platforms (DPO's), which inter alia include issues relating to empanelment of Auditors for Digital Addressable Systems (DAS) which need to be addressed on an urgent basis, especially as the implementation of Digital regime all across the country is about to be completed.

In order to ensure the realization of legitimate subscription dues of the broadcasters in the digital regime wherein there is and going to be a paradigm shift in the tariff regime and also keeping in view the mode and manner of availing the channels by the DPOs/subscribers in such regime, it is imperative to have correct periodic subscriber reports from the SMS systems of the digital distribution platforms.

In digital regime the subscription revenue is a function of two components – the rate of the channel and the number of subscribers availing that channel. While the rates of the channel(s) are as per the tariff stipulations, the number of subscribers is a variable component and is prone to manipulation. A manipulated number directly affects the quantum of subscription revenue of the broadcasters. It is a matter of record that most of the DPOs especially in the digital cable sector are not at all furnishing the regular monthly subscribers reports despite there being a clear cut obligation both in the contract as well as in the Regulations. In order to ensure the authenticity and accuracy of the subscribers' reports, a robust technical and commercial audit system is required to be in place which would not only safeguard the commercial interest of the broadcasters but also act as a deterrent against erring distribution platforms.

However, we are at pains to point out that the issues which are the subject matter for consultation are totally contradictory to the basic premise of transparency and non-discrimination so far as the Broadcasters are concerned as the consultation paper allows a DPO to get the **Technical audit** conducted only once in a year and thereafter even if it becomes technically non-compliant and thereby resulting in the compromise of the interest of the broadcasters, there is little a broadcaster can do as the DPO would always take shelter of being in compliance with the stipulated Regulations in this behalf by getting the audit done only once. This is fraught with the danger as a "rogue" DPO can temper with/manipulate the system after the audit and continue to deprive the broadcaster of its legitimate revenue entitlements for the entire year. There can be a reverse situation as well. For example, a rogue DPO having a technically non-

compliant/manipulated system may keep on resisting the audit exercise throughout the year and at the fag-end of the year after setting right/correcting the manipulated system may get the audit done, thereby covering all the irregularities and non-compliances which remained throughout the year prior to the audit exercise. Thus in both the situations, the interest of the broadcaster would get compromised. Hence, it is necessary to permit the audit of the system – both technical and subscriber audit at least twice during a year.

The proposed Interconnection Regulations 2017 also fall short of giving such protection to the broadcasters especially Clause 10 and 15 thereof as ought to have been given. The “self-certification provision” in the Regulation is completely contrary to the very concept of audit itself. The provision regarding the requirement of having subscription audit only once during the year will not be an adequate measure to ensure accuracy in reporting, transparency and safeguarding the commercial interest of the broadcasters.

**In order to have a meaningful audit exercise we recommend creation of a comprehensive Audit Manual containing all the details and procedures which are required to be observed/ followed by the auditors while conducting the audits of different categories of DPOs**

Having stated the above, we will now proceed to give our response to various questions outlines in the said Consultation Paper.

**Q1. Do you agree with the scope of technical audit and Subscription audit proposed in the consultation paper? Give your Suggestions along with justification?**

**Response:**

The purpose of Audit is to ascertain whether a DPO has established and is maintaining necessary systems, processes and records in line with the regulatory stipulations viz. The Cable Television Networks Regulation Act, 1995 and the Rules made thereunder, Interconnection Regulations, Quality of Service Regulations and Tariff Orders issued by TRAI.

This is absolutely necessary since, the whole premise of regulatory framework in digital regime is dependent/ based on the premise that the DPOs shall enforce and implement all stipulations under TRAI’s Regulations/ notifications. The scope of audit should specifically include audit of systems and records of the DPOs to ascertain as to whether they are in compliance with contractual obligations towards

broadcasters in terms of the Agreement including compliances required in the areas of

- (i) Distribution network (to ascertain the number of CAS and SMS used by the DPO's and areas covered,
- (ii) Number of Head-ends used by the DPO to service different Territories
- (iii) Multiple CAS of different vendors used by the DPO
- (iv) Different and multiple SMS used by the DPO.
- (v) To check the technical parameters and compliances of STBs as required under the DAS regime
- (vi) Anti-piracy measures for true and correct count of Subscriber numbers

Our views on the scope of the **Technical Audit** and **Subscription Audit** prescribed in the Consultation paper are as follows:

- (i) We would like to reiterate that Regulation 10 and 15 of the Interconnection Regulations, 2017 fall short of the protection which needs to be given to the Broadcaster(s). The Regulation 10 states that any Distributor seeking signals of a Broadcaster needs to apply vide Application form as per Schedule II (self-declaration) which is required to be submitted by the distributors requesting for signals). Schedule II allows for a self-declaration by the distributors that their addressable systems are as per Schedule III and that the configuration and the versions have not changed after the issuance of the report by the auditor. This self-declaration can be at times false, misleading and detrimental to the Broadcaster's commercial interest. Also, in the event the Broadcaster is of the view that the addressable systems of the DPO are not in terms of the Regulations then the Broadcaster before providing signals can get the systems of the DPO audited by M/s. Broadcast Engineering Consultants India Limited (BECIL) or any other empaneled authority/body prescribed by TRAI.
- (ii) The above mentioned provisions in our considered view are prone to misuse as the Interconnection Regulation also states that in case the DPO has got its systems audited then the said DPO is not required to get re-audit of his systems done for one year even if the Broadcaster expresses his apprehensions on the validity of

the DPO's systems. This indirectly gives protection to the DPO who without any audit deterrent can change the configuration of its systems without requiring to get the same audited for one year since his systems have already been audited.

- (iii) In our view the audit option should be allowed to be exercised by the Broadcaster even in case the DPO has got his systems audited by BECIL during the year. This stipulation of not allowing re-audit within a year is rather vague and gives a blanket protection to the DPO. It has been observed in certain cases that once the audit has been done the DPO very conveniently connects other DPO's to their CAS and SMS without informing the Broadcaster, and as a consequence thereof the true and correct subscriber numbers are not reflected in their Monthly SMS reports. Moreover, allowing such DPO's to utilize other DPO's CAS and SMS also gives an opportunity to the DPO owning its own CAS and SMS to have a free run for the period of at least one year as permitted under the Regulation. In our view this aspect of the regulations requires to be amended forthwith for greater transparency as well to ensure protection of commercial interest of various stakeholders.
  
- (iv) In addition to the above, the Interconnection Regulations 2017 do not address the issues relating to providing of data relating to Joint Venture partners of DPO or data specifically relating to third party DPO(s) who may be using the server of a particular DPO. Further, it has been a regular feature on the part of a DPO to not furnish details of the various packs and the channels offered on ala carte by providing relevant logs thereof to the Broadcaster. Also, the queries run on the systems for extraction of logs are not done in the presence of the representatives of the Broadcasters. The reasons often cited for not providing the same is that the extant Schedule II read with Schedule III of the Interconnection Regulations do not explicitly provide for the same. The TRAI's is required to come out with a clarification/direction in this regard so that the requisite data/information is made available to the Broadcasters. Also, in most of the cases, the DPOs fail to provide historical data for two years as provided in the Regulation citing reasons that their system is not capable of providing the same even when it has been specifically mandated by the Regulations itself. In our view, stringent penal punitive measures are required for ensuring adherence of Regulations in its letter and spirit.

- (v) Moreover, the criteria for a Technical audit to be conducted only by BECIL seems to be rather limiting/restrictive. In today's world of fast changing Technology, there are many more experts who are competent and eligible to conduct Technical Audit. For instance, TRAI should allow BIG FOUR (KPMG, E&Y, PwC & Deloitte) or firms of repute to conduct Technical audit as also the Subscriber audit. This will also ensure that BECIL who at present is heavily burdened being the lone agency to conduct technical audit also gets some reprieve. This would also eliminate the possibility of any bias/favour to any DPO or Broadcaster as are sometimes alleged.
- (vi) In addition to the above, a mechanism needs to be established which would enable a Broadcaster to verify and cross check the field samples collected from the operational areas of the DPO by getting access to the CAS/SMS servers of the DPO in presence of the Auditors, be it BECIL or any other empaneled Auditor. Transparent and effective audit is the need of the hour for true and correct disclosure of the pay subscribers' base. Therefore, it is essential that all the concerns of the Broadcasters be taken into consideration as any loop hole/shortcoming is going to directly affect the Revenue of the Broadcaster as well the collection of taxes for the Government too.
- (vii) In order to have a robust audit system in place it is suggested that TRAI should call for the list of auditors having expertise and experience qua the distribution business in the broadcasting sector from the Institute of Chartered Accountants of India/ Institute of Cost and works Accountants. A list of such empaneled Auditors should be notified by TRAI every year. Also, there should not be any restriction on the number of audits required to be done in a year. It should be left to the Broadcaster's prerogative to get the audit conducted at his own cost by giving 15 days' notice with a stipulation that not more than two audits can be done in a financial year.

**Q2. Is there a need to have separate panel of auditors for conducting technical audit and subscription audit?**

**Response:**

- (i) In our view there is no need to have a separate panel of auditors for conducting technical audit and subscription audit as the Auditors undertaking the technical and subscription audit are expected to be having the requisite expertise in both the areas viz. knowledge about working of the CAS and SMS of the DPOs coupled with financial acumen etc. Moreover, in the audit exercise, lot of cross verification and reconciliation of data is required between CAS and SMS and also the technical validation. Accordingly, it would be prudent to have a single auditor conducting both technical and commercial audit.
- (ii) For a comprehensive and meaningful audit, the audit firm must have the professionals having skillsets and experience of
  - (a) Ground knowledge of DPO operations
  - (b) SMS and CAS process, systems and lifecycle knowledge
  - (c) Technical knowledge of DPO systems and equipment's
  - (d) Data Collection and Data Analysis
  - (e) Audit of DPO's for subscriber numbers
  - (f) Audit of DPO's for technical parameters

Professional Audit firms having the above skill sets can easily be identified and empaneled from the Institute of Chartered Accountants /Institute of Cost and works Accountants.

**Q3: Should there be a different list of empanelment of auditors based on the model/make of CAS and SMS installed by distributor? Will it be feasible to operate such panel of auditors?**

**Response:**

In our considered view there should not be a different list of empanelment of auditors based on model/make of CAS and SMS installed by the DPO. It is expected from an empaneled auditor to have expert domain knowledge of the technology relating to various models of CAS and SMS. To have a different panel of different auditors based on models would be impractical in the fast changing dynamic environment.

**Q4: What should be various parameters forming eligibility criteria for seeking proposals from independent auditors (independent from service providers) for empanelment? How would it ensure that such auditors have knowledge of different CAS and SMS systems installed in Indian TV sector?**

**Response:**

Various parameters forming eligibility criteria for empaneling of Audit firms should be based on Audit Firm's expertise and knowledge in the areas of Technology, Statutory laws, Regulations/ Guidelines issued by TRAI, MIB from time to time. It should be mandatory for the Audit firm to have conducted the audit of any DTH operator and/or, Multi System Operator in the capacity of either a statutory auditor or Internal auditor at least for a period of (2) two years as an eligibility criteria for their appointment. This is basically to ensure that the audit firm has adequate exposure in the related areas viz. CAS, SMS, Regulations prescribed by TRAI, Ministry of Information and Broadcasting including uplinking/downlinking, pricing, ala carte offerings/packs/Bouquets, Quality of Service Regulations, knowledge to operate certain software packages for extraction of data from the CAS and SMS of the DPO's along with technical-know-how of the IRD's/STB's, encoders, decoders multiplexers and various CAS modules of different vendors catering to the Industry.

In addition to the above the Audit entity should be a large firm or LLP having a minimum strength of 50 chartered Accountants/Accreditations of financial Institutes on their rolls having a minimum experience of at least 10 years.

**Q5: Should the minimum period of experience in conducting the audit be made a deciding parameter in terms of years or minimum number of audits for empanelment of auditor?**

**Response:**

May please refer to our above mentioned response.

**Q6: Any suggestions on type of documents in support of eligibility and experience?**

**Response:**

The following documents in support of eligibility and experience should be submitted by the Audit Firm.

- (i) Profile of the Audit firm giving details of work undertaken during the last 5 years including resume of each of the partners and team members.



- (ii) Proof of adequate experience of auditors having requisite experience and Educational qualification with membership of professional bodies like the Institute of Chartered Accountants of India/ Accreditations of professional bodies stated in our response to Ques no: 4 herein above.
- (iii) Details of employees on the rolls of the Audit firm along with their qualification and experience and the length of their service in the firm.
- (iv) Declaration of its Independence and Arms -length relationship with DPOs i.e. a “non-conflict” declaration

**Q7: What should be the period of empanelment of auditors?**

**Response:**

In our view the minimum period of empanelment should be (3) three years initially with proper checks and balances to monitor the performance of the Auditors on a continuous basis.

**Q8: What methodology to decide fee of the auditor would best suit the broadcasting sector? and Why?**

**Response:** The DPO may be categorized on the following terms:

- (i) Pan India Distributor: These distributors may have more than 1 lakh subscriber base
- (ii) Medium size Distributor: These distributors may have subscriber base between 10,000 to 1 lakh
- (iii) Small size Distributor: These distributors may have subscriber base less than 10,000.

Further categorization can be based on the technology used by DPOs i.e. DTH, HITS, Digital Cable, IPTV etc.

The fee structure may be prescribed by TRAI on the basis of standardized rates for DPO of a particular size as per the above criteria. The categorization would also help to create a competitive environment and empanelment of more number of auditors. Further it would also reduce burden on smaller distributors.

The basis of fixing fee should include both fixed component and variable component. Variable component of audit may be based on the size of a DPO as mentioned above including number(s) of CAS/SMS deployed, locations, number of head-ends, service area in different geographical locations etc. In addition, the criteria for actual reimbursement of the expenses pertaining to traveling, boarding, lodging, conveyance etc. may also be prescribed in case of outstation audits. The RBI model for appointing the auditors to conduct the audit of Nationalized banks may be adopted by TRAI with suitable modifications.

**Q9: How the optimum performance of the auditors can be ensured including maximum permissible time to complete audit? Give your suggestions with justification**

**Response:**

The optimum performance of the auditors should be ensured by prescribing maximum permissible time/outer limit to complete the audit. In case of top 20 DPO's based on size and number of subscribers as indicated in our response to Question no: 8 herein above, the audit exercise should be completed within a maximum period of **4 weeks** and in case of medium size DPO's within **2 weeks** and in case of small DPOs within **10 days'** time. Further, there should be deterrent by way of penal punitive action for unnecessarily prolonging the audit beyond the prescribed time-frame. Further, the accountability for delays if any should be clearly identified and in case the audit could not be completed because of non-cooperation on the part of DPO, suitable punitive measures should be provided.

**Q10: What can be the parameters to benchmark performance of the Auditor? What actions can be taken if the performance of an Auditor is below the benchmark?**

**Response:**

A complete check-list and scope of audit is required to be defined in advance. The performance of an auditor should be judged based on the adherence to the said check-list and scope and compliance of expected standardized processes which have been defined in advance as well as adherence to the prescribed time frame except in case of circumstances beyond the reasonable control of the auditor. It would be essential for

the Auditor to give his Report after examining and verifying all the aspects as defined and outlined in the scope of audit which are essential for validation of technical system, CAS, SMS etc. being used by DPOs as well as the certification of the authenticity and accuracy of the subscribers' report being generated from the systems installed by DPO including historical data thereof. **In fact we recommend creation of a comprehensive Audit Manual containing all the details and procedures which are required to be observed/followed by the auditors while conducting the audits of different categories of DPOs.** This would facilitate the auditors in carrying out the audit exercise and would also help the auditee to furnish the required details as are needed by the auditors during the course of audit. The audit exercise would be incomplete without suggesting remedial measures for the non-compliances and discrepancies observed during the audit and the timeframe thereof which would also constitute one of the parameters in benchmarking the auditor's performance. In addition, a feedback form may also be devised outlining various parameters and the responses to be filled by the Broadcaster as well as the DPO to enable TRAI to analyze the performance of the Auditor as well as to detect/identify any case of non-cooperation of the DPO during the audit exercise based on response to two different sets of questions forming part of the feedback form.

**Q11: Should there be different time period for completion of audit work for different category of the distributors? If yes what should be the time limits for different category of distributors? If no what should be that time period which is same for all categories of distributors?**

**Response:**

Please refer to our response to Question No. 9 above.

**Q12: Are the conditions cited above sufficient for de-empanelling an auditor? If not what should be the conditions for de-empanelling the auditor?**

**Response:**

All the circumstances cited in the Consultation paper by TRAI for de-empanelment of auditor for non-adherence of terms and conditions may be incorporated in the appointment contract of the

Auditors so as to protect the interest of the Broadcasters as well as the DPOs. The following clauses suggested by TRAI may be considered for the de-empowerment of auditors.

- (i) Self -certification and declarations are found false
- (ii) Disclosure or misuse of confidential information of distributor
- (iii) Not meeting eligibility conditions including independency clause at a later stage.
- (iv) Delay in conducting audit
- (v) Subletting the work to some other auditor
- (vi) Reliability of audit

In addition to the above, the Auditor's action relating to misstatement of figures, facts, data in his Audit Report may also be considered as material and professional negligence leading to de-empowerment.

**Q13: Comments on re-empowerment if any?**

**Response:**

There should be committee comprising of members representing the Broadcasters, DPOs and TRAI to look into complaints if any - for de-empowerment. The same committee be empowered and authorized to also look into proposals for re-empowerment of Auditors on the basis of material evidence which may be brought to their attention during the periodical meetings which may be held once in a quarter to decide on re-empowerment requests, on the merits of each case. This would need a well-defined procedure/manual to avoid any allegation of biasness and/or non-adherence to the principles of natural justice.

**Q14: Any suggestion relating to the audit framework.**

**Response:**

Although most of the relevant issues pertaining to audit framework have been discussed herein above, it would be essential to consider the following points in establishing a robust, transparent and credible audit framework in place in order to ensure a meaningful and productive audit. Following are the issues for consideration.

- (i) Transport Stream recording (TS) at different places in the operational areas of DPOs to check CAS names, un-encryption instances etc. should also be done at the time of audit. TS recording should be made mandatory in the Regulations as well.
- (ii) Field VC/STB sample collection for all channels should be allowed during the audit to examine the veracity of data provided by DPO.
- (iii) Inventory purchase details of a DPO to ascertain and reconcile the number of STB's seeded.
- (iv) Data collection from systems like CAS and SMS at the time of Scheduled Audit for off-site analysis.
- (v) A check of technical parameters should be done at the DPO headend before providing right to retransmit new channel
- (vi) Annual checks need to be done for the historical agreement period to validate
  - a. Technical compliance during the Agreement period
  - b. Correctness of subscribers reported from the systems (CAS and SMS)

All the above activities if done in a synchronous manner will result in a meaningful Audit. It is also recommended that Schedule III of the Regulation be revised and amended on the following lines.

### **Schedule III (Proposed)**

(Refer sub-regulation (6) of the regulation 10)

#### **Addressable Systems Requirements (Proposed)**

- A) Conditional Access System (CAS) and Subscriber Management System (SMS):
  - 1. The distributor of television channels shall ensure that the current version of the CAS, in use, do not have any history of hacking.

**Explanation:** A written declaration available with the distributor from the CAS vendor, in this regard, shall be construed as compliance of this requirement.

All CAS, SMS, Multiplexers, scramblers and DHE vendors should get their product and versions certified by Govt. agency authorized by TRAI or MIB.

2. The SMS shall be independently capable of generating, recording, and maintaining logs since inception with date and time stamp of log generation, for the period of at least immediate preceding two consecutive years, corresponding to each user level and command executed in the SMS including but not limited to activation and deactivation commands. All these commands should be in a format which is readable and which can be analyzed to drive channel-wise count.
3. The distributor of television channels should provide declaration document which should *inter-alia* contain
  - (i) Full Detail of Network Diagram including the location of Headend, Multiplexers and Encryption System including the insertion points of CAS.
  - (ii) Details of CAS system having *inter-alia*:
    - (a) Locations/ Networks where deployed, and hacking history
    - (b) Antipiracy features of CAS.
  - (iii) Detail with location of ECM & EMM servers installed and configured with main CAS server.
4. The data and logs recorded in the CAS and the SMS should not be capable of being altered.
5. All logs from Multiplexers and Scramblers with the date and time stamp to be available.
6. MSO should mention "Network Name" and location of Headend in all Transport Streams generated/Configured from headend.
7. MSO should not give access or configure LCN/Transport stream to insert local channel in field/at LCO end.

8. The distributor of television channels shall validate that the CAS in use, do not have the facility to activate and deactivate a Set Top Box (STB) directly from the CAS terminal. All activation and deactivation of STBs should be done with the commands of the SMS.
9. The SMS and the CAS should be integrated in such a manner that activation and deactivation of STB happen simultaneously in both the systems.

**Explanation:** Necessary and sufficient methods shall be put in place so that each activation and deactivation of STBs is reflected in the reports generated from the SMS and the CAS terminals.

10. The distributor of television channels shall validate that the CAS has the capability of upgrading STBs over-the-air (OTA), so that the connected STBs can be upgraded.
11. The SMS & CAS should have provision to extract all different reports from front end and back end of systems.
12. The fingerprinting should not get invalidated by use of any device or software.
13. CAS system should be able to disable piracy software (to mask/remove FP, remove OSD layer and EMM).
14. The CAS and the SMS should be able to activate or deactivate services or STBs of at least 10% of the subscriber base of the distributor within 24 hours.
15. The STB and Viewing Card (VC) shall be paired from the SMS to ensure security of the channel.
16. STB should be paired with viewing card on chip set level, and viewing cards should not be portable. There should be hardware protection so that Control words cannot be extracted from any point in the STB

17. The CAS and SMS should be capable of individually addressing subscribers, for the purpose of generating the reports, on channel by channel and STB by STB basis.
18. The SMS should be computerized and capable of recording the vital information and data concerning the subscribers such as:
  - a. Unique customer identification (ID)
  - b. Subscription contract number
  - c. Name of the subscriber
  - d. Billing address
  - e. Installation address
  - f. Landline telephone number
  - g. Mobile telephone number
  - h. E-mail address
  - i. Channels, bouquets and services subscribed
  - j. Unique STB number
  - k. Unique VC number.
19. The SMS should be capable of:
  - a. Viewing and printing of historical data in terms of the activations and the deactivations of STBs.
  - b. Locating each and every STB and VC installed.
  - c. Generating historical data of changes in the subscriptions for each subscriber and the corresponding source of requests made by the subscriber.
20. The SMS should be capable of generating reports, at any desired time about:
  - i. The total number of registered subscribers.
  - ii. The total number of active subscribers
  - iii. The total number of temporary suspended subscribers.
  - iv. The total number of deactivated subscribers.
  - v. List of blacklisted STBs in the system.



- vi. Channel and bouquet wise monthly subscription report in the prescribed format.
  - vii. The names of the channels forming part of each bouquet.
  - viii. The total number of active subscribers subscribing to a particular channel or bouquet at a given time.
  - ix. The name of a-la carte channel and bouquet subscribed by a subscriber.
  - x. The ageing active and de-active report for subscription of a particular channel or bouquet.
  - xi. Package channel composition detail with creation, modification and discontinue date.
21. The CAS shall be independently capable of generating, recording, and maintaining logs since inception, for the period of at least immediate preceding two consecutive years, corresponding to each user level logs & command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.
  22. The CAS shall be able to tag and blacklist VC numbers and STB numbers that have been involved in piracy in the past to ensure that such VC or the STB cannot be re-deployed.
  23. It shall be possible to generate the following reports from the logs of the CAS:
    - a. STB-VC Pairing / De-Pairing
    - b. STB Activation / De-activation
    - c. Channels Assignment to STB
    - d. Report of the activations or the deactivations of a particular channel for a given period.
    - e. Channel wise/service wise active and de-active detail with STB/VC and date/time stamp.
    - f. Package channel composition detail with creation, modification and discontinue date.
    - g. Linkage of all SIDs (service id of channels) created in CAS with SMS and packages.
    - h. List of blacklisted STBs in the system.

- i. Number of ECM and EMM servers configured and connected to CAS.
  - j. Logs of all ECM, EMM servers with date/time stamp.
24. The SMS shall be capable of generating bills for each subscriber with itemized details such as the number of channels subscribed, the network capacity fee for the channels subscribed, the rental amount for the customer premises equipment, charges for pay channel and bouquet of pay channels along with the list and retail price of corresponding pay channels and bouquet of pay channels, taxes etc.
  25. The distributor shall ensure that the CAS and SMS vendors have the technical capability in India to maintain the systems on 24x7 basis throughout the year.
  26. The SMS & CAS should have date and time in sync and in same format. In case time zone for CAS and SMS is different than it should be captured clearly at the time of applying for signals.
  27. The distributor of television channels shall declare the details of the CAS and the SMS deployed for distribution of channels. In case of deployment of any additional CAS/ SMS, the same should be notified to the broadcasters by the distributor.
  28. Upon deactivation of any subscriber from the SMS, all program/ services shall be denied to that subscriber.
  29. The distributor of television channels shall preserve unedited data of the CAS and the SMS for at least two years.

(B) Fingerprinting:

1. The distributor of television channels shall ensure that it has systems, processes and controls in place to run finger printing at regular intervals on 24/7 basis and it should be able to trigger finger printing within 30 minutes on request from Broadcasters.
2. The STB should support both visible and covert types of finger printing.
3. The finger printing should not be removable by pressing any key on the remote of STB.
4. The finger printing should be on the top most layer of the video.

5. The finger printing should be such that it can identify the unique STB number or the unique VC number.
6. The finger printing should appear on the screens in all scenarios, such as menu, Electronic Programme Guide (EPG), Settings, blank screen, and games etc.
7. The location, font colour & Size and background colour of fingerprint should be changeable from head end and should be random on the viewing device.
8. The finger printing should be able to give the numbers of characters as to identify the unique STB and/or the VC.
9. The finger printing should be possible on global as well as on the individual STB basis.
10. The overt finger printing should be displayed by the distributor of television channels without any alteration with regard to the time, location, duration and frequency.
11. Scroll messaging should be only available in the lower part of the screen.
12. The STB should have a provision that finger printing is never disabled.
13. The watermarking network logo for all pay channels shall be inserted at encoder end only.

(C) Set Top Box (STB):

1. All STBs should have a Conditional Access System.
2. The STB should be capable of decrypting the Conditional Access messages inserted by the Head-end.
3. The STB should be capable of doing finger printing. The STB should support both Entitlement Control Message (ECM) and Entitlement Management Message (EMM) based fingerprinting.
4. The STB should be individually addressable from the Head-end.
5. The STB should be able to receive messages from the Head-end.
6. The messaging character length should be minimal 120 characters.
7. There should be provision for global messaging, group messaging and the individual STB messaging.
8. The STB should have forced messaging capability including forced finger printing display.
9. The STB must be compliant to the applicable Bureau of Indian Standards.

10. The STBs should be addressable over the air to facilitate OTA software upgrade.
11. The STB should have network lock feature and its should not work on any other network feed.
12. The STBs with facilities for recording the programs shall have a copy protection systems.
13. The STBs should have following I/O protection systems.
  - (a) Macro vision 7 or better on Composite video output.
  - (b) Macro vision 7 or better on the Component Video output.
  - (c) HDCP copy protection on the HDMI & DVI output.
  - (d) DTCP copy protection on the IP, USB, 1394 ports or any applicable output ports.
14. The STBs with PVR/USB recording option should have following capability:
  - (a) Capability to record live Fingerprinting, forced message and watermarking logo along with content.
  - (b) During playout of recorded content live Finger printing & forced message should flash on screen.
  - (c) Recorded content should get disable on deactivated STB.

**Conclusion:**

In view of the above proposed recommendation for a robust, transparent and credible Audit frame work, the moot requirement is to ensure that a true and correct reporting coupled with fact finding audit exercise reveals the actual number of subscribers serviced by a DPO to ensure and safeguard that the revenue payable to the Broadcaster and taxes payable to the Government are in consonance with the magnitude and volume of business done by the DPO.

-----X-----X-----X-----