



Telecom Regulatory Authority of India



Consultation Paper
on
Empanelment of Auditors for Digital Addressable
Systems

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Written Comments on the Consultation Paper are invited from the stakeholders by 22nd January, 2018 and counter-comments by 7th February, 2018. Comments and counter-comments will be posted on TRAI's website www.trai.gov.in. The comments and counter-comments may be sent, preferably in electronic form, to Sh. Sunil Kumar Singhal, Advisor (B&CS), Telecom Regulatory Authority of India, on the e-mail:- sksinghal@traigov.in or smk.chandra@traigov.in. For any clarification/information, Sh. Sunil Kumar Singhal, Advisor (B&CS) may be contacted at Tel. No.: +91-11- 23221509, Fax: +91-11-23220442.

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CHAPTER 1

INTRODUCTION

- 1.1 Keeping in view the evolution of digital addressable systems and effectively utilizing the benefits of it, Telecom Regulatory Authority of India brought a common regulatory framework for digital addressable systems on 3rd March 2017. This framework consists of Interconnection regulations, Quality of service regulations and Tariff order for providing broadcasting services relating to television through digital addressable system.
- 1.2 In this framework, the Interconnection regulations namely the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3rd March 2017 (herein after the Interconnection Regulations, 2017) cover technical and commercial arrangements between Broadcaster & Distributor and Distributor & Local Cable operator for distribution of television channels. Presently, these regulations are *sub-judice* in the Hon'ble High court of Madras and Hon'ble High court of Delhi. This consultation paper is a preparatory work before calling proposals for empanelment of auditors, and has no bearing on the said regulations or ongoing litigations.
- 1.3 In the value chain of digital addressable system, a broadcaster uplinks signals of pay television channel to satellite in encrypted form. The distributor downlinks the signals from the satellite and decodes them using the decoder provided by the broadcaster and then retransmits the signals, after encrypting them again, either directly or through local cable operator to customer, as per its license conditions. The distributor could be a Multi-System Operator, a Direct to Home operator, a Headend In The Sky operator or IPTV operator.

Technical audit

- 1.4 In order to ensure seamless transmission of signals of television channel from broadcaster to consumer, maintaining the addressability and preventing piracy, the regulation 10 of the Interconnection Regulations, 2017 specifies that every distributor before requesting a signal from the broadcaster, should meet addressable system requirements specified in the Schedule-III of the said regulations. Further, the regulation 10 also states, if a broadcaster, before providing signals of television channels, is of the opinion that the addressable system, being used by the distributor for distribution of television channels, does not meet the requirements specified in the Schedule III, it may cause audit of the addressable system of the distributor by M/s. Broadcast Engineering Consultants India Limited, or any other auditor empanelled by the Authority for conducting such audit and provide a copy of the report prepared by the auditor to the distributor. This audit is generally called technical audit. This audit is commissioned by broadcaster to satisfy itself that the distributor, to whom it is likely to provide television signal, meets the addressable system requirements. This Audit verifies whether the distributors' network is sufficiently robust to prevent any revenue leakage in terms of piracy and under reporting of subscribers. As such the audit fees of this audit is borne by the broadcaster.
- 1.5 Before notification of Interconnection Regulations 2017, it was brought to the notice that some broadcasters conduct such audit using their own staff. Further, commissioning of such audits by several broadcasters results into multiple audits of the system of a same distributor, which not only puts distributors into inconvenience but also increases avoidable cost to broadcasters. Further it also creates trust gap between broadcasters and distributors and results in undue delay in provisioning of signals. To mitigate these issues,

interconnection regulations 2017 incorporated a rider that unless the configuration or the version of the addressable system of the distributor has been changed after issuance of the report by the auditor, the broadcaster, before providing signals of television channel shall not cause audit of the addressable system of the distributor if the addressable system of such distributor has been audited during the last one year by M/s. Broadcast Engineering Consultants India Limited, or any other auditor empanelled by the Authority and the distributor produces a copy of such report as a proof of conformance to the requirements specified in the Schedule III. An extract of regulation 10 of the interconnection regulations, 2017 is placed at **Annexure-I.**

Subscription audit

- 1.6 Regulation 15 of the interconnection regulations, 2017 specifies that every distributor of television channels shall, once in a calendar year, cause audit of its subscriber management system, conditional access system and other related systems by an auditor to verify that the monthly subscription reports made available by the distributor to the broadcasters are complete, true and correct, and issue an audit report to this effect to each broadcaster with whom it has entered into an interconnection agreement. This audit is generally called subscription audit wherein the focus is on ascertaining the subscriber numbers being reported by distributors to broadcaster. It is pertinent to mention that the regulation permits variation in the reported figure of subscribers by distributor to broadcaster only less than zero point five percent of the billed amount which shall not require any revision of the invoices already issued and paid. An extract of regulation 15 of the interconnection regulations, 2017 is placed at **Annexure - II**
- 1.7 The regulation 15 of interconnection regulations, 2017 further provides that in cases, where a broadcaster is not satisfied with the

audit report received or, if he is of the opinion that the addressable system being used by the distributor does not meet requirements specified in the Schedule III of the regulations, it shall be permissible to the broadcaster, after communicating the reasons in writing to the distributor, to audit the subscriber management system, conditional access system and other related systems of the distributor of television channels, not more than once in a calendar year. It may be noted that Authority may also empanel the auditor for conducting subscription audit.

- 1.8 The audit fee for the subscription audit commissioned by the distributor as part of yearly audit is payable by the distributor, whereas the audit fee for subscription audit commissioned by a broadcaster to re-verify the addressable system requirements, is payable by the broadcaster.
- 1.9 In order to empanel auditors for technical and subscription audit certain key issues require consultation with the stakeholders. Therefore, this consultation aims at:
 - a) Formulating the scope of work of auditors
 - b) Determining the eligibility and other conditions for empanelment of auditors in a transparent manner
 - c) To specify a uniform framework for audit of addressable system so that each empanelled auditor conduct such audit within the same framework
- 1.10 This consultation process will enable TRAI to prepare comprehensive document to seek proposals from auditors in line with the industry requirement and formulate guidelines to auditors.

- 1.11 It is hereby clarified that empanelment of the auditors and other related activities would be done only after the ongoing matter pending before Hon'ble courts, are decided.
- 1.12 The issues in achieving the afore-mentioned objectives are discussed in detail in the Chapter 2 and the compilation of all the issues raised for consultation is given in Chapter 3.

CHAPTER 2

AUDIT FRAMEWORK FOR DIGITAL ADDRESSABLE SYSTEMS

2.1 The audit of the distribution system is necessary to ensure that the systems deployed by the distributor are addressable as per the requirement. Periodic audit from the empaneled auditor once in a year help the distributor of television channels

- a) instill trust on distributor network, reconcile the revenue realization;
- b) educates and prompts to comply the requirements as per regulations;
- c) to seek channel from the broadcaster as the audit report indicates the system compliance;
- d) mitigates causing audit by the multiple broadcasters
- e) results in continuity of channel availability and quality of service to end consumer.

2.2 Presently the television broadcasting sector consist of 1421 MSOs, 6 private DTH operators, 48 pay TV broadcasters, one operational HITS operator and few IP TV operators in the country. Out of these service providers some of them are very big, some are medium/ small size in terms of their subscriber base and infrastructure deployed. Some distributors may be small Multi System Operator (MSO) having single head end covering few thousand homes in comparison to a large MSO having multiple head ends covering lakhs of homes. It could be a DTH or HITS operator having single headend located at single location covering large subscriber base all over India. Therefore, the work involved in technical and subscription

audit of their addressable systems may vary in terms of man power involved, time taken to audit and generation of various reports etc.

2.3 In Indian market there are around 8-10 CAS manufacturers present with major manufacturers being Nagra Vision, Cisco (earlier NDS), Irdeto, Conax and iCAS. The type of CAS deployed is decided by the distributor as per its requirement. Each CAS provider has different interface even though they are able to meet the requirements as per TRAI regulations. The service provider stores various data associated to his subscribers in the Subscriber Management Systems (SMS). Similar to CAS, the SMS also has different functionality and interfaces.

2.4 The architecture of the network also varies in the case of MSOs. For example, an MSO may have a single Subscriber Management System (SMS) for the entire network or multiple SMS. It may also have multiple Conditional Access Systems (CAS). In the technical audit, the auditor may need to understand the physical and logical architecture for planning the audit. The auditor may initially seek information from the distributor beforehand so as to plan the audit.

2.5 The scope of the audit as per the regulatory provision consists of technical specifications given in the Schedule-III of the Interconnection regulations, 2017 and also many other requirements given in regulatory framework of the addressable systems. These are discussed in detail in the following paragraphs.

Scope of audit

Technical Audit

2.6 This audit is commissioned by broadcaster to satisfy itself that the distributor, to whom it is likely to provide television signal, meets the addressable system requirements. The addressable system requirements have been specified in schedule III of interconnection regulations, 2017 and the extract of same is reproduced at Annexure

III. All the requirements specified in the said schedule are required to be checked by the Auditor. These are divided into three sections, which are briefly explained below:

- a. Conditional Access System (CAS) and Subscriber Management System (SMS):-Auditing of CAS and SMS to check whether the current version of CAS have any history of hacking, capable of generating logs, whether SMS is capable of recording vital information and data of subscriber, locating each STB, pairing of STB and viewing card from SMS etc.
- b. Fingerprinting: Fingerprinting technology is used to figure out piracy of television signal. It is to ensure the deployed system is capable of processing finger printing at regular intervals
- c. Set Top Box (STB): It is to ensure the STB is capable of decrypting the Conditional Access messages inserted by the Head-end, individually addressable from the Head-end, compliant to the applicable Bureau of Indian Standards (BIS) standard, capable of receiving messages from the headend, etc

Subscription audit

2.7 Subscription audit focuses on ascertaining the subscriber numbers being reported by distributors to broadcaster and ensures distribution of revenue among stakeholders in the value chain as per the interconnection agreement. This audit can be a yearly audit to be done by the distributor in compliance with the regulation or the audit initiated by a broadcaster when he is not satisfied with the audit report received from the distributor. This may consist of some of the requirements mentioned in schedule III relevant to reconciliation of subscribers, items to prevent piracy etc. Most of the other items of schedule-III may be audited from the CAS / SMS.

2.8 Further, to improve the trust among stakeholders in the value chain, this audit need to ascertain whether the distributor has established and is maintaining necessary systems, processes & records in line with the regulatory framework (Interconnection, Quality of service regulations and Tariff order). This includes but not limited to maintenance of website for publishing of RIO by the distributor, Web based grievance redressal mechanism for addressing the complaints of LCOs, Indication of Maximum Retail Price (MRP) of channels on Electronic Programme Guide (EPG), Offering Basic Service Tier package etc. The illustrative list of items and their importance is given at Annexure –IV. The list is not exhaustive and may also vary from time to time depending on the changes in the regulations from time to time. Auditing the same indicates the general health of the addressable system and processes deployed, and improves transparency among the stakeholders in the value chain.

In this context questions for consultation:

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

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

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?

Eligibility Criteria and Experience

- 2.9 Since, digitization in cable sector had started 5 years ago, prior to that DTH had already been in existence, there are number of private audit agencies who are able to conduct the audits for digital addressable systems. M/s. Broadcast Engineering Consultants India Limited (BECIL), the public sector undertaking is actively involved in conducting technical audits. However, they are not so much involved in subscription audits.
- 2.10 If the prior knowledge and experience is not specified as a part of eligibility criteria for empanelment of auditor, the Auditors having lack of specialized knowledge and experience in the field may have to depend on the distributors for seeking help in conducting the audit which may defeat the very purpose of audit. Well-defined eligibility criteria would ensure that only the qualified and competent auditors having adequate knowledge of technical architecture, SMS/CAS and other related systems & commands, are part of the panel.
- 2.11 In order to ensure the quality and reliability of audit, empanelled auditors should have a reasonable prior experience and sufficient number of experts for conducting such audits. The number of audits conducted by them may indicate their actual strength in conducting the audits.
- 2.12 One way of ensuring a quality audit in a professional manner is keeping one of the eligibility criteria for empanelment of auditors as accreditation by professional body / Certifying authorities such as Quality Council of India, National Accreditation Board for Certification Bodies or from the International Accreditation Forum or should be an audit firm registered with the Institute of Chartered Accountants of India/ Institute of Costs and Works Accountants of India having experience in audit of addressable systems.

2.13 Auditor should have sufficient resources including manpower to conduct audit smoothly and time bound manner. To prevent the conflict of interest and enhance the credibility of the audit, it may be imperative that the audit firm should not have any association with the existing broadcasting service providers. It is also avoidable to have any direct involvement in the design, construction, operation or maintenance of electronic equipment used in digital addressable systems of a service provider. They shall also not represent parties engaged in these activities. At the time of seeking proposals for empanelment necessary documents may be sought such as:

- a. Documents related to experience and accreditation
- b. Proof of employment of professional staff
- c. Self certifications regarding its independency

In this context questions for consultation:

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?

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?

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

Length of empanelment

2.14 The length of empanelment provides auditor to plan their resources to be deployed for the demand. It also provide continuity for the service providers in engaging the auditors. On the other hand, specifying longer period will suppress the opportunity of reviewing the audit framework, if necessitated. As the empanelment process is being carried for the first time in TRAI for Broadcasting and Cable sector, initially the length of empanelment may be kept for few years so that this process can be reviewed and list of the auditors may be updated. However, this will not preclude TRAI to add more number of eligible auditors in panel of auditors if it is felt that there is a gap in the demand and supply.

In this context questions for consultation:

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

Audit fee and payment terms

2.15 The audit fee is the fee charged by the empanelled auditor for conducting the audit. It is an important consideration whether audit fee should be regulated or should be left to the auditors for mutual agreement with the service providers (Distributors and Broadcasters). The factors that determine the Audit fee include type of Audit, number of subscribers, number of headends etc. The fee to be charged for the audit should be on the work done principle. As explained earlier, size of the addressable system infrastructure of distributors may vary as some of them are very big, some are medium/ small size in terms of their subscriber base and headends installed. For technical audit physical verification of each headend is required whereas subscription audit may not be as exhaustive as the technical audit. Therefore in the case of technical audit, number of headends may be one of the parameter. For subscription audit the subscriber base may be

sufficient. In industry parlance the distributor may be categorised as following:

- a) Pan India Distributor: These distributors may have more than 1 lakh subscriber base
- b) Medium size Distributor: These distributors may have subscriber base between 10,000 to 1 lakh
- c) Small size Distributor : These distributors may have subscriber base less than 10,000.

2.16 The categorisation would help to create a competitive environment and empanel more number of auditors. Further it also reduces burden on smaller distributors.

2.17 For deciding on the audit fee the following approaches are relevant to discuss:

A. Prescribing audit fee by TRAI

The following models can be considered for prescribing audit fee:

(i) Subscriber base model

In this model the distributors may be classified as per the above said classification based on subscriber and fee may be prescribed for each category. The following aspects are to be taken into account in using this model:

- Either active subscriber base or registered subscriber base or some threshold for each category
- Multiplier factor may be determined

- Audit fee for technical audit may need some modifications in this approach as the network may be newly built and no significant subscribers are available in the network.

(ii) Mixed cost model

This model comprises of fixed component and variable component of audit fee. The fixed component of Audit fee may comprise of a fixed minimum charge that is incurred for the auditor irrespective of the size of the distributor. This fixed component may include administrative, travel, boarding and lodging etc. Similarly, variable component of audit fee which is based on the size of the distributor, may include subscriber base, number of CAS/ SMS deployed, locations, number of headends, service area etc.

B. Audit fee decided by auditor

In this model the audit fee is decided by the auditor based on his own parameters. However, such parameters should be measurable and transparently disclosed on non-discriminatory basis.

2.18 In order to ensure timely completion of audit there should be a provision for liquidated damage charge or reduction in audit fee to protect the interest of distributors. Further, there has to be a time limit for delay with liquidated damage charge also as it may affect the business activity of a distributor. There may be provision of prescribing a maximum permissible period beyond which the auditor may be subject to de-empanelment.

In this context questions for consultation:

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

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

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?

Time period for completion of audit work

2.19 The time period to complete the audit depends on category and the network architecture of the distributor to be audited and the number of personnel deployed by the auditor. If the distributor has a single headend, SMS, and CAS, auditor would get all the information at one place, whereas if the distributor has multiple headend/CAS/SMS, either more number of auditors to be deployed or longer time period is required to complete the audit work.

In this context questions for consultation:

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?

De-empanelment

2.20 A provision for de-empanelment of auditor for non adherence of terms and conditions may be incorporated to protect the interest of service providers. The following clauses may be considered for the de-empanelment of auditors.

- a) Self certification and declarations are found false

- b) Disclosure or misuse of confidential information of distributor
- c) Not meeting eligibility conditions including independency clause at a later stage
- d) Delay in conducting audit
- e) Subletting the work to some other auditor
- f) Reliability of audit

2.21 Once de-empanelled, it can only be reempaneled after few years (say 3 years) subject to fulfilment of the extent terms and conditions of the empanelment and proper justification.

In this context questions for consultation:

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

Q13: Comments on re-empanelment if any?

Reporting requirements of auditors

2.22 In order to monitor progress of the audit and analyse the demand supply gap of auditors, TRAI may seek periodical reports from the auditors. Further TRAI, suo-motu or on receipt of any complaint, may seek audit related information from the auditor to verify the compliance.

General suggestions

2.23 Although most of the relevant issues pertaining to audit framework have been discussed above, however, stakeholders are free to provide any suggestions to improve the same

In this context questions for consultation:

Q14: Any suggestion relating to the audit framework

CHAPTER 3

ISSUES FOR CONSULTATION

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

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

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?

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?

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?

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

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

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

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

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?

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?

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

Q13: Comments on re-empanelment if any?

Q14: Any suggestion relating to the audit framework.

List of acronyms

Abbreviations	Description
BECIL	Broadcast Engineering Consultants India Limited
CAS	Conditional Access System
DTH	Direct To Home
HITS	Headend In The Sky
IPTV	Internet Protocol Television
LCO	Local Cable Operator
MSO	Multi System Operator
OTA	Over the Air
RIO	Reference Interconnect Offer
SMS	Subscriber Management system
STB	Set-Top-Box
VC	Viewing card

Extract of Regulation 10 of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3rd March 2017

10. Interconnection agreement between broadcaster and distributor of television channels.—

(1) No broadcaster shall provide signals of pay channels to a distributor of television channels without entering into a written interconnection agreement with such distributor of television channels.

(2) No distributor of television channels shall distribute pay channels of any broadcaster without entering into a written interconnection agreement with such broadcaster.

(3) It shall be mandatory for a broadcaster and a distributor of television channels to enter into written interconnection agreement on a-la-carte basis for distribution of pay channels.

(4) Every broadcaster shall devise an application form for request of signals of television channel by distributors of television channels in accordance with the Schedule II.

(5) A distributor of television channels desirous of obtaining signals of television channels shall make a written request in the application form devised by the broadcaster.

(6) Every distributor of television channels before requesting signals of television channels from a broadcaster shall ensure that the addressable systems to be used for distribution of television channels meet the requirements as specified in the Schedule III.

(7) If a broadcaster, before providing signals of television channels, is of the opinion that the addressable system, being used by the distributor for distribution of television channels, does not meet the requirements specified in the Schedule III, it may, without prejudice to the time limit specified in sub-regulation (2) of the regulation 3, cause audit of the addressable system of the distributor by M/s. Broadcast Engineering Consultants India Limited, or any other auditor empanelled by the Authority for conducting such audit and provide a copy of the report prepared by the auditor to the distributor:

Provided that unless the configuration or the version of the addressable system of the distributor has been changed after issuance of the report by the auditor, the broadcaster, before providing signals of television channel shall not cause audit of the addressable system of the distributor if the addressable system of such distributor has been audited during the last one year by M/s. Broadcast Engineering Consultants India Limited, or any other auditor empanelled by the Authority and the distributor produces a copy of such report as a proof of conformance to the requirements specified in the Schedule III.

(8) Every broadcaster of pay channel, within thirty days of receipt of written request from a distributor of television channels, shall enter into a written interconnection agreement with the distributor of television channels for providing signals of its pay channel in accordance with the terms and conditions of the reference interconnection offer published by the broadcaster:

Provided that the 'broadcaster's share of maximum retail price' payable by a distributor of television channels under the interconnection agreement shall be calculated on the basis of the maximum retail price of pay channel or bouquet, the distribution fee and the discounts agreed in the interconnection agreement:

Provided further that the period of the interconnection agreement in no case shall be less than one year from the date of commencement of the agreement:

Provided also that in case more than one interconnection agreement are entered into with a distributor in respect of television channel or bouquet of pay channels, each subsequent interconnection agreement shall contain the details of the earlier agreements in force with that distributor for such channel or bouquet, as the case may be.

Explanation: For the removal of doubt, it is clarified that on receipt of a written request from a distributor by a broadcaster for obtaining signals of pay channels, the written interconnection agreement, between the broadcaster and the distributor, shall be entered into within thirty days of receipt of such request, and, the broadcaster shall provide signals of its pay channels, within thirty days from the date of signing of written interconnection agreement, to the distributor of television channels.

(9) It shall be permissible to a broadcaster to sign the interconnection agreement with distributors of television channels for a-la-carte pay channel or bouquet of pay channels of its subsidiary company or holding company or subsidiary company of the holding company, which has obtained, in its name, the downlinking permission for its television channels from the Central Government, after written authorization from such companies.

(10) It shall be permissible to a distributor of television channels to sign the reference interconnection offer published by a broadcaster under sub-regulation (1) of regulation 7, as an interconnection agreement, for obtaining signals of television channels and send the said agreement to the broadcaster for providing signals.

(11) A broadcaster shall not incorporate any provision, directly or indirectly, in its interconnection agreement with a distributor of television channels which require such distributor of television channels to include the channel or bouquet of pay channels offered by the broadcaster in any particular bouquet of channels offered by such distributor to the subscribers and any agreement to contrary shall be void.

(12) A broadcaster shall not incorporate any provision, directly or indirectly in its interconnection agreement with a distributor of television channels which requires such distributor of television channels to give a guarantee for a minimum subscriber base or a minimum subscription percentage for the channels offered by the broadcaster and any agreement to contrary shall be void.

Explanation: For removal of doubt, it is clarified that any discount, offered as an incentive by a broadcaster on the maximum retail price of the pay channel or the bouquet of pay channels, based on actual number of subscribers or actual subscription percentage, recorded in a month shall not amount to guarantee for a minimum subscriber base or a minimum subscription percentage for its channel.

(13) It shall be the responsibility of every broadcaster who enters into an interconnection agreement with a distributor of television channels to hand over a copy of such interconnection agreement to that distributor of television channels within a period of fifteen days from the date of execution of the interconnection agreement and retain a copy of an acknowledgement so obtained from the distributor.

(14) Every broadcaster shall enter into a new written interconnection agreement with distributor of television channels before the expiry of the existing interconnection agreement:

Provided that the broadcaster shall, at least sixty days prior to the date of expiry of the existing interconnection agreement, give notice to the distributor of television channels to enter into new written interconnection agreement:

Provided further that in case the parties fail to enter into new interconnection agreement before the expiry of the existing interconnection agreement, the broadcaster shall not make the signals of television channels available to the distributor of television channels on expiry of the existing interconnection agreement:

Provided also that the distributor of television channels shall, fifteen days prior to the date of expiry of its existing interconnection agreement, inform the subscribers through scrolls on the channels included in the said agreement—

(a) the date of expiry of its existing interconnection agreement;
and

(b) the date of disconnection of signals of television channels in the event of its failure to enter into new interconnection agreement.

(15) No distributor of television channels shall carry television channels, for which a request has been received from a broadcaster for distribution of television channels, without entering into a written interconnection agreement with such broadcaster.

(16) Every distributor of television channels shall devise an application form, for seeking access to its distribution network for distribution of television channels by broadcasters, in accordance with the Schedule IV.

(17) A broadcaster desirous of distribution of its television channel shall make a written request in the application form devised by the distributor of television channels.

(18) Every distributor of television channels, within thirty days of receipt of written request from a broadcaster for distribution of television channels, shall enter into a written interconnection agreement with the broadcaster for carrying television channels in accordance with the terms and conditions of the reference interconnection offer published by the distributor:

Provided that the carriage fee payable by a broadcaster to the distributor of television channels under the interconnection agreement shall be calculated on the basis of the rate of carriage fee and the discounts agreed in the interconnection agreement:

Provided further that the period of the interconnection agreement in no case shall be less than one year from the date of commencement of the agreement:

Provided also that in case more than one interconnection agreement are entered with a broadcaster in respect of a television channel, each subsequent interconnection agreement shall contain the details of the earlier agreements in force with that broadcaster for such channel.

Explanation: For the removal of doubt, it is clarified that on receipt of a written request from a broadcaster by a distributor for carrying television channels, the written interconnection agreement, between the distributor and the broadcaster, shall be entered into within thirty days of receipt of such request and, the distributor shall distribute television channels of such broadcaster's within thirty days, from the date of signing of written interconnection agreement or from the date of availability of spare channel capacity on the distribution network, whichever is later, through the distribution network.

(19) It shall be permissible to a broadcaster to sign the reference interconnection offer published by a distributor of television channels under sub-regulation (1) of regulation 8, as an interconnection agreement, for carrying television channels and send the said agreement to such distributor for providing access to the distribution networks.

(20) It shall be the responsibility of every distributor of television channels who enters into an interconnection agreement with a broadcaster to hand over a copy of written interconnection agreement to that broadcaster within a period of fifteen days from the date of execution of the interconnection agreement and retain a copy of an acknowledgement so obtained from the broadcaster.

(21) Every distributor of television channels shall enter into a new written interconnection agreement, for carrying television channels requested by a broadcaster, before the expiry of the existing interconnection agreement:

Provided that the distributor of television channels shall, at least sixty days prior to the date of expiry of the existing interconnection agreement, give notice to the broadcaster to enter into new written interconnection agreement:

Provided further that in case the parties fail to enter into new interconnection agreement before the expiry of the existing interconnection agreement, the distributor of television channels may not carry such television channels on expiry of the existing interconnection agreement:

Provided further that a distributor of television channels shall not discontinue carrying a television channel if the signals of such television channel remain available for distribution and monthly subscription percentage for that particular television channel is more than twenty percent of the monthly average active subscriber base in the target market:

Provided also that if the distributor of television channels decides to discontinue carrying a television channel due to expiry of the existing interconnection agreement, it shall, fifteen days prior to the date of expiry of its existing interconnection agreement, inform the subscribers through scrolls on the channels included in the said agreement—

(a) the date of expiry of its existing interconnection agreement;
and

(b) the date of disconnection of signals of television channels in the event of its failure to enter into new interconnection agreement.

Extract of Regulation 15 of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3rd March 2017

15. Audit.— (1) Every distributor of television channels shall, once in a calendar year, cause audit of its subscriber management system, conditional access system and other related systems by an auditor to verify that the monthly subscription reports made available by the distributor to the broadcasters are complete, true and correct, and issue an audit report to this effect to each broadcaster with whom it has entered into an interconnection agreement:

Provided that the Authority may empanel auditors for the purpose of such audit and it shall be mandatory for every distributor of television channels to cause audit, under this sub-regulation, from anyone of such empanelled auditors:

Provided further that any variation, due to audit, resulting in less than zero point five percent of the billed amount shall not require any revision of the invoices already issued and paid.

(2) In cases, where a broadcaster is not satisfied with the audit report received under sub-regulation (1) or, if in the opinion of a broadcaster the addressable system being used by the distributor does not meet requirements specified in the Schedule III, it shall be permissible to the broadcaster, after communicating the reasons in writing to the distributor, to audit the subscriber management system, conditional access system and other related systems of the distributor of television channels, not more than once in a calendar year:

Provided that the Authority may empanel auditors for the purpose of such audit and it shall be mandatory for every broadcaster to cause

audit, under this sub-regulation, from anyone of such empanelled auditors:

Provided further that if such audit reveals that additional amount is payable to the broadcaster, the distributor shall pay such amount, along with the interest at the rate specified by the broadcaster in the interconnection agreement, within ten days and if such amount including interest due for any period exceed the amount reported by the distributor to be due for such period by two percent or more, the distributor shall bear the audit expenses, and take necessary actions to avoid occurrence of such errors in the future:

Provided also that it shall be permissible to the broadcaster to disconnect signals of television channels, after giving written notice of three weeks to the distributor, if such audit reveals that the addressable system being used by the distributor does not meet the requirements specified in the Schedule III.

(3) Every distributor of television channels shall offer necessary assistance to auditors so that audits can be completed in a time bound manner.

Extract of Schedule III of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3rd March 2017

Addressable Systems Requirements

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.

2. The SMS shall be independently capable of generating, recording, and maintaining logs, for the period of at least immediate preceding two consecutive years, corresponding to each command executed in the SMS including but not limited to activation and deactivation commands.
3. It shall not be possible to alter the data and logs recorded in the CAS and the SMS.
4. The distributor of television channels shall validate that the CAS, in use, do not have facility to activate and deactivate a Set Top Box (STB) directly from the CAS terminal. All activation and deactivation of STBs shall be done with the commands of the SMS.
5. 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.

6. 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.

7. The fingerprinting should not get invalidated by use of any device or software.
8. 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.
9. The STB and Viewing Card (VC) shall be paired from the SMS to ensure security of the channel.
10. 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.
11. 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.
12. 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.
13. 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 report for subscription of a particular channel or bouquet.
14. The CAS shall be independently capable of generating, recording, and maintaining logs, for the period of at least immediate preceding two consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.
15. 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.
16. 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.
17. 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.

18. 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.
19. 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.
20. Upon deactivation of any subscriber from the SMS, all programme/ services shall be denied to that subscriber.
21. 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.
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 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 STBs with facilities for recording the programs shall have a copy protection system.

Annexure -IV

S. No.	Items to be verified by the auditor	Importance
A.	Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3 rd March 2017	
1.	Maintenance of website by distributor for publishing of Reference Interconnect Offers (RIOs) and other information such as channel capacity etc.	<ul style="list-style-type: none"> • Identification of spare capacity on non-discriminatory manner. • Availability of Newer channels in the network of Distributor.
2.	Availability of Genres in conformance to the regulatory requirements	<ul style="list-style-type: none"> • Placing of channels in appropriate genre • Non-discrimination and level playing field in placing channels
3.	MSO/LCO revenue settlement mechanism- proper invoicing and accounting	<ul style="list-style-type: none"> • Non-discrimination and level playing field • Reduces disputes. • Ensures seamless services to end consumers

4.	Signing of valid MIA/SIA between MSO/LCO	<ul style="list-style-type: none"> • Ensures revenue realisation • Level playing field among LCOs
5.	Web based grievance redressal mechanism for addressing the complaints of LCOs	Timely receiving of complaints and speedy redressal of complaints / grievances at distributor end
B	Telecommunication (Broadcasting and Cable) Services Standards of Quality of Service and Consumer Protection (Addressable Systems) Regulations, 2017 dated 3 rd March 2017	
6.	Customer care channel should be operational	Helps the customer to get first hand information about the offers and services, availability of new channels, STB related information etc.
7.	<p>Maintenance of website by distributors:</p> <ul style="list-style-type: none"> ○ Consumer corner ○ Login-facility to customer's account 	Helps customer to get account information, easier selection of channels and packages, payment of bills, subscribe to value added services etc.
8.	Indication of Maximum Retail Price (MRP) of channels on Electronic Programme Guide (EPG)	Prevent overcharging at the customer interface, enables informed choice of selection of channel
9.	facility should be available for sending SMS to customer's	Timely availability of information and feed back to

	registered mobile	customers
10.	Customer Acquisition Form (CAF) details should be reflected in the SMS	Records subscriber information
11.	Billing system must be functional (Postpaid/prepaid)-electronic acknowledgement	Protect consumers and tax revenues to the Government
12.	Customer care and complaint redressal system should be functional <ul style="list-style-type: none"> • Toll free number • Web based complaint management • Nodal officer details 	Speedy redressal of consumer complaints, improved quality of service to consumers
C.	Telecommunication (Broadcasting and Cable) (eighth) (Addressable Systems) Tariff Order, 2017 dated 3 rd March 2017	
13.	SMS and CAS should have facility to give effect to the a-la-carte choice of channels on request by Customers	Distributor is able to provide a-la-carte choice of channels
14.	Offering Basic Service Tier package	Protects consumer right