



**Telecom Regulatory Authority of India**



**Consultation Paper**

**on**

**Audit related provisions of Telecommunication  
(Broadcasting and Cable) Services Interconnection  
(Addressable Systems) Regulations, 2017**

**and**

**The Telecommunication (Broadcasting and Cable)  
Services  
Digital Addressable Systems  
Audit Manual**

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Written comments on the consultation paper are invited from the stakeholders by 6.9.2024. Counter-comments, if any, may be submitted by 20.9.2024. The comments and counter-comments will be posted on TRAI's website [www.trai.gov.in](http://www.trai.gov.in).

The comments and counter-comments may be sent, preferably in electronic form to Shri Deepak Sharma, Advisor (B&CS), Telecom Regulatory Authority of India on [advbcs-2@traigov.in](mailto:advbcs-2@traigov.in) and [jtadv-bcs@traigov.in](mailto:jtadv-bcs@traigov.in). For any clarification/information, please contact Shri Deepak Sharma, Advisor (B&CS) at Tel. No.: +91-11-20907774.

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## CHAPTER 1

### BACKGROUND & INTRODUCTION

- 1.1 To enable the television broadcasting sector to realize the gains of digitization, Telecom Regulatory Authority of India (TRAI), after a due consultation process, brought a comprehensive regulatory framework for Digital Addressable Systems (DAS) on 3<sup>rd</sup> March 2017. This framework comprises of the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 [hereinafter called Interconnection Regulation], the Telecommunication (Broadcasting and Cable) Services Standards of Quality of Service and Consumer Protection (Addressable Systems) Regulations, 2017 and the Telecommunication (Broadcasting and Cable) Services (Eighth) (Addressable Systems) Tariff Order, 2017 for providing broadcasting services. The sector has been functioning under this framework since January 2019. The Authority also notified amendments to Interconnection Regulation 2017 on 30.10.2019, 01.01.2020, 11.06.2021, 22.11.2022, 14.09.2023 and 08.07.2024 [Interconnection Regulation and its subsequent amendments are hereinafter called Interconnection Regulation 2017].
- 1.2 Interconnection Regulations 2017 cover technical and commercial arrangements amongst the service providers. Further, Schedule III of Interconnection Regulations 2017 specifies the requirements of the digital addressable systems to be used for distribution of television channels. The Authority has also notified Schedule IX for enabling a testing and certification regime for Conditional Access Systems (CAS) and Subscriber Management Systems (SMS) through an amendment<sup>1</sup> in June 2021. Telecom Engineering Centre (TEC) has been designated as testing and certification organisation for CAS and SMS. The Schedule IX will enable ex-ante certification of CAS and SMS systems before deployment into network.

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<sup>1</sup> The Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Third Amendment) Regulations, 2021. Available at [https://traigov.in/sites/default/files/Regulation\\_11062021.pdf](https://traigov.in/sites/default/files/Regulation_11062021.pdf)

In addition, the Authority has also notified Schedule X for Digital Rights Management (DRM) System Requirements.

- 1.3 As regards Audit related issues, TRAI had issued Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019 (7 of 2019) on 30<sup>th</sup> October 2019 amending certain provisions of Schedule III of Interconnection Regulation 2017.
- 1.4 The framework envisions a trust-based regime where every DPO is enjoined to cause a system audit of their systems by the auditors empaneled by the Authority. TRAI received suggestions from some stakeholders to develop a comprehensive audit manual for the empaneled auditors. To prepare and finalize the Audit Manual, the Authority issued a Consultation Paper on 'The Telecommunication B&CS Digital Addressable Systems Audit Manual' on 29<sup>th</sup> March 2019. After following a due consultative process, TRAI issued the Telecommunication (Broadcasting and Cable) Services Digital Addressable Systems Audit Manual<sup>2</sup> [hereinafter called Audit Manual] on 8<sup>th</sup> November 2019.
- 1.5 Some stakeholders have raised certain issues related to audit related provisions in the Interconnection Regulation 2017. Various stakeholders of the industry including Broadcast Engineering Consultants India Limited (BECIL), and the Auditors empaneled by TRAI have also suggested certain amendments/modifications in the existing Audit Manual and Schedule III of the Interconnection Regulation 2017. Some service providers have raised certain issues related to infrastructure sharing between Headend-in-the-sky (HITS) operator and MSO. Further, consequent upon acceptance of TRAI recommendations on "Sharing of Infrastructure in Television Broadcasting Distribution Sector" dated 29<sup>th</sup> March 2017, MIB has also issued 'Guidelines for sharing of infrastructure by Multi System Operators' on 29<sup>th</sup> December 2021. Further, MIB has also issued operational guidelines in respect of License fee, Platform Service Channels and sharing of

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<sup>2</sup> [https://traigov.in/sites/default/files/Audit\\_manual\\_08112019\\_0.pdf](https://traigov.in/sites/default/files/Audit_manual_08112019_0.pdf)

infrastructure by DTH operators on 16<sup>th</sup> September 2022. Therefore, it is pertinent to identify issues in the existing Interconnection Regulation 2017 and Audit manual that may hinder infrastructure sharing amongst service providers. In view of above, broad issues that are dealt in this consultation paper are categorized as follows:

- a. Amendments required in Audit related provisions in Interconnection Regulation 2017
- b. Amendments to Audit manual
- c. Enabling provisions for infrastructure sharing in Interconnection Regulation 2017 and Audit Manual.

1.6 This consultation paper has been divided into five chapters. Chapter II discusses amendments required in Audit related provisions in Interconnection Regulation 2017. Chapter III discusses the amendments required in the existing Audit Manual. Further, chapter IV discusses the issues related to infrastructure sharing amongst MSOs, amongst DTH operators and between HITS operator & MSO. Chapter V presents a summary of issues for consultation.

## CHAPTER 2

### AMENDMENTS REQUIRED IN AUDIT RELATED PROVISIONS IN INTERCONNECTION REGULATION 2017

#### Mandatory audit of DAS by DPOs

2.1 The provision of regulation 15 of the Interconnection Regulation 2017 is, *inter-alia*, reproduced as under:

*“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 M/s Broadcast Engineering Consultants India limited, or any of such empaneled 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.*

*(1 A) If any distributor fails to cause audit once in a calendar year of its subscriber management system, conditional access system and other related systems, as specified under sub-regulation (1), it shall, without prejudice to the terms and conditions of its license or permission or registration, or the Act or rules or regulations or order made or direction issued thereunder, be liable to pay, by way of financial disincentive, an amount of rupees one thousand per day for default up to thirty days beyond the due date and an additional amount of rupees two thousand per day in case the default continues beyond thirty days from the due date, as the Authority may, by order, direct:*

*Provided that the financial disincentive levied by the Authority under this sub-regulation shall in no case exceed rupees two lakhs:*

*Provided further that no order for payment of any amount by way of financial disincentive shall be made by the Authority unless the distributor, has been given a reasonable opportunity of representation against the contravention of the regulations observed by the Authority.*

*(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 or the Schedule X or both, as the case may be, 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 M/s Broadcast Engineering Consultants India limited, or any 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 or the Schedule X or both, as the case may be.*

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

- 2.2 The sub-regulation (1) of Regulation 15 of the Interconnection Regulations 2017 mandates all the distributors of television channels to cause audit of their system once in a calendar year. As per the existing provisions of Interconnection Regulations 2017, if any DPO fail to cause audit of its system once in a calendar year, then such DPO is liable to pay a financial disincentive (with an upper cap on the financial disincentive of rupees two lakhs per year). However, despite the provision of financial disincentive being in place and constant efforts made by TRAI and MIB, it has been observed that many distributors are still not getting their system audited in a time-bound manner. As per the data of audits received from BECIL and auditors empaneled by TRAI, the number of DPO caused audits were very low in the last four years.
- 2.3 It is noteworthy that as on date of issue, TRAI has empaneled 52 auditors besides BECIL, at national level, regional level and special areas which suggests that there are sufficient number of auditors present in the sector and as a result, charges for causing audit are also competitive.
- 2.4 In this regard, one of the issues for consideration is as to how to ensure that the DPOs comply with regulation 15(1) of the Interconnection Regulation. To improve the level of compliance, one may opine that TRAI may increase the cap on financial disincentive from two lakhs to a greater limit, say four lakhs, in case a DPO fails to cause its audit within the timelines prescribed.



- 2.5 Some broadcasters and their association have suggested that the provision of DPO caused Audit u/s 15(1) should be scrapped and only Broadcaster caused Audit u/s 15(2) should be retained. They highlighted that firstly, a number of DPOs do not get the audit u/s 15(1) completed. Even when they do, they take inordinate amount of time, and even if it is completed, these do not record any discrepancy with the systems.
- 2.6 Audit of the systems of DPO is necessary to ensure that the systems deployed by a DPO are addressable as per the regulatory requirement. Prior to implementation of Interconnection Regulation 2017, DPOs used to complain that multiple technical audits of their systems by multiple broadcasters resulted in multiplicity of task and increased workload. Further, they also complained about the lack of experience and technical know-how of the auditors. Even if each of pay broadcasters carried out two audits of an addressable system platform in a given calendar year then that same system may end up getting audited more than 100 times against the same parameters. This not only resulted in infructuous repeated expenditure but also imposed a heavy financial burden on the limited resources of the broadcaster and distributor. It may also throw up conflicting reports and resolution of these may take time. Therefore, Interconnection Regulation 2017 mandated all DPOs to cause an audit of their system once in a calendar year. In this regard, the main issue for consideration is whether provision of Regulation 15(1) should remain or should it be removed in the Interconnection Regulation 2017. If it is decided that provisions of Regulation 15(1) should remain then another issue for consideration is whether it should continue in its present form or does it need any modifications. In case it is decided that provisions of Regulation 15(1) should be removed then the issue for consideration is what mechanism should be adopted to ensure that the monthly subscription reports made available by the distributors to the broadcasters are complete, true and correct?

2.7 DPOs with significantly low subscriber base have informed TRAI in various meetings verbally that they find difficulty in causing audits of their systems every year as they have capacity constraints both in terms of manpower as-well-as financial. Recently representations were also received from a few small DPOs with request to exempt them from audit due to inability to afford audit fees. Several MSOs have also requested MIB for exemption from the requirement of audit due to inability to afford audit fee on account of small subscriber base. In view of the above, one may opine that it may be desirable that the burden of regulations should be relatively low on such service providers. In this regard, one may suggest that DPOs whose subscriber base is less than a specified number say twenty/thirty thousand may be exempted from the process of DAS audits. In such a case one may opine that broadcasters may be explicitly permitted to cause subscription audit and/or compliance audit of systems of such exempted DPOs, to verify that the monthly subscription reports made available by the distributor to them are complete, true and correct. However, in such scenario, DPO may be free to cause audit under Regulation 15(1) to avoid multiple audits by different broadcasters. Such DPOs may be advised to ensure that their system is compliant with the requirements prescribed by TRAI in Schedule(s) of Interconnection Regulations 2017. Subsequently, if any broadcaster is of the opinion that the system of any such DPO is non-complaint, then the concerned broadcaster(s) may cause audit of such DPOs as per the provisions already present in Interconnection Regulations 2017.

2.8 As per the provisions of Interconnection Regulations 2017, every DPO must ensure that the addressable system being used by the DPO meets the requirements as specified in the schedule of Interconnection Regulations 2017, at all times during its operation. However, some audit reports have revealed that the system of some DPOs are not in compliance with the provisions of Interconnection Regulations 2017. It has come to the notice of TRAI that sometimes there are certain qualifications/discrepancies observed by the Auditor during the Audit and despite these discrepancies no further action is taken by the DPO to

address/remove such discrepancies. In this context the issue for consideration is as to how it should be ensured that if any qualifications/discrepancies are observed by the auditor during audit, the DPOs remove/address these shortcomings and the system of DPOs is always in compliance with Interconnection Regulations 2017. In this regard, it may be noted that suitable provisions already exist in Regulation 15(2) to address this issue. As per Regulation 15(2) in cases, where a broadcaster is of the opinion that the addressable system being used by the distributor does not meet requirements specified in the Schedule III or the Schedule X or both, as the case may be, it shall be permissible to the broadcaster, after communicating the reasons in writing to the distributor, to audit the systems of the DPO, not more than once in a calendar year. Regulation 15(2) further mentions that if such audit reveals that additional amount is payable to the broadcaster, the DPO 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 DPO 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. Further Regulation 15(2) mentions 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 of Interconnection Regulations 2017.

- 2.9 Audit of systems is a tool to verify the correctness of data and systems specification as per the requirements under the regulations. The main objective of the Authority is to ensure compliance and bring in transparency in the entire value chain. TRAI believes that imposing financial disincentive may be used as a last resort to ensure compliance.

## **Issues for consultation**

**Q1. Should provision of Regulation 15(1) be retained or should it be removed in the Interconnection Regulation 2017?**

- i) In case you are of the opinion that provisions of Regulation 15(1) should be retained then**
  - a. Should it continue in its present form or do they need any modifications?**
  - b. In case you are of the opinion that modifications are required in Regulation 15(1) of the Interconnection Regulation 2017, then please suggest amended regulations along with detailed justification for the same.**
- ii) In case it is decided that provisions of Regulation 15(1) should be removed then what mechanism should be adopted to ensure that the monthly subscription reports made available by the distributors to the broadcasters are complete, true and correct?**

**Q2. Should small DPOs be exempted from causing audit of their systems every calendar year, under Regulation 15(1) of Interconnection Regulation?**

**A. If yes, then,**

- 1. Should 'subscriber base' of DPO be adopted as a criterion for defining small DPOs for this purpose?**
  - i. If yes,**
    - a) what limit of the subscriber base should be adopted to define small DPOs for the purpose of exempting them from causing audit of their systems under Regulation 15(1)?**
    - b) on which date of the year should the DPOs' subscriber base be taken into consideration for categorising whether or not the DPO falls in exempted category?**
    - c) In case any distributor is offering services through more than one distribution platforms e.g. distribution network of MSO, IPTV, etc. then should**

**the combined subscriber base of such distributor be taken into consideration for categorising whether or not the distributor falls in exempted category?**

- ii. If 'subscriber base' criterion is not to be adopted, then what criteria should be selected for defining small DPOs?**
- 2. In case it is decided that small DPOs may be exempted from causing audit of their systems under Regulation 15(1), then should broadcasters be explicitly permitted to cause subscription audit and/or compliance audit of systems of such DPOs, to verify that the monthly subscription reports made available by the distributor to them are complete, true and correct?**
  - i. If yes, what should be the mechanism to reduce burden on small DPOs that may result due to multiple audits by various broadcasters?**
  - ii. If no, what should be the mechanism to verify that the monthly subscription reports made available by the small DPOs to the broadcasters are complete, true and correct?**
- B. If you are of the view that the small DPOs should not be exempted from the mandatory audit, then**
  - i. how should the compliance burden of small DPOs be reduced?**
  - ii. should the frequency of causing mandatory audit by such small DPOs be decreased from once in every calendar year to say once in every three calendar years?**
  - iii. alternatively, should small DPOs be permitted to do self-audit under Regulation 15(1), instead of audit by BECIL or any TRAI empaneled auditor?**

## **Scheduling of audit**

2.10 The sub-regulation (1) of Regulation 15 of the Interconnection Regulations 2017 mandates all the distributors of television channels to cause audit of their system once in a calendar year.

2.11 As per Schedule of Interconnection Regulation 2017:

*“(B) Scheduling: The annual Audit as caused by Distributor under regulation 15 (1) shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years. Further, there should not be a gap of more than 18 months between audits of two consecutive calendar years”*

2.12 In the Interconnection Regulations 2017, it has been specified that there should be a minimum and a maximum gap of 6 and 18 months respectively, between two annual audits caused by a DPO. In the past two years, it has come to the notice of the Authority that many DPOs wait until the end of the year to cause audits of their systems to ensure compliance with Interconnection Regulations 2017. In addition, it has also been noted that there is some ambiguity with respect to period of audits i.e., duration for which the audit is conducted. The Authority is of the opinion that audits may be conducted in a time bound manner every year and should cover the entire unaudited period.

2.13 One may note that in the case of financial audits, all the listed companies are required to file their audited financials within 60 days from the end of the financial year, i.e., by 30<sup>th</sup> May. The relevant provisions of Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 reads as under:

### ***“Financial Results***

*33. ....(3) The listed entity shall submit the financial results in the following manner:*

*...(d) The listed entity shall submit [annual]<sup>3</sup> audited standalone financial results for the financial year, within sixty days from the end of the financial year along with the audit report and [Statement on*

*Impact of Audit Qualifications (applicable only)<sup>4</sup> for audit report with modified opinion):*

*Provided that if the listed entity has subsidiaries, it shall, while submitting annual audited standalone financial results also submit annual audited consolidated financial results along with the audit report and [Statement on Impact of Audit Qualifications (applicable only)<sup>5</sup> for audit report with modified opinion)::]<sup>6</sup>*

*[Provided further that, in case of audit reports with unmodified opinion(s), the listed entity shall furnish a declaration to that effect to the Stock Exchange(s) while publishing the annual audited financial results.]<sup>7</sup>...*"

2.14 Similarly, all the companies that are registered under Companies Act 2013 are required to file their financials and annual return with the Ministry of Corporate Affairs. It may be noted that under Section 137 of the Companies Act 2013 companies are required to file their Audited financial Statement in Form AOC-4 within 30 days of the Annual General Meeting of the Company. Further, one person companies are required to file a copy of financial statements within 180 days from the closure of the financial year. The relevant provision of The Companies Act 2013 reads as under:

**“137. Copy of financial statement to be filed with Registrar.—** (1) *A copy of the financial statements, including consolidated financial statement, if any, along with all the documents which are required to be or attached to such financial statements under this Act, duly adopted at the annual general meeting of the company, shall be filed with the Registrar within thirty days of the date of annual general meeting in such manner, with such fees or additional fees as may be prescribed within the time specified under section 403:*

*Provided that where the financial statements under sub-section (1) are not adopted at annual general meeting or adjourned annual general meeting, such unadopted financial statements along with the required documents under sub-section (1) shall be filed with the Registrar within thirty days of the date of annual general meeting and the Registrar shall take them in his records as provisional till the financial statements are filed with him after their adoption in the adjourned annual general meeting for that purpose:*

*Provided further that financial statements adopted in the adjourned annual general meeting shall be filed with the Registrar within thirty*

*days of the date of such adjourned annual general meeting with such fees or such additional fees as may be prescribed within the time specified under section 403:*

*Provided also that a One Person Company shall file a copy of the financial statements duly adopted by its member, along with all the documents which are required to be attached to such financial statements, within one hundred eighty days from the closure of the financial year:*

*Provided also that a company shall, along with its financial statements to be filed with the Registrar, attach the accounts of its subsidiary or subsidiaries which have been incorporated outside India and which have not established their place of business in India.”*

Hence, it is noted that in the case of companies, emphasis has been laid on time bound submission of reports.

- 2.15 As per the existing provisions of Interconnection Regulations 2017, the DPOs have been mandated to cause audit of their systems every calendar year. Since financial year is generally used for accounting purposes, an issue for consideration could be whether the existing provision of calendar year should continue or financial year may be specified in place of calendar year.
- 2.16 Another issue for consideration is as to how audits may be scheduled and how it may be ensured that the DPOs cause audit of their systems in a time bound manner.
- 2.17 As mentioned earlier, as per the existing provisions of the Interconnection Regulations 2017, there should be a minimum and a maximum gap of 6 and 18 months respectively, between two annual audits caused by a DPO. In the past two years, it has come to the notice of the Authority that many DPOs wait until the end of the year to cause audits of their systems to ensure compliance with Interconnection Regulations 2017. Broadcasters have raised the issue that they are unable to cause audit under regulation 15(2) in a particular year in many cases, where they are not satisfied with the audit report received under 15(1) as the DPO give the report under



15(1) near the year end. Broadcasters have also raised the issue that in many cases they are unable to cause audit/subscription audit to verify that the monthly subscription reports made available by the distributor to the broadcasters are complete, true and correct under regulation 15(2) in a particular year, as many DPOs do not cause audit of their system under regulation 15(1) in a particular year. In such a case one may opine that the DPOs may be mandated to cause audit of their systems within a fixed period say within nine months so that broadcasters get time to cause audit/challenge audit. Besides this, if any DPO do not cause audit of its systems in a calendar year as specified in Regulation 15(1) then broadcasters may be permitted to cause both subscription audit and/or compliance audit<sup>3</sup> of that year within a fixed period say 2-3 months after the end of that calendar year. Similarly for the audit report received by the broadcaster from the DPO (under regulation 15(1)), the broadcasters may be permitted to cause challenge audit under regulation 15(2) within a fixed time period (say, 3 months) from the date of receipt of that report for that calendar year, including spilling over of such period to the next year.

### **Issues for consultation**

**Q3. As per the existing Interconnection Regulation, all the distributors of television channels have been mandated to cause audit of their system once in a calendar year. Should the existing provision of “calendar year” be continued or “financial year” may be specified in place of calendar year? Please justify your answer with proper reasoning.**

**Q4. As per the existing Interconnection Regulation, the annual audit caused by DPO under regulation 15 (1), shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years and there should not be a gap of more than 18 months between audits of two consecutive calendar**

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<sup>3</sup> Compliance audit is carried out to ensure that the addressable systems to be used by DPO meet the requirements as specified in the Schedule III or the Schedule X or both, as the case may be.

**years. Instead of above, should the following schedule be prescribed for annual audit?**

- i) The DPOs may be mandated to complete annual audit of their systems by 30<sup>th</sup> September every year.**
- ii) In cases, where a broadcaster is not satisfied with the audit report received under regulation 15(1), broadcaster may cause audit of the DPO under Regulation 15(2) and such audit shall be completed latest by 31<sup>st</sup> December.**
- iii) In case DPO does not complete the mandatory annual audit of their systems by 30<sup>th</sup> September in a year, broadcaster may cause audit of the DPO under Regulation 15(2) from 1<sup>st</sup> October to 31<sup>st</sup> December year. This shall not absolve DPO from causing mandatory audit of that year by 30<sup>th</sup> September and render the non-complaint DPO liable for action by TRAI as per the provisions of Interconnection Regulation 2017?**

**Justify your answer with proper reasoning.**

**Q5 In case you do not agree with schedule mentioned in Q4, then you are requested to provide your views on the following issues for consultation:**

- i. As per the existing Interconnection Regulation, the annual audit caused by DPO under regulation 15(1), shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years and there should not be a gap of more than 18 months between audits of two consecutive calendar years. Does the above specified scheduling of audit need any modification? If yes, please specify the modifications proposed in scheduling of audit. Please justify your answer with proper reasoning.**
- ii. For the audit report received by the broadcaster from the DPO (under regulation 15(1)), should the broadcasters be permitted to cause audit under regulation 15(2) within a fixed time period (say**

**3 months) from the date of receipt of that report for that calendar year, including spilling over of such period to the next year?**

- **If yes, what should be the fixed time period within which a broadcaster can cause such audit. Please support your answer with proper justification and reasoning.**
- **If no, then also please support your answer with proper justification and reasoning?**

**iii. In case a DPO does not cause audit of its systems in a calendar year as specified in Regulation 15(1) then should broadcasters be permitted to cause both subscription audit and/or compliance audit for that calendar year within a fixed period (say 3 months) after the end of that calendar year?**

- **If yes, what should be the fixed time period (after the end of a calendar year) within which a broadcaster should be allowed to get the subscription audit and/or compliance audit conducted for that calendar year? Please support your answer with proper justification and reasoning.**
- **If no, then also please support your answer with proper justification and reasoning?**

**Q6. What measures may be adopted to ensure time bound completion of audits by the DPOs? Justify your answer with proper reasoning.**

## CHAPTER 3

### AMENDMENTS TO AUDIT MANUAL

3.1 The Authority has in consultation with BECIL proposed the revised version of Audit manual after due edits/modifications. The revised version of the Audit Manual has been attached at **Annexure I**. The document at Annexure I highlights the suggested modifications in yellow and blue color. Table 1 provides a list of the proposed amendments in the Audit Manual:

**Table 1: Summary of Amendments in audit manual proposed in this consultation paper**

<b>S no</b>	<b>Page number of the existing Audit Manual</b>	<b>Clause number of the clause in existing Audit Manual, wherein amendment is proposed</b>	<b>Clause number (in case of new addition) of the proposed Audit Manual</b>
1	Page 8	4.4	
2	Page 9	5.7	
3	Page 9	5.8	
4	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	5.9
5	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	7A
6	Page 11	7. A.1	
7	Page 16	7.A.12 and 7. A.13	
8	Page 17	7. A.14	

<b>S no</b>	<b>Page number of the existing Audit Manual</b>	<b>Clause number of the clause in existing Audit Manual, wherein amendment is proposed</b>	<b>Clause number (in case of new addition) of the proposed Audit Manual</b>
9	Page 20-21	7.B.1	
10	Page 21	7.B.2	
11	Page 23	7.B.11	
12	Page 24	7.B.14	
13	Page 26	7.C.8	
14	Page 26	7.C.9	
15	Page 27	8.1	
16	Page 27	8.3	
17	Page 27	8.5	
18	Page 27	8.7	
19	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	8.8
20	Page 29-30	10.3	
21	Page 31	11.6	
22	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	11.7
23	Page 33	14 (a)	
24	Page 34	15 (a)	
25	Page 34	15 (b)	
26	Page 34	15 (c)	

<b>S no</b>	<b>Page number of the existing Audit Manual</b>	<b>Clause number of the clause in existing Audit Manual, wherein amendment is proposed</b>	<b>Clause number (in case of new addition) of the proposed Audit Manual</b>
27	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	15 (d)
28	37-38	18.A.2	
29	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	18. A. 17
30	Page 42	18. C. 14	
31	NewAdd (NewAdd implies that new addition has been proposed)	NewAdd (NewAdd implies that new addition has been proposed)	18. C. 35
32	Page 77	Annex 7	
33	Page 82	Annex 7	
34	Page 83	NewAdd (NewAdd implies that new addition has been proposed)	Annex 7

*(Note: All the modifications proposed in the existing Audit Manual have been highlighted in YELLOW and BLUE color in Annexure I; the amended clauses or the clauses which have been added (and are not present in the existing Audit Manual) have been written in RED color and highlighted in YELLOW colour in Annexure I; the clauses/extracts which the consultation paper proposes to be removed from the existing Audit Manual have been strikethrough and highlighted in BLUE colour in Annexure I.)*

### Issues for consultation

**Q7. Stakeholders are requested to offer their feedback on the amendments proposed in the Audit manual in this consultation paper (CP) in the format as given in Table 2.**

**Table 2: Format for stakeholders' response on issues related to audit manual raised in this consultation paper**

<b>S no</b>	<b>Page number of the existing Audit Manual</b>	<b>Clause number of the existing Audit Manual</b>	<b>Do you agree with the amendment proposed in this CP (Yes/No)</b>	<b>If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you</b>	<b>Reasons with full justification of your response</b>
<b>1</b>					
<b>2</b>					

3.2 The Authority also invites comments on any other amendment deemed necessary by the stakeholders in the existing Audit Manual. Stakeholders may clearly indicate the page number of the existing Audit Manual, clause number of the existing Audit Manual, existing clause, amendment proposed by the stakeholder and the reasons for suggesting the amendment along with justification supporting his/her/its response.

### Issues for consultation

**Q8. Please provide your comments/any other suggested amendment with reasons thereof in the Audit Manual that the stakeholder considers necessary (other than those proposed in this consultation paper). The stakeholders must provide their comments in the format specified in Table 3 explicitly indicating the existing clause number, suggested amendment and the reason/full justification for the amendment in Audit Manual.**

**Table 3: Format for stakeholders' response on issues related to audit manual on issues other than those proposed in this consultation paper**

S no	Existing /New clause	In case of new clause, please indicate clause number inserted	In case of Existing clause			Suggested Amendment	Reasons/ full justification for the proposed amendment
			Page number of the existing Audit Manual	Clause number of the existing Audit Manual	Existing Clause		
1							
2							



## CHAPTER 4

### ISSUES RELATED TO INFRASTRUCTURE SHARING

- 4.1 Government of India vide its order No. N-36012/5/2020-BP&L dated 6<sup>th</sup> November, 2020<sup>4</sup> amended the guidelines for HITS operators and permitted sharing of infrastructure between HITS operators and MSOs **(Annexure II)**. As per the amended guidelines, a HITS operator may share the platform infrastructure on a voluntary basis, in flexible ways, for distribution of TV channels provided that the signals of the HITS platform are distributed to subscribers through cable operator only and the encryption of signals, addressability and liabilities are not compromised.
- 4.2 In addition, consequent upon acceptance of TRAI recommendations on "Sharing of Infrastructure in Television Broadcasting Distribution Sector" dated 29<sup>th</sup> March 2017, the sharing of infrastructure by Multi-System Operators is permitted vide MIB order dated 29<sup>th</sup> December 2021<sup>5</sup>**(Annexure III)**.
- 4.3 Further, MIB has also issued operational guidelines in respect of license fee, platform service channels and sharing of infrastructure by DTH operators on 16<sup>th</sup> September 2022<sup>6</sup> **(Annexure IV)**.
- 4.4 It may be noted that the above-mentioned guidelines may have certain repercussions on Interconnection Regulations 2017 and existing Audit Manual. Therefore, it is pertinent to review the existing framework and incorporate the enabling provisions in the Interconnection Regulation 2017 and Audit Manual.

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<sup>4</sup> Source: <https://mib.gov.in/sites/default/files/Amendment%20in%20HITS%20guidelines%20.pdf>

<sup>5</sup> Source: <https://mib.gov.in/sites/default/files/Guidelines%20for%20sharing%20of%20infrastructure.pdf>

<sup>6</sup> Source:

<https://mib.gov.in/sites/default/files/%28English%20Version%29%20Operational%20Guidelines%20for%20Direct-To-Home%20%28DTH%29%20Broadcasting%20service%20in%20India%20dated%2016.09.2022.pdf>

**A. Issues related to infrastructure sharing between HITS operator and MSO**

- 4.5 TRAI had received a representation from one of the stakeholders wherein the operator has mentioned that with its recommendation paper of 29<sup>th</sup> March 2017, TRAI proposed its recommendations to enable MSOs to utilize the video delivery infrastructure of HITS to deliver their signals far and wide across the country. The stakeholder mentioned that the HITS technology has the advantage of being able to deliver video signals across the country and allow MSOs to penetrate quickly into new areas/regions without heavy capex or opex investments. Further, MIB in its Order of 6<sup>th</sup> November 2020 confirmed that MSOs were free to get into voluntary agreements with a HITS service provider for HITS infrastructure sharing services. The stakeholder had further informed TRAI that in April 2021, they have received their approval from the MIB for infrastructure sharing services on its platform.
- 4.6 Further the stakeholder informed TRAI that they developed a Broadcaster Control Portal that enables the broadcasters to be able to exercise their rights to disconnect any MSO from the service in the event of default of payments or any other breach of contract. This portal was developed by 3<sup>rd</sup> party development agency specifically for them and enables each broadcaster to view their own channels and enable encryption/disable encryption for each MSO's CAS independently. This is also in compliance with the terms of the MIB Order on HITS infrastructure sharing with MSOs, dated 6<sup>th</sup> November 2020.
- 4.7 In this regard, the stakeholder has informed TRAI that a number of questions regarding auditing the system have been raised by certain broadcasters. Comments of Broadcast Engineering Consultants India Limited (BECIL) were also sought on these issues. These questions along with the view of the stakeholder and issue for consultation are discussed in forthcoming paras.

## **Issues related to infrastructure sharing amongst MSOs and amongst DTH operators**

4.8 Consequent upon acceptance of TRAI recommendations on "Sharing of Infrastructure in Television Broadcasting Distribution Sector" dated 29<sup>th</sup> March, 2017, the sharing of infrastructure by Multi-System Operators was permitted by MIB and MIB issued guidelines in this regard on 29<sup>th</sup> December, 2021. In this regard, TRAI requested two main industry associations to furnish their inputs on amendments required in the Interconnection Regulation 2017 and the Audit Manual dated 8<sup>th</sup> November, 2019 in view of the MIB's guidelines on sharing of infrastructure sharing by MSOs and by HITS operators. To discuss the issues, various meetings were also held with these industry associations since February 2022. One of the associations provided its inputs to TRAI vide its email dated 07.07.2022. Subsequently, another association furnished its inputs vide email dated 08.09.2022. The inputs received explicitly on 'Amendments required in the Interconnection Regulation 2017 and the Audit Manual 2019 in view of the MIB's guidelines on sharing of infrastructure sharing by MSOs and by HITS operators', are discussed in forthcoming paras. Further, MIB has also issued operational guidelines in respect of license fee, platform service channels and sharing of infrastructure by DTH operators on 16<sup>th</sup> September 2022. The issues related to infrastructure sharing amongst DTH operators are also discussed in forthcoming paras.

### **Issue No. 1: Watermarking from the Encoders**

4.9 As per (D) 14 of Schedule III of Interconnection Regulations 2017:

*"The watermarking network logo for all pay channels shall be inserted at encoder end only.*

*Provided that only the encoders deployed after coming into effect of these Amendment regulations shall support watermarking network logo for all pay channels at the encoder end.”*

4.10 In this regard, one stakeholder in its representation to TRAI has opined that

*... under Infrastructure Sharing, only the source watermark of the Infrastructure Sharing provider be made mandatory from the encoder. Each MSO/DPO taking advantage of infrastructure sharing would then add their respective watermark directly from their STB software....*

4.11 Another stakeholder has suggested that the Regulation should be amended to mention the following:

*“The watermarking network logo for all pay channels shall be inserted at STB end only.”*

The stakeholder has mentioned that in case of infrastructure sharing since the encoder will belong to primary (infrastructure provider) MSO, the watermarking on the channels will only reflect logos of primary MSOs. Hence, to correct this, the watermarking should be allowed at the STB level, so that logos of primary (infrastructure provider) and secondary (infrastructure seeker) MSO are visible to the respective consumers of both the MSOs. This will help in curbing the chances of Piracy.

4.12 Insertion of watermarking network logo from encoder end is a mandatory requirement under Interconnection Regulations 2017. However, one may opine that compliance to this requirement of schedule III in infrastructure sharing between DPOs is difficult to achieve because of following reasons:

- I. Since the encoders will be shared by multiple DPOs under infrastructure sharing insertion of multiple watermarking of each DPO from encoders will result into appearance of multiple DPO logos on the end screen which will compromise the quality of the video signal on the TV screen.
- II. Deploying separate encoders for each DPO will defeat the purpose of infrastructure sharing as it will have huge financial implications.

4.13 One may opine that the purpose of the abovementioned clause regarding watermarking logo insertion at the encoder end in Interconnection Regulations is to tackle piracy by tracing the source of signal which is used for piracy. This is due to the fact that a rogue entity is somehow able to disable logo on the STB. This piracy issue may be addressed by DPO (infrastructure provider) by deploying encoders capable of inserting watermarking logo at its head-end which will be helpful in establishing the source of signal. The same can also be authenticated with broadcasters fingerprinting as well. DPO's solution therefore proposes watermarking logo insertion at encoder level and for DPOs sharing their infrastructure through STB. At the ground level, the DPO whose STB is used for piracy can be traced from the logo available on the STB. In case someone is able to mask the STB logo using some rogue software than the global EMM fingerprinting can be triggered by the DPO sharing infrastructure of infrastructure sharing provider to find out the STB ownership so that the same can be blacklisted. This would also avoid multiple logo appearance on video signal and avoid additional financial implications for separate encoders deployment.

#### **Issue for consultation**

**Q9. In light of the infrastructure sharing guidelines issued by MIB, should clause D-14 (CAS & SMS) of Schedule-III of Interconnection Regulation 2017), be amended as follows:**

***“The watermarking network logo for all pay channels shall be inserted at encoder end only.***

***Provided that only the encoders deployed after coming into effect of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019 (7 of 2019) shall support watermarking network logo for all pay channels at the encoder end.***

***In case of infrastructure sharing, the infrastructure sharing provider shall insert its watermarking network logo for all pay channels at encoder end while each DPO taking services from infrastructure provider distributor shall insert its own watermarking network logo for all pay channels at STB end.”***

**Please support your answer with proper justification and reasoning. If you do not agree then suggest an alternative amendment, with proper justification?**

**Q10. In case of infrastructure sharing, if it is decided that the infrastructure sharing provider shall insert its watermarking network logo for all pay channels at encoder end while each DPO taking services from infrastructure provider distributor shall insert its own watermarking network logo for all pay channels at STB end,**

- i) does the specification of the logos (transparency level, size, etc), of both Infrastructure provider and infrastructure seeker distributors, need to be regulated? If yes, please provide detailed specification (transparency level, size, etc) of the logos of both Infrastructure provider and infrastructure seeker distributor.**
- ii) Since appearance of the logos of more than one DPO on the TV screen may compromise the quality of the video signal at the subscriber’s end, what measures such as overlapping logos of the DPOs or any other solution, should be adopted to ensure that while logo of the DPO (infrastructure seeker) is prominently visible on the subscriber’s TV screen, the objective of tracing piracy is also met through watermarking the network logo of the infrastructure provider DPO suitably? Please provide details of measure proposed.**

**Please support your answer with proper justification and reasoning.**

**Issue No. 2: CAS independently capable of generating, recording and maintaining logs**

4.14 As per (C) 14 of Schedule III of Interconnection Regulations 2017:

*“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.”*

**Views of one of the stakeholders**

4.15 In this regard, one of the stakeholders has suggested that the Regulation should be amended to mention the following:

*“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.*

*In case Infrastructure is shared between one or more MSOs, the CAS shall be 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 for each MSO separately.”*

The stakeholder has mentioned that since the infrastructure would be shared, the primary MSO's CAS shall be shared by secondary MSO, hence the regulation should permit sharing of CAS and generation of report for both the primary and secondary MSO.

**Q11. In light of the infrastructure sharing guidelines issued by MIB, should clause C-14 (CAS & SMS) of Schedule-III of Interconnection Regulation 2017), be amended as follows:**

***“The CAS shall be independently capable of generating, recording, and maintaining logs, for a 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.***

***In case Infrastructure is shared between one or more distributors, the CAS shall be capable of generating, recording, and maintaining logs for each distributor separately 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.”***

**Please support your answer with proper justification and reasoning. If you do not agree then suggest an alternative amendment, with proper justification?**

### **Issue No. 3: Mandatory audit process of SMS/CAS**

4.16 In this regard, one of the stakeholders in its representation to TRAI has opined the following:

*Under the HITS infrastructure sharing process, the only place that is common to both HITS and the DPOs is the multiplexers. Each DPO continues to retain its own CAS and SMS platforms which are not merged or shared with HITS operator.*

*We have proposed the following approach to broadcasters for auditing of the systems. Whenever an MSO using Infrastructure Sharing does their annual system audit, the auditors may come to do the “headend” aspects of the audit at our HITS teleport facility in order to check the multiplexers, encoders etc.*

*However, one broadcaster would like us to do a complete audit of all the MSO’s and HITS headends and systems including CAS and SMS at the same time. Under this form of infrastructure sharing, there is no sharing of any CAS or SMS systems, hardware or data. The CAS/SMS systems of the MSO remain in their possession at their own facilities. As such there is no need to take all HITS operator CAS/SMS data and the CAS/SMS data of the MSOs together in order to check that all are synchronised together.*

*We believe that each MSO’s CAS/SMS systems should be assessed independently and as part of their own audits as defined by TRAI. In the event that in the future, HITS has, for example, 10 infrastructure sharing clients, it would be impossible and highly time-consuming to do the audit of HITS operator and 10 other MSOs at the same time and by the same auditor. We do not believe this is a practical approach.*

*There cannot be any risk in the proposed approach as each MSO and HITS operator will be independently responsible for their own SMS/CAS systems which will reside at their own datacentres, in line with the current guidelines in force.*



- 4.17 One may opine that in the instant case, the common infrastructure between HITS and other DPOs includes dish farm, decoders, encoders, uplink mechanism and multiplexer. The CAS and SMS of all DPOs sharing infrastructure are separate and only ECMG server is used with HITS operator mux in order to simulcrypt the signal in order to ensure delivery of signals to STB with different conditional access systems. Thus, the rest of chain involving CAS and SMS systems and delivery mechanism to end consumers is independent of any DPO sharing the services.
- 4.18 These DPOs have separate agreements with the broadcasters and provide monthly MSR reports to them separately. In view of the above one may opine that audit of these DPOs/MSOs may be done independently as part of their own audits as specified in Interconnection Regulations 2017. Auditors may come to HITS platform in order to inspect the HITS operator for headend related checks and common infrastructure sharing elements to ensure DPOs system chain for delivery of signals. Thus, in case if the audit initiated by one DPO than all the checks and audits should be confined to his CAS/SMS and inspection of CAS and SMS of HITS or other DPOs may not be required.
- 4.19 Further, HITS operator has also been mandated to cause annual audit of its systems as per Interconnection Regulations 2017 and whatever systems (CAS and SMS and STB) HITS operator has deployed would already been checked and tested by the auditor. In view of above, one may opine that insistence to carry out complete audit of every DPO sharing infrastructure every time may not be necessary.

**Issue No. 4: Broadcasters wanting to do complete technical audit prior to launching of Infrastructure sharing services**

- 4.20 One of the stakeholders in its representation to TRAI has opined the following:

*One broadcaster is requiring HITS operator and any MSO wanting to use the service to undertake a complete technical audit by the broadcaster themselves prior to*

*giving them “approval” for commencing the services. As both HITS operator and the MSOs are anyway completing annual audits of our systems ....., then we do not see the purpose of the same.....”*

- 4.21 One may opine that as long as CAS and SMS are not shared by the HITS operator or any other entity there should not be any requirement of common audit in case of infrastructure sharing services. As all the DPOs/MSOs/DTH/HITS are required to undergo mandatory annual audit every year and thus any specific/relevant requirement of broadcaster can be audited during yearly audits. The common elements of infrastructure sharing are also getting audited during these annual audits. Thus, complete technical audit by the broadcaster themselves prior to giving HITS operator “approval” for commencing the services should be prohibited.
- 4.22 In case CAS and SMS are shared, then the issue for consideration is as to what provisions for conducting audit should be introduced to ensure that the monthly subscription reports made available by the distributors (sharing the infrastructure) to the broadcasters are complete, true, and correct, and there are no manipulations due to sharing of CAS/DRM/SMS and should a broadcaster be allowed to simultaneously audit (broadcaster-caused audit) all the DPOs sharing the CAS/DRM/SMS.

#### **Issue for consultation**

**Q12. For those cases of infrastructure sharing where the CAS and SMS are not shared by the infrastructure provider with the infrastructure seeker,**

- i. do you agree that in such cases, the audit of the infrastructure seeker so far as the shared infrastructure is concerned, should extend to only those elements of the infrastructure of the provider which are being shared between the DPOs?**
- ii. should a broadcaster be permitted to cause the complete technical audit of all the DPOs, including the audit of the shared**

**infrastructure, as a precondition for the broadcaster to provide the signals of television channels, if the broadcaster so decides? Please support your answers with proper justification and reasoning.**

**Q13. In case CAS and SMS are shared amongst service providers,**

- i. what provisions for conducting audit should be introduced to ensure that the monthly subscription reports made available by the distributors (sharing the infrastructure) to the broadcasters are complete, true, and correct, and there are no manipulations due to sharing of CAS/DRM/SMS?**
- ii. should a broadcaster be allowed to simultaneously audit (broadcaster-caused audit) all the DPOs sharing the CAS/DRM/SMS, to ensure that monthly subscription reports are complete, true, and correct in respect of all such DPOs, and there are no manipulations due to sharing of CAS/DRM/SMS? Support your answer with proper justification and reasoning.**

#### **Issue No. 5: Multiplexer Log assessment**

4.23 One of the stakeholders in its representation to TRAI has opined the following:

*“One broadcaster would like an additional test to be added to the audit manual to enable the auditors to compare the mux logs with those of the broadcaster control portal to ensure that all changes initiated from the portal have indeed been sent to the muxes and applied to the live system. We are comfortable to add this change to the audit processes. However, the auditors should split the information for each broadcaster such that no broadcaster will see another’s data.”*

4.24 One may opine that in order to ensure broadcasters trust in the infrastructure sharing services the assessment of the multiplexer logs may be allowed during the audit in case of infrastructure sharing amongst DPOs. Assessment of multiplexer logs during the audits will ensure the trust of broadcaster in case of infrastructure sharing between DPOs. Accordingly, suitable amendments are required to be done in audit

manual for assessment of logs during audit procedure in case of infrastructure sharing services.

### **Issue for consultation**

**Q14. Do you agree that in case of infrastructure sharing between DPOs, suitable amendments are required in the Schedule III of the Interconnection Regulation and the audit manual for assessment of multiplexer's logs during audit procedure? If yes, please suggest the proposed amendment(s), keeping in mind that no broadcaster should be able to see the data of another broadcaster. Please support your answer with proper justification and reasoning. If you do not agree, then also please support your answer with proper justification and reasoning?**

### **Issue No. 6: Scope of work under pre- signal/compliance audit**

4.25 Clause 4.5 of the Audit Manual mentions the following:

*"Check MUX configuration to validate number of Transport Streams ("TS") configured with SID, scrambling status of each SID and ECM and EMM configuration (MUX-TSStream-No. of ECM & EMM configured)"*

4.26 In this regard, one of the stakeholders has opined that as ECM and EMM are shared resources, therefore there is no need to check the MUX configuration of transport stream as there will always be a single stream, in case of Infrastructure sharing. The Authority is requested to suitably amend the existing clause of Audit Manual.

### **Issue for consultation**

**Q15. In light of infrastructure sharing, does clause 4.5 of the existing Audit Manual require any amendment? If yes, please suggest the amended clause. Please provide proper justification for your response. If no,**

**then also please support your answer with proper justification and reasoning?**

**Issue No. 7: Certificate from CAS and SMS vendor**

4.27 As per clause 5.3 and 5.4 of Audit manual:

***“5. Documents required under pre-signal/Compliance audit.***

.....

*5.3 Certificate from all the CAS vendors (Format as in **Annexure 1**).*

*5.4 Certificate from SMS vendors (Format as in **Annexure 2**).”*

4.28 In this regard, one of the stakeholders in its representation to TRAI has opined that clause 5.3 and 5.4 of the Audit Manual may be amended to read as follows:

“All the Certificates / documents related to CAS and SMS, should be given by the Primary MSO on the basis of certificate issued to it by CAS and SMS vendor.”

The stakeholder has mentioned that similar documents for both the MSOs will only delay and complicate the audit process and will make it more cumbersome. Therefore, all the documents shall be asked from Primary MSO.

**Issue for consultation**

**Q16. In light of the infrastructure sharing guidelines issued by MIB, should clause 5.3 and clause 5.4 of Audit Manual be amended to read as follows:**

***“5.3 Certificate from all the CAS vendors (Format as in Annexure 1).  
5.4 Certificate from SMS vendors (Format as in Annexure 2).***

***Note: In case of Infrastructure sharing, all the certificates/ documents related to CAS and SMS, should be given by the***

*infrastructure provider distributor on the basis of certificate issued to it by CAS and SMS vendor.”*

#### **Issue No. 8: Other issues**

4.29 In addition to above mentioned 7 issues, there may be a need to amend other existing provisions of Interconnection Regulations 2017 and Audit manual to facilitate infrastructure sharing amongst MSOs, amongst DTH operators and between MSOs and HITS operators. Stakeholders' comments are invited on the amendments required in Interconnection Regulation 2017 and Audit manual to promote infrastructure sharing amongst DPOs.

#### **Issue for consultation**

**Q17. In light of the infrastructure sharing guidelines issued by MIB for sharing of infrastructure amongst MSOs, amongst DTH operators and between MSO and HITS operator, do you think that there is a need to amend any other existing provisions of Interconnection Regulations 2017 or introduce any additional regulation(s) to facilitate infrastructure sharing amongst MSOs, amongst DTH operators and between MSOs and HITS operators? If yes, please provide your comments with reasons thereof on amendments (including any addition(s)) required in the Interconnection Regulation 2017, that the stakeholder considers necessary in view of Infrastructure guidelines issued by MIB. The stakeholders must provide their comments in the format specified in Table 4 explicitly indicating the existing Regulation number/New Regulation number, suggested amendment and the reason/ full justification for the amendment in the Interconnection Regulation 2017.**

**Table 4: Format for stakeholders' response on amendments required in Interconnection Regulation 2017 in view of Infrastructure guidelines issued by MIB**

<b>S no</b>	<b>Regulation number of the existing Interconnection Regulation 2017/New Regulation number proposed in the Interconnection Regulations 2017</b>  <b>(1)</b>	<b>Provisions of the existing Regulation</b>  <b>(2)</b>	<b>Amendment/ new provision(s) suggested by the stakeholder</b>  <b>(3)</b>	<b>Reasons/ full justification for the proposed amendment</b>  <b>(4)</b>
1				
2				

(Note: In case additional regulation is proposed column (2) may be left blank)

**Q18. In light of the infrastructure sharing guidelines issued by MIB for sharing of infrastructure amongst MSOs, amongst DTH operators and between MSO and HITS operator, do you think that there is a need to amend any other existing provisions of Audit Manual or introduce any additional clause(s) to facilitate infrastructure sharing amongst MSOs, amongst DTH operators and between MSOs and HITS operators? If yes, please provide your comments with reasons thereof on amendments (including any addition(s)) required in Audit Manual, that the stakeholder considers necessary in view of Infrastructure guidelines issued by MIB. The stakeholders must provide their comments in the format specified in Table 5 explicitly indicating the existing clause number/New Clause Number, suggested amendment and the reason/ full justification for the amendment in Audit Manual.**

**Table 5: Format for stakeholders' response on amendments required in Audit Manual in view of Infrastructure guidelines issued by MIB**

<b>S no</b>	<b>Page number of the existing Audit Manual (1)</b>	<b>Clause number of the existing/New clause Number Audit Manual (2)</b>	<b>Existing Clause (3)</b>	<b>Amendment/new provision(s) suggested by the stakeholder (4)</b>	<b>Reasons/full justification for the proposed amendment (5)</b>
1					
2					

(Note: In case additional clause is proposed column (1) and (3) may be left blank)

**Q19. Stakeholders may also provide their comments on any other issue relevant to the present consultation.**



## CHAPTER 5

### SUMMARY OF ISSUES FOR CONSULTATION

**Q1. Should provision of Regulation 15(1) be retained or should it be removed in the Interconnection Regulation 2017?**

- i) In case you are of the opinion that provisions of Regulation 15(1) should be retained then**
  - a. Should it continue in its present form or do they need any modifications?**
  - b. In case you are of the opinion that modifications are required in Regulation 15(1) of the Interconnection Regulation 2017, then please suggest amended regulations along with detailed justification for the same.**
- ii) In case it is decided that provisions of Regulation 15(1) should be removed then what mechanism should be adopted to ensure that the monthly subscription reports made available by the distributors to the broadcasters are complete, true and correct?**

**Q2. Should small DPOs be exempted from causing audit of their systems every calendar year, under Regulation 15(1) of Interconnection Regulation?**

**A. If yes, then,**

- 1. Should 'subscriber base' of DPO be adopted as a criterion for defining small DPOs for this purpose?**
  - i. If yes,**
    - a) what limit of the subscriber base should be adopted to define small DPOs for the purpose of exempting them from causing audit of their systems under Regulation 15(1)?**
    - b) on which date of the year should the DPOs' subscriber base be taken into consideration for categorising whether or not the DPO falls in exempted category?**



**Q3. As per the existing Interconnection Regulation, all the distributors of television channels have been mandated to cause audit of their system once in a calendar year. Should the existing provision of “calendar year” be continued or “financial year” may be specified in place of calendar year? Please justify your answer with proper reasoning.**

**Q4. As per the existing Interconnection Regulation, the annual audit caused by DPO under regulation 15 (1), shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years and there should not be a gap of more than 18 months between audits of two consecutive calendar years. Instead of above, should the following schedule be prescribed for annual audit?**

- i) The DPOs may be mandated to complete annual audit of their systems by 30<sup>th</sup> September every year.**
- ii) In cases, where a broadcaster is not satisfied with the audit report received under regulation 15(1), broadcaster may cause audit of the DPO under Regulation 15(2) and such audit shall be completed latest by 31<sup>st</sup> December.**
- iii) In case DPO does not complete the mandatory annual audit of their systems by 30<sup>th</sup> September in a year, broadcaster may cause audit of the DPO under Regulation 15(2) from 1<sup>st</sup> October to 31<sup>st</sup> December year. This shall not absolve DPO from causing mandatory audit of that year by 30<sup>th</sup> September and render the non-complaint DPO liable for action by TRAI as per the provisions of Interconnection Regulation 2017?**

**Justify your answer with proper reasoning.**

**Q5 In case you do not agree with schedule mentioned in Q4, then you are requested to provide your views on the following issues for consultation:**

- i. As per the existing Interconnection Regulation, the annual audit caused by DPO under regulation 15(1), shall be scheduled in such**

a manner that there is a gap of at-least six months between the audits of two consecutive calendar years and there should not be a gap of more than 18 months between audits of two consecutive calendar years. Does the above specified scheduling of audit need any modification? If yes, please specify the modifications proposed in scheduling of audit. Please justify your answer with proper reasoning.

ii. For the audit report received by the broadcaster from the DPO (under regulation 15(1)), should the broadcasters be permitted to cause audit under regulation 15(2) within a fixed time period (say 3 months) from the date of receipt of that report for that calendar year, including spilling over of such period to the next year?

- If yes, what should be the fixed time period within which a broadcaster can cause such audit. Please support your answer with proper justification and reasoning.
- If no, then also please support your answer with proper justification and reasoning?

iii. In case a DPO does not cause audit of its systems in a calendar year as specified in Regulation 15(1) then should broadcasters be permitted to cause both subscription audit and/or compliance audit for that calendar year within a fixed period (say 3 months) after the end of that calendar year?

- If yes, what should be the fixed time period (after the end of a calendar year) within which a broadcaster should be allowed to get the subscription audit and/or compliance audit conducted for that calendar year? Please support your answer with proper justification and reasoning.
- If no, then also please support your answer with proper justification and reasoning?

**Q6. What measures may be adopted to ensure time bound completion of audits by the DPOs? Justify your answer with proper reasoning.**

**Q7. Stakeholders are requested to offer their feedback on the amendments proposed in the Audit manual in this consultation paper (CP) in the format as given in Table 2.**

**Table 2: Format for stakeholders' response on issues related to audit manual raised in this consultation paper**

<b>S no</b>	<b>Page number of the existing Audit Manual</b>	<b>Clause number of the existing Audit Manual</b>	<b>Do you agree with the amendment proposed in this CP (Yes/No)</b>	<b>If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you</b>	<b>Reasons with full justification of your response</b>
<b>1</b>					
<b>2</b>					

**Q8. Please provide your comments/any other suggested amendment with reasons thereof in the Audit Manual that the stakeholder considers necessary (other than those proposed in this consultation paper). The stakeholders must provide their comments in the format specified in Table 3 explicitly indicating the existing clause number, suggested amendment and the reason/full justification for the amendment in Audit Manual.**

**Table 3: Format for stakeholders' response on issues related to audit manual on issues other than those proposed in this consultation paper**

<b>S no</b>	<b>Existing /New clause</b>	<b>In case of new clause, please indicate clause number inserted</b>	<b>In case of Existing clause</b>			<b>Suggested Amendment</b>	<b>Reasons/ full justification for the proposed amendment</b>
			<b>Page number of the existing Audit Manual</b>	<b>Clause number of the existing Audit Manual</b>	<b>Existing Clause</b>		
<b>1</b>							
<b>2</b>							

**Q9. In light of the infrastructure sharing guidelines issued by MIB, should clause D-14 (CAS & SMS) of Schedule-III of Interconnection Regulation 2017), be amended as follows:**

*“The watermarking network logo for all pay channels shall be inserted at encoder end only.*

*Provided that only the encoders deployed after coming into effect of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019 (7 of 2019) shall support watermarking network logo for all pay channels at the encoder end.*

*In case of infrastructure sharing, the infrastructure sharing provider shall insert its watermarking network logo for all pay channels at encoder end while each DPO taking services from infrastructure provider distributor shall insert its own watermarking network logo for all pay channels at STB end.”*

**Please support your answer with proper justification and reasoning. If you do not agree then suggest an alternative amendment, with proper justification?**

**Q10. In case of infrastructure sharing, if it is decided that the infrastructure sharing provider shall insert its watermarking network logo for all pay channels at encoder end while each DPO taking services from infrastructure provider distributor shall insert its own watermarking network logo for all pay channels at STB end,**

**i) does the specification of the logos (transparency level, size, etc), of both Infrastructure provider and infrastructure seeker distributors, need to be regulated? If yes, please provide detailed specification (transparency level, size, etc) of the logos of both Infrastructure provider and infrastructure seeker distributor.**

- ii) **Since appearance of the logos of more than one DPO on the TV screen may compromise the quality of the video signal at the subscriber's end, what measures such as overlapping logos of the DPOs or any other solution, should be adopted to ensure that while logo of the DPO (infrastructure seeker) is prominently visible on the subscriber's TV screen, the objective of tracing piracy is also met through watermarking the network logo of the infrastructure provider DPO suitably? Please provide details of measure proposed.**

**Please support your answer with proper justification and reasoning.**

**Q11. In light of the infrastructure sharing guidelines issued by MIB, should clause C-14 (CAS & SMS) of Schedule-III of Interconnection Regulation 2017), be amended as follows:**

***“The CAS shall be independently capable of generating, recording, and maintaining logs, for a 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.***

***In case Infrastructure is shared between one or more distributors, the CAS shall be capable of generating, recording, and maintaining logs for each distributor separately 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.”***

**Please support your answer with proper justification and reasoning. If you do not agree then suggest an alternative amendment, with proper justification?**

**Q12. For those cases of infrastructure sharing where the CAS and SMS are not shared by the infrastructure provider with the infrastructure seeker,**

- i. do you agree that in such cases, the audit of the infrastructure seeker so far as the shared infrastructure is concerned, should extend to only those elements of the infrastructure of the provider which are being shared between the DPOs?**
- ii. should a broadcaster be permitted to cause the complete technical audit of all the DPOs, including the audit of the shared infrastructure, as a precondition for the broadcaster to provide the signals of television channels, if the broadcaster so decides?**

**Please support your answers with proper justification and reasoning.**

**Q13. In case CAS and SMS are shared amongst service providers,**

- i. what provisions for conducting audit should be introduced to ensure that the monthly subscription reports made available by the distributors (sharing the infrastructure) to the broadcasters are complete, true, and correct, and there are no manipulations due to sharing of CAS/DRM/SMS?**
- ii. should a broadcaster be allowed to simultaneously audit (broadcaster-caused audit) all the DPOs sharing the CAS/DRM/SMS, to ensure that monthly subscription reports are complete, true, and correct in respect of all such DPOs, and there are no manipulations due to sharing of CAS/DRM/SMS? Support your answer with proper justification and reasoning.**

**Q14. Do you agree that in case of infrastructure sharing between DPOs, suitable amendments are required in the Schedule III of the Interconnection Regulation and the audit manual for assessment of multiplexer's logs during audit procedure? If yes, please suggest the proposed amendment(s), keeping in mind that no broadcaster should be able to see the data of another broadcaster. Please support your answer with proper justification and reasoning. If you do not agree,**



then also please support your answer with proper justification and reasoning?

**Q15. In light of infrastructure sharing, does clause 4.5 of the existing Audit Manual require any amendment? If yes, please suggest the amended clause. Please provide proper justification for your response. If no, then also please support your answer with proper justification and reasoning?**

**Q16. In light of the infrastructure sharing guidelines issued by MIB, should clause 5.3 and clause 5.4 of Audit Manual be amended to read as follows:**

*“5.3 Certificate from all the CAS vendors (Format as in Annexure 1).  
5.4 Certificate from SMS vendors (Format as in Annexure 2).*

*Note: In case of Infrastructure sharing, all the certificates/ documents related to CAS and SMS, should be given by the infrastructure provider distributor on the basis of certificate issued to it by CAS and SMS vendor.”*

**Q17. In light of the infrastructure sharing guidelines issued by MIB for sharing of infrastructure amongst MSOs, amongst DTH operators and between MSO and HITS operator, do you think that there is a need to amend any other existing provisions of Interconnection Regulations 2017 or introduce any additional regulation(s) to facilitate infrastructure sharing amongst MSOs, amongst DTH operators and between MSOs and HITS operators? If yes, please provide your comments with reasons thereof on amendments (including any addition(s)) required in the Interconnection Regulation 2017, that the stakeholder considers necessary in view of Infrastructure guidelines issued by MIB. The stakeholders must provide their comments in the format specified in Table 4 explicitly indicating the existing Regulation number/New Regulation number, suggested amendment**

and the reason/ full justification for the amendment in the Interconnection Regulation 2017.

**Table 4: Format for stakeholders' response on amendments required in Interconnection Regulation 2017 in view of Infrastructure guidelines issued by MIB**

<b>S no</b>	<b>Regulation number of the existing Interconnection Regulation 2017/New Regulation number proposed in the Interconnection Regulations 2017</b> <b>(1)</b>	<b>Provisions of the existing Regulation</b> <b>(2)</b>	<b>Amendment/ new provision(s) suggested by the stakeholder</b> <b>(3)</b>	<b>Reasons/ full justification for the proposed amendment</b> <b>(4)</b>
1				
2				

(Note: In case additional regulation is proposed column (2) may be left blank)

**Q18. In light of the infrastructure sharing guidelines issued by MIB for sharing of infrastructure amongst MSOs, amongst DTH operators and between MSO and HITS operator, do you think that there is a need to amend any other existing provisions of Audit Manual or introduce any additional clause(s) to facilitate infrastructure sharing amongst MSOs, amongst DTH operators and between MSOs and HITS operators? If yes, please provide your comments with reasons thereof on amendments (including any addition(s)) required in Audit Manual, that the stakeholder considers necessary in view of Infrastructure guidelines issued by MIB. The stakeholders must provide their comments in the format specified in Table 5 explicitly indicating the existing clause number/New Clause Number, suggested amendment and the reason/ full justification for the amendment in Audit Manual.**

**Table 5: Format for stakeholders' response on amendments required in Audit Manual in view of Infrastructure guidelines issued by MIB**

<b>S no</b>	<b>Page number of the existing Audit Manual (1)</b>	<b>Clause number of the existing/New clause Number Audit Manual (2)</b>	<b>Existing Clause (3)</b>	<b>Amendment/new provision(s) suggested by the stakeholder (4)</b>	<b>Reasons/full justification for the proposed amendment (5)</b>
1					
2					

(Note: In case additional clause is proposed column (1) and (3) may be left blank)

**Q19. Stakeholders may also provide their comments on any other issue relevant to the present consultation.**

## ACRONYMS & DESCRIPTIONS

<b>Acronyms</b>	<b>Description</b>
BECIL	Broadcast Engineering Consultants India Limited
DAS	Digital Addressable System
DPO	Distribution Platform Operator
LCO	Local Cable Operator
MSO	Multi-System Operator
DTH	Direct-to-Home
HITS	Headend in the Sky
MIB	Ministry of Information and Broadcasting
TRAI	Telecom Regulatory Authority of India

## **Annexure-I**

# **Draft The Telecommunication (Broadcasting and Cable) Services Digital Addressable Systems Audit Manual**



# The Telecommunication (Broadcasting and Cable) Services Digital Addressable Systems Audit Manual



In case of any comments regarding the manual, it may be sent to the following address:

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# 1. Background & Introduction

- 1.1 Keeping in view the implementation of Digital Addressable Systems (DAS) and effectively utilizing its benefits, Telecom Regulatory Authority of India (TRAI) after due consultation process brought out a common regulatory framework for digital addressable systems on 3 March 2017. This framework comprises of Interconnection Regulations, Quality of Service Regulations and Tariff Order for providing broadcasting services relating to television through digital addressable system.
- 1.2 The Interconnection regulations namely the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations, 2017 dated 3 March 2017 (herein after the Interconnection Regulations 2017) cover technical and commercial arrangements between Broadcaster & Distributor and Distributor & Local Cable Operators (LCOs) for providing television services to the consumers. TRAI also issued Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019 (7 of 2019) on 30 October 2019 (herein after called Amendment Regulations).
- 1.3 In the DAS based TV services value chain, a broadcaster uplinks signals of pay television channel to satellite in encrypted form. The distributor receives the signals from the satellite and decodes them using the decoder provided by the broadcaster. After processing and merging the TV Channel signals of multiple broadcasters, the distributor encrypts the combined signals and retransmits it further, either directly or through local cable operator, to customer. The distributor could be a Multi-System Operator (MSO), a Direct to Home operator (DTH), a Head-end in The Sky operator (HITS) or IPTV operator.
- 1.4 The Interconnection Regulations 2017 provides for the Audit initiated by the Distribution Platform Operator (DPO) vide sub-Regulation (1) of

Regulation 15 or by the Broadcaster vide sub-Regulation (7) of Regulation 10 and sub-Regulation (2) of Regulation 15. The Audit of the systems of DPO is necessary to ensure that the equipment and the software (including configuration of systems) comply with the extant regulatory framework. The framework envisages that the DPO gets its systems audited every year so as to ensure compliance.

- 1.5 The regulations also provide for audit caused by a Broadcaster. There is a provision for Audit caused by a Broadcaster, before the provisioning of signals to a new DPO as per sub-Regulation (7) of Regulation 10. Broadcaster caused audit could also occur as per sub-Regulation (2) of Regulation 15.
- 1.6 The Telecommunication (Broadcasting and Cable) Service Interconnection (Addressable Systems) Regulations, 2017, are accessible on TRAI website [www.trai.gov.in](http://www.trai.gov.in).
- 1.7 The Authority had issued a consultation paper on 'Empanelment of Auditors for Digital Addressable Systems' on 22 December, 2017. As a matter of practice and following a transparent process an open house discussion (OHD) on the above-mentioned consultation paper was convened on 12 April 2018 in Delhi. One of the suggestions received from some stakeholders was to develop a comprehensive audit manual for auditors to audit digital addressable systems. Further, it was also suggested that in addition to other aspects the said audit manual may consist of a well-defined audit procedure.
- 1.8 Accordingly the Authority constituted a committee comprising of industry stakeholders to prepare and submit draft Audit manual to the Authority. The committee had representatives from the following firms/organisations/associations:
  - Broadcast Engineering Consultants India Limited (BECIL)

- Indian Broadcasting Foundation (IBF)
- News Broadcasters Association (NBA)
- All India Digital Cable Federation (AIDCF)
- M/s Tata Sky Ltd.
- M/s Dish TV India Ltd.
- M/s Bharti Telemedia Ltd.
- M/s Sun Direct TV Pvt. Ltd.

1.9 The committee held several meetings in TRAI. These meetings were facilitated by the Authority. After extensive deliberations, the industry reached consensus on most of the issues barring few issues and submitted a draft audit manual to the Authority. The Authority conveys its appreciation for the extensive work done by the committee and also on arriving at a consensus on a number of issues.

1.10 Based on the committee report and after considering all objections/representations, the Authority issued a consultation paper on 'The Telecommunication (Broadcasting and Cable) Services Digital Addressable Systems Audit Manual on 29 March 2019.

1.11 All the comments received in the consultation process including at the Open House Discussions, have been duly considered.

1.12 This Audit manual addresses issue of audit in terms of Regulations 10 and 15 of the Interconnection Regulations 2017.

1.13 This audit manual may be reviewed periodically, owing to the technological/ techno-commercial changes, market development and changes in the systems. The Audit Manual is proposed as a guidance document for stakeholders. This manual does not supersede any provision(s) of the extant regulations. In case of any discrepancy between the provision of Interconnection Regulations 2017, other

extant Regulations or Tariff Order and the Audit Manual, the provisions as per the regulations/ tariff Orders shall prevail.

1.14 The audits provisioned under Interconnection Regulations 2017 are broadly divided into two categories (i) pre-signal or compliance audit and (ii) subscription audit. As per the Regulation, the DPO and broadcasters can get the audit conducted either by M/s. Broadcast Engineering Consultants India Limited (BECIL) or any other agency empanelled by TRAI. The list of auditors empanelled by TRAI is available on TRAI's website: [www.trai.gov.in](http://www.trai.gov.in). The broad scope of work to be covered under these audits, procedure for conduct and other necessary information has been mentioned in the sections below.

## **2. Pre signal or Compliance Audit**

2.1 The audit will be called Pre-signal audit if it is carried out before the content acquisition by the Distribution Platform Operator (DPO) from respective broadcaster otherwise it will be called as compliance audit. It may be noted that pre-signal/compliance audit will be carried out as per Schedule III mentioned in the Interconnection Regulations 2017.

2.2 In accordance to the sub-regulation (6) of regulation 10, 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 of the Interconnection Regulations 2017. For ensuring the same, DPO can get the pre-signal Audit conducted either by BECIL or any other agency empanelled by TRAI.

2.3 It is clarified here that before requesting signals of television channels, getting its DAS system audited from BECIL or any other agency empanelled by TRAI as per Schedule III compliance is not mandatory

for DPO under sub-regulation (6) of regulation 10 of Interconnection Regulations 2017. However, every distributor of television channels shall ensure that before requesting signals of television channels from a broadcaster the addressable systems to be used for distribution of television channels meet the requirements as specified in the Schedule III of Interconnection Regulation 2017 and the DPO may provide its declaration in writing to broadcaster regarding Schedule III compliance along with below mentioned documents for requesting signals.

- CAS certificate provided by vendor.
- SMS certificate provided by vendor.
- STB certificate provided by vendor.
- BIS compliance certificate.

2.4 Sub-regulation (7) of Regulation 10 of the Interconnection Regulations 2017 specifies that if a broadcaster, **without pre-judice to the time limit specified in Sub-Regulation (2) of Regulation 10**, 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 of the Interconnection Regulation 2017, it may, cause audit of the addressable system of the distributor by M/s. Broadcast Engineering Consultants India Limited (BECIL), 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. However, it is important to note the proviso to the Sub-regulation (7)<sup>7</sup> of Regulation 10, before instituting such audit by the broadcaster.

2.5 The proviso to the said Regulation provides for the case where the system of the distributor has been successfully audited (with full

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<sup>7</sup> Proviso to Sub Reg (7) of Regulation 10 “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.”

compliance) during the last one year by M/s. Broadcast Engineering Consultants India Limited (BECIL), or any other auditor empanelled by the Authority. In such case, if the distributor provides for the report of the Audit (conducted during the pre-ceeding one year) to the Broadcaster, then the broadcaster shall not cause pre-signal audit, unless the configuration or the version of the addressable system has been changed after the issuance of the report by the auditor.

2.6 Therefore, the pre-signal audit may also be commissioned by the broadcaster to satisfy itself that the distributor, to whom it is likely to provide television signal, meets the addressable system requirements as per Schedule III of the Interconnection Regulations 2017. As such the audit fees for such audit will be borne by the broadcaster. In case(s) of pre-signal audit by a broadcaster only technical audit is required to be conducted.

2.7 Annual Compliance Audit: As per sub-regulation (1) of Regulation 15 of the Interconnection Regulations 2017, 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. The annual Audit caused by Distributor shall include the Audit to validate compliance with the Schedule III of the Interconnection Regulations 2017 and the Subscription Audit, as provided for in Interconnection Regulations 2017.

2.8 Once an interconnection agreement has been signed between a Broadcaster and DPO, if any changes, modification and alterations are made to the configuration or version of the addressable system (CAS,

SMS and other related systems) of the DPO and/or distribution network of DPOs (“Changes”), then these should be notified within seven (7) days to the relevant Broadcasters. DPO shall provide an undertaking that the changes do not in any way compromise the system and the set-up and all the equipment including software meets the statutory compliance requirements.

2.9 In order to avoid any dispute, the changes as mentioned below in DAS System can cause the audit by broadcaster under sub regulation (7) of regulation 10 of Interconnection Regulation 2017, before providing signals of television channels to DPO. It may also be noted that these changes are also required to be formally informed to broadcasters by DPO within 7 days from the implementation date of these changes:

***a) Addition/Deletion of SMS***

***b) Change in the SMS version w.r.t last audited SMS***

***c) Addition/Deletion of CAS***

***d) Change in the CAS version w.r.t last audited CAS***

***e) Deployment of new type of STBs by DPO which were not audited earlier.***

2.10 Subject to conformance to Regulation 11, the distributor may extend territory of interconnection agreement by giving a written notice to the broadcaster providing at least 30 days to the broadcaster. In such cases, the distributor shall also inform the Broadcaster formally after 7 days of actual extension of the territory.

### **3. Scheduling of Pre signal or Compliance Audits**

3.1 There is no specific timelines for conducting the pre-signal/compliance audits. Pre-signal or compliance audit can be conducted at any stage whenever DPO wants to ensure that the DAS system is in compliance as per Interconnection Regulations 2017. As mentioned earlier, as per



sub-regulation (1) of Regulation 15, the annual Audit caused by Distributor shall include the Audit to validate compliance with the Schedule III of the Interconnection Regulations 2017 and the Subscription Audit, as provided for in Interconnection Regulations 2017. The annual Audit as caused by Distributor under regulation 15 (1) shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years. Further, there should not be a gap of more than 18 months between audits of two consecutive calendar years.

- 3.2 Whenever Broadcaster is of the opinion that the system of DPO is not in compliance with the Schedule III of Interconnection Regulations 2017, Broadcaster can schedule the audit of DPO by selecting BECIL or any other auditor empanelled by the Authority for conducting such audit, in case of Compliance Audit (or in case of pre-signal audit, after taking into consideration the proviso to sub regulation 7 of Regulation 10).

#### **4. Scope of work under pre-signal/compliance audit**

- 4.1 Perform walk-through of the main head-end/s where CAS and SMS servers are deployed.
- 4.2 Obtain Headend diagram and validate with the equipment installed in the head-end/s.
- 4.3 Perform checks on IP configuration to confirm and identify live and proxy servers. This shall include IP credentials of all the servers including MUX.

~~4.4 Take inventory of IRDs + VCs issued by broadcaster including their serial numbers. Make note of broadcasters IRDs + VCs available but not installed.~~

- 4.4 Take the declaration of DPOs regarding the IRDs deployed in the headend including serial/VC numbers. The Auditor shall check all the IRDs +VCs deployed by the DPO during the audit. The checking may be done during lean hours. The auditor shall ensure that there is no disruption of the live service of DPO.
- 4.5 Check MUX configuration to validate number of Transport Streams ("TS") configured with SID, scrambling status of each SID and ECM and EMM configuration (MUX-TS Stream-No. of ECM & EMM configured)
- 4.6 Take screenshot of all TS streams from MUX and compare with results of field TS recorded randomly at minimum two locations by auditor.
- 4.7 Take information of QAMs installed and powered to identify streams available for local insertion by LCOs.
- 4.8 Obtain record of PSI/SI server to confirm EPG, LCN etc. details.
- 4.9 Check PSI/SI server that it has EPG push capability.
- 4.10 Confirm insertion of watermarking network logo for all channels from encoder end. Only the encoders deployed after coming into effect of the Amendment Regulations shall support watermarking network logo for all pay channels at the encoder end.
- 4.11 Use FTA cable box/ TS analyzer to confirm whether all channels are encrypted.
- 4.12 Walkthrough and understand the customer acquisition process and verification of sample CAF and PAF forms available with DPO.
- 4.13 Verification of Interconnection Regulation 2017 Schedule III compliance of the DPO DAS System (CAS, SMS, Fingerprinting and STB) as per procedure mentioned in section 7 of the Audit Manual.
- 4.14 Data Extraction from CAS and SMS should be carried out as per requirements specified in Schedule III of Interconnection Regulations 2017. Procedure and method of data extraction is specified in the section 7 and section 16 of the Audit Manual.
- 4.15 Report the channels found running in unencrypted or analogue mode on the day of Audit.

4.16 Analysis and verification of TS recording/VC samples provided by broadcasters may also need to be covered under scope of work. However, the procedure to be followed for carrying out such analysis and verification are mentioned separately in the section 17 of the Audit Manual.

## **5. Documents required under pre-signal/ Compliance audit**

5.1 Valid DAS license/ permission issued by Ministry of Information and Broadcasting (MIB)

5.2 BIS certificates for all makes & models of STB deployed by DPO after DAS implementation.

5.3 Certificate from all the CAS vendors (Format as in **Annexure 1**).

5.4 Certificate from SMS vendors (Format as in **Annexure 2**).

5.5 Block Schematic diagram of Head-end including CAS and SMS.

5.6 Signed and stamped copy of compliance audit form as per **Annexure 3**.

5.7 Certificate from STB vendor (Format as in **Annexure 4**). It may be noted that the STB Vendor declarations would need to be provided only from those STB Vendors whose STBs have been deployed and activated by the DPO post March 2017 i.e. post coming into effect of the Interconnection Regulations 2017 and who are still providing the support to DPOs. If DPO does not have a current business relationship with a STB vendor, then certificate issued from such STB vendor at the time of procurement may be acceptable.

5.8 List of all the decoder along with VC serial numbers issued by broadcasters to DPO deployed in the Headend by the DPO.

5.9 It may be noted that in case system generated reports captures all the field specified in the above declaration format, then the auditor may accept such system generated reports.

## **6. Methodology to be adopted for pre-signal/ Compliance Audit**

- 6.1 The audit either will be caused by the DPO or by the Broadcaster by selecting BECIL or one of the audit agencies empanelled by TRAI.
- 6.2 Once the audit is scheduled, the DPO will immediately inform concerned broadcasters regarding the audit of its DAS system by the selected empanelled agency or BECIL. The broadcasters will then arrange to provide TS recordings and VCs (if any) for verification during audit and will share the same with auditors before the conduct of audit.
- 6.3 If the compliance audit is caused by broadcaster, in such cases broadcaster may share the TS recording/VC numbers (if any) with auditors for verification during conduct of audit.
- 6.4 After the appointment by DPO or broadcaster, auditor will immediately ask DPO whether DPO has any objections regarding usage of its laptop for the conduct of audit.
- 6.5 If DPO has objections and wants to provide its own laptop for conduct of audit then auditor need to convey its requirement of software or any other tool required during the conduct of audit.
- 6.6 The auditor will also share the documents requirements with DPO as specified in section 5 of the audit manual.
- 6.7 The minimum configuration requirement of laptop is mentioned in the section 19 of audit manual which should be provided by DPO to auditor. DPO is free to provide laptop of higher configuration also.
- 6.8 During the audit, Auditor should carry out all the checks/verification as mentioned under section 4 (scope of work under pre-signal/compliance audit) at all head-ends of DPO where the CAS and SMS servers are installed.
- 6.9 The audit for compliance to Schedule III of Interconnection regulation 2017 should be carried out by auditor as per procedure specified in section 7 of the Audit Manual.
- 6.10 The data extraction from CAS and SMS under compliance audit should be carried out as per section 7 of the Audit Manual.

- 6.11 The auditor will prepare the pre-signal/compliance audit report as per format provided in **Annexure 6** of the Audit Manual.
- 6.12 After the completion of audit, auditor will submit the copy of the audit report to DPO only if the audit is caused by DPO. It should be the responsibility of DPO to share the audit report with broadcaster whenever such requests are made.
- 6.13 If the audit is caused by the broadcaster then the auditor will share the audit report copies both with broadcaster as well as DPO.
- 6.14 In case the audit report is non-compliant to Interconnection Regulations 2017 then it is the responsibility of auditor to provide non-compliance status information to TRAI whether the audit is caused by DPO or broadcaster.

## **7. Procedure to be followed for inspection of Schedule III of Interconnection Regulations 2017 Compliance**

### **A. CAS and SMS requirements as per Schedule III of TRAI Interconnection Regulations**

It may be noted that all simulations tests on STBs should be carried out on those STB models that have been deployed and activated by the DPO post 2017 (i.e., post coming into effect of the Interconnection Regulations 2017). For this purpose, DPO must ensure that at least 2 STBs of each STB model, that have been deployed and activated by the DPO post 2017, are available in the stock for the simulation tests.

<b>Sl. no</b>	<b>Regulatory Provision</b>	<b>Audit Procedure</b>
1	<b><u>Schedule III – C 1</u></b> The distributor of television channels shall ensure that the current version of the CAS, in use, do not have any history of hacking.	<p>i. DPO to declare on its audit form the no. of CAS systems deployed in each of its distribution networks. It should mention the no. of ‘Headend’ connected with the said CAS. This declaration is required to be signed by the authorized signatory/compliance officer. <b>(Annexure 3)</b></p> <p>ii. DPO to provide certificate from each CAS vendor on CAS vendor letterhead signed by</p>

		<p>no less than Authorized Signatory/Compliance Officer of the CAS vendor (Issued within last 12 months and certify current operating version of CAS) <b>(Annexure 1).</b></p> <p>iii. Auditor to perform TS recording: i) At the Headend; ii) In the field at appropriate place. Auditor to analyze the TS streams to ascertain actual number(s) of CAS running in the network <b>and compare with the declaration of CAS systems made as part of agreement with the broadcaster and compare with the declaration made as part of agreement with the broadcaster.</b> Auditor to record discrepancy, if any. <b>DPO should sign the record wherein Auditor has noted the discrepancy, if any. In case DPO refuses to sign, the Auditor should record the same.</b></p>
2	<p><b>Schedule III – C 2</b></p> <p>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.</p>	<p>a) To check the availability of logs in SMS for the period of last 2 years and analyze activation, de-activation, fingerprinting, messaging, blacklisting etc.</p> <p>b) DPO to certify on its letterhead the number of SMS deployed along with its integration status with all the CAS deployed.</p> <p>c) DPO to provide declaration from SMS vendor on SMS vendor letterhead (not older than 6 months) signed by no less than Authorized Signatory/Compliance Officer of the SMS vendor <b>(Annexure 2).</b></p> <p>d) The above SMS certificate <b>(Annexure 2)</b> should mention DPO name &amp; address matching with name &amp; address mentioned in DPO registration certificate issued by Ministry of I&amp;B, Govt. of India.</p> <p>e) Auditors to check system capability for generating historical transaction logs along with date and time stamp.</p>

		f) Auditor to check, verify and document whether all the actions, including but not limited to activation, de-activation, package creation, package change/modification, FP insertion, and scroll insertion are being recorded in SMS.
3	<p><b><u>Schedule III – C 3</u></b></p> <p>It shall not be possible to alter the data and logs recorded in the CAS and the SMS.</p>	<p>Simulation test should be carried on one model of every STB available in the inventory of DPOs for all actions such as subscriber creation, activation –de-activation, channel assignment, fingerprinting, messaging, scrolling through SMS.</p> <p>The logs of these activities then are required to be cross checked both in CAS and SMS live systems and whether these can be edited or not.</p> <p>It is clarified here that non editable requirement of SMS and CAS logs should be checked through live systems only. Once extracted or downloaded to any format these logs can be editable.</p>
4	<p><b><u>Schedule III – C 4</u></b></p> <p>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.</p>	<p>a) DPO to provide declaration and demonstrate procedures that all activations and deactivations of a Set Top Box (STB) directly from the CAS terminal are not done as a part of normal business operations. All activation and deactivation of STBs is done through SMS, except for internal testing purposes.</p> <p>b) Auditor on sample basis can check by trying to activate some STBs directly from the CAS and record the findings.</p>
5	<p><b><u>Schedule III – C 5</u></b></p> <p>The SMS and the CAS should be integrated in such a manner that activation and deactivation of STB</p>	<p>Auditor should perform simulation testing on one STB of every model deployed (if available in the inventory of DPO) as per following process:</p> <p>i) Activate different channels / packages on all test STBs from SMS.</p>

	<p>happen simultaneously in both the systems.</p>	<p>ii) Check transaction logs in SMS server and CAS server to confirm the activities related to channel activation and other simulation tests carried out reflects in both SMS and CAS logs with same date &amp; time.</p> <p>iii) Auditor should perform as on date unique VC Level Reconciliation from the data dump of CAS and SMS. VCs active in CAS but not in SMS and similarly VCs active in SMS but not in CAS should be highlighted as discrepancy.</p>
6	<p><b><u>Schedule III - C 6</u></b></p> <p>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.</p>	<p>a) Auditor to check that the CAS declaration (<b>Annexure 1</b>) confirms the availability of this facility.</p> <p>b) Auditor to verify the feature on test STB and record the findings.</p>
7	<p><b><u>Schedule III - C 7</u></b></p> <p>The fingerprinting should not get invalidated by use of any device or software.</p>	<p>a) Auditor should trigger a fingerprint (any one ECM/EMM) of minimum 180 seconds duration from SMS/CAS to the test STB (minimum 180 seconds timeline is to ensure that fingerprinting command is still available on STB when it is rebooted as some of the STB takes at least 120 seconds to reboot).</p> <p>b) In case the CAS does not have provisions to send minimum 120 seconds FP then multiple commands of FP of short duration may be sent to verify the same.</p> <p>c) The STB should be rebooted, and fingerprint should reappear again automatically. If fingerprint disappears, auditor should take appropriate note.</p>



8	<p><b><u>Schedule III – C 8</u></b></p> <p>The CAS and the SMS should be able to activate or deactivate services or STBs of at least five percent (5%) of the subscriber base of the distributor within 24 hours.</p>	<p>Auditor should check CAS declaration (<b>Annexure 1</b>) and SMS declaration (<b>Annexure 2</b>) that mentions this capability.</p>
9	<p><b><u>Schedule III – C 9</u></b></p> <p>The STB and Viewing Card (VC) shall be paired from the SMS to ensure security of the channel.</p>	<p>a) Auditor should verify that paired VC of one STB should not work with another STB</p> <p>b) Auditor to interchange VC between two STBs of the DPO and confirm that both STBs give error message on-screen.</p> <p>c) Auditor should take screenshot of the error message and include in audit report.</p> <p>d) Only applicable in case of carded STBs.</p>
10	<p><b><u>Schedule III – C 10</u></b></p> <p>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.</p>	<p>Auditor should:</p> <p>a) Activate fresh STBs individually through SMS and verify whether the same is activated in CAS as well.</p> <p>b) Add existing packages and channels to the test customer created through SMS and verify channels were activated in CAS and are visible on TV monitor.</p> <p>c) Remove packages / channels through SMS allotted to the test STB.</p> <p>d) After completing all other audit tests deactivate the test STB through SMS.</p> <p>e) Extract the logs of SMS and CAS for the day to check whether the above commands related to activation, deactivation of customer and packages was captured with date and time stamp.</p>

11	<p><b>Schedule III – C 11</b></p> <p>The SMS should be computerized and capable of recording the vital information and data concerning the subscribers such as:</p> <p>(a) Unique customer identification (ID)</p> <p>(b) Subscription contract number</p> <p>(c) Name of the subscriber</p> <p>(d) Billing address</p> <p>(e) Installation address</p> <p>(f) Landline telephone number</p> <p>(g) Mobile telephone number</p> <p>(h) E-mail address</p> <p>(i) Channels, bouquets and services subscribed</p> <p>(j) Unique STB number</p> <p>(k) Unique VC number</p>	<p>Auditor should:</p> <p>a) Create at least two test customers in SMS with names - “AuditTest1Customerddmmyy”, “AuditTest2Customerddmmyy”</p> <p>b) Allocate fresh hardware and map the test customer to an LCO/ DPO</p> <p>c) Check whether item “(a) to (k)” specified in Schedule-III C 11 are getting captured (Auditor to provide details for filling the CAF)</p> <p>d) Take SMS screenshot(s) such that all items are covered</p> <p>e) Generate SMS customer details report state wise and check the fields “a to k” are appearing.</p> <p>f) Auditor to deactivate the test subscribers from the SMS and confirm the corresponding STB is deactivated for all channels / services.</p> <p>g) Sample verification of 5 CAF forms selected randomly from the list of customers activated in last one month.</p>
12	<p><b>Schedule III – C 12</b></p> <p>The SMS should be capable of:</p>	<p>Auditor should ensure:</p> <p>a) Date &amp; time stamp is mandatory in report generation.</p>

<p>13.</p>	<p>(a) Viewing and printing of historical data in terms of the activations and the deactivations of STBs.</p> <p>(b) Locating each and every STB and VC installed.</p> <p>(c) Generating historical data of changes in the subscriptions for each subscriber and the corresponding source of requests made by the subscriber.</p> <p><b>Schedule III – C 13</b></p> <p>The SMS should be capable of generating reports, at any desired time about:</p> <p>(a) The total number of registered subscribers.</p> <p>(b) The total number of active subscribers.</p> <p>(c) The total number of temporary suspended subscribers.</p> <p>(d) The total number of</p>	<p>b) All data from SMS server should be extracted in such a manner that no STB/VC is left out from the database.</p> <p><del>c) The screen shots and explanations of the queries shall be provided after masking customer confidential data of the DPO before handing over to the auditor and such screen shots and explanation should be included in the report. In case the Auditor has reason to doubt the output from the SMS/CAS reporting modules, he may verify the output of the frontend with that of the backend of SMS/CAS. For this purpose, the Auditor may choose to run any query/code of the SMS/CAS vendor for the extraction of data as needed post verification of the query/code in terms of the filters being used and in terms of the entire database being referenced or not”.</del></p> <p>d) The Auditor will check the generation capability of these reports in SMS at any desired time from the front end (SMS application) of the SMS.</p> <p>e) The SMS reports generated during the audit exercise for verification will be enclosed with audit report as Annexures.</p> <p>f) The auditor on sample basis will also generate three reports from the SMS database (back end) also and verify these reports with the reports generated from SMS application.</p> <p>g) It should be clarified here that auditor will not insist on the specified format of the reports generated from the front end (SMS application) or back end (SMS database) of the SMS However the report should be able to reflect desirable information.</p>
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	<p>deactivated subscribers.</p> <p>(e) List of blacklisted STBs in the system.</p> <p>(f) Channel and bouquet wise monthly subscription report in the prescribed format.</p> <p>(g) The names of the channels forming part of each bouquet.</p> <p>(h) The total number of active subscribers subscribing to a particular channel or bouquet at a given time.</p> <p>(i) The name of a-la carte channel and bouquet subscribed by a subscriber.</p> <p>(j) The ageing report for subscription of a particular channel or bouquet.</p>	
14	<p><b>Schedule III – C 14</b></p> <p>The CAS shall be independently capable of generating, recording, and maintaining logs, for the period of at least immediate preceding two</p>	<p>Auditor should ensure:</p> <p>a) Date &amp; time stamp should be captured in all the reports generated from CAS.</p> <p>b) Auditor to extract historical transactional logs from CAS for audit period and confirm the availability of the data required.</p>

	<p>consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.</p>	<p>c) All data from CAS server (CAS servers installed by DPO and its JVs CAS (including standby headends, mini headends) should be extracted in such a manner that no STB/VC is left out from the database.</p> <p>d) <del>The screen shots and explanations of the queries that are run shall be provided after masking customer confidential data of DPO before handing over to the auditor and such screen shots and explanations should be included in the report. In case the Auditor has reason to doubt the output from the SMS/CAS reporting modules, he may verify the output of the frontend with that of the backend of SMS/CAS. For this purpose, the Auditor may choose to run any query/code of the SMS/CAS vendor for the extraction of data as needed post verification of the query/code in terms of the filters being used and in terms of the entire database being referenced or not".</del></p> <p>e) <b>Annexure 1</b> should mention that CAS logs are available for up to preceding two consecutive years for each command executed in the CAS.</p>
15	<p><b>Schedule III – C 15</b></p> <p>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.</p>	<p>a) Auditor to blacklist one STB &amp; VC of each CAS (separate from test STB &amp; VC) from SMS, and check the status of the STB+VC in CAS and SMS</p> <p>b) Auditor to take logs of blacklisted STB +VC from CAS and SMS</p> <p>c) Take screenshot of the blacklist screen to record the above and include in the report.</p> <p>d) If any STB of DPO has been blacklisted during audit for verification purpose, the same STB should be considered by auditor during re-audit caused by broadcaster unless broadcaster has any objections in</p>

		respect of blacklisting capabilities of SMS and CAS deployed by DPO.
16	<p><b><u>Schedule III – C 16</u></b></p> <p>It shall be possible to generate the following reports from the logs of the CAS:</p> <p>(a) STB-VC Pairing / De-Pairing</p> <p>(b) STB Activation / De-activation</p> <p>(c) Channels Assignment to STB</p> <p>(d) Report of the activations or the deactivations of a particular channel for a given period.</p>	<p>Auditor will generate these reports from the CAS and would verify the same by generating these reports from SMS transactions log</p> <p>a) STB VC pairing de-pairing report is applicable only for carded CAS.</p> <p>b) Auditor shall keep screenshots of each report with masking of customer confidential data of DPO and include in the report.</p> <p>c) All data from CAS server to be extracted in such a manner that no STB/VC is left out from the database</p> <p>d) It should be clarified here that auditor will not insist on the specified format of the reports generated from the CAS application or from CAS server. However, the report should be able to reflect and produce desirable information.</p>
17	<p><b><u>Schedule III – C 17</u></b></p> <p>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</p>	<p>On sample basis, Auditor to verify the Itemized bill generated from the SMS to ensure that it captures all the mentioned details in this clause &amp; record a copy of the bill format &amp; any discrepancy noticed, if any, in the audit report.</p>

	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	<p><b>Schedule III – C 18</b></p> <p>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.</p>	<p>a) Auditor to check that the CAS declaration from each CAS vendor (<b>Annexure 1</b>) mentions the availability of this facility.</p> <p>b) Auditor to check that the SMS declaration (<b>Annexure 2</b>) from each SMS vendor mentions the availability of this facility.</p>
19	<p><b>Schedule III – C 19</b></p> <p>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.</p>	<p>a) DPO to declare on its letterhead the no. of CAS systems and SMS deployed in each of its distribution networks. It should mention the no. of “Headends” connected with the said CAS and SMS. This declaration is to be signed by authorized signatory/compliance officer. (<b>Annexure 3</b>)</p> <p>b) Any changes in CAS and SMS and STB should be reported by DPO and can be verified by auditor.</p>
20	<p><b>Schedule III – C 20</b></p> <p>Upon deactivation of any subscriber from the SMS, all</p>	<p>Auditor to deactivate the "test subscribers" from the SMS and confirm the corresponding STB is deactivated for all channels / services including DD channels.</p>

	program/ services shall be denied to that subscriber.	
21	<p><b>Schedule III – C 21</b></p> <p>The distributor of television channels shall preserve unedited data of the CAS and the SMS for at least two years.</p>	<p>a) In case of distribution platforms operational for less than 2 years, the Auditor to check that the CAS declaration from each CAS vendor (<b>Annexure 1</b>) mentions the CAS is compliant with this requirement.</p> <p>b) In case of distribution platforms operational for less than 2 years, the Auditor to check that the SMS declaration (<b>Annexure 2</b>) from each SMS vendor mentions the SMS is compliant with this requirement.</p> <p>c) Auditor to take declaration from DPO that it has preserved unedited data of the CAS and the SMS for at least two years if the CAS and SMS system are operational for more than 2 years. (<b>Annexure 3</b>)</p>

**B. Fingerprinting:**

S. no	Regulatory Provision	Audit Procedure
1	<p><b>Schedule III – D1</b></p> <p>The distributor of television channels shall ensure that it has systems, processes and controls in place to run fingerprinting at regular intervals</p>	<p>a) Auditor to trigger fingerprinting from SMS by inputting start / end time, duration of display, frequency of display and confirming that the fingerprint is seen on the test STB output.</p> <p>b) Auditor to take a screenshot of the fingerprint. <b>For multiple fingerprinting tests on multiple STBs, the screenshots may be enclosed on sample basis.</b></p>
2	<p><b>Schedule III – D2</b></p> <p>The STB should support both visible and covert types of finger printing. The fingerprinting</p>	<p>a) For visible type of finger printing: same as 1 above</p> <p>b) For covert type: Auditor should ensure this capability is mentioned in STB certificate (<b>Annexure 4</b>) and as well test the same feature during audit.</p>



	<p>should not get invalidated by use of any device or software.</p> <p>Provided that only the STB deployed after coming into effect of the Amendment Regulations shall support the covert finger printing.</p>	<p>c) Auditor should accept any type of covert fingerprinting.</p> <p><b>Note:</b> Only the STB deployed after coming into effect of the Amendment Regulations shall be required to support the covert finger printing. <b>For multiple fingerprinting tests on multiple STBs, the screenshots may be enclosed on sample basis.</b></p>
3	<p><b><u>Schedule III – D 3</u></b></p> <p>The fingerprinting should not get invalidated by use of any device or software.</p>	<p>a) Auditor should trigger a fingerprint (any one ECM/EMM) of minimum 180 seconds duration from SMS/CAS to the test STB (minimum 180 seconds timeline is to ensure that fingerprinting command is still available on STB when it is rebooted as some of the STB takes at least 120 seconds to reboot).</p> <p>b) In case the CAS does not have provisions to send minimum 120 seconds FP then multiple commands of FP of short duration may be sent to verify the same.</p> <p>d) The STB should be rebooted, and fingerprint should reappear again automatically. If fingerprint disappears, auditor should take appropriate note.</p>

4	<p><b><u>Schedule III – D 4</u></b></p> <p>The fingerprinting should not be removable by pressing any key on the remote of STB.</p>	<p>a) Auditor should trigger a fingerprint of at least 120 seconds or above duration from SMS/ CAS to the test STB.</p> <p>b) While fingerprint is displayed on STB output connected to TV screen, auditor should press every key on the STB remote control and STB front panel.</p> <p>c) Auditor should confirm that no action while pressing buttons on remote or on STB box (soft boot or hard boot) makes the displayed fingerprint disappear even momentarily for the whole duration of FP.</p>
5	<p><b><u>Schedule III – D 5</u></b></p> <p>The finger printing should be on the top most layer of the video.</p>	<p>d) If fingerprint disappears with any key action, this requirement is not complied with.</p> <p>e) It may be noted that in case if FP more than 60 seconds is not triggered through SMS/CAS then multiple commands or repetitions of such FPs may be sent to confirm the compliance.</p>
6	<p><b><u>Schedule III – D 6</u></b></p> <p>The finger printing should be such that it can identify the unique STB number or the unique VC number.</p>	<p>Auditor should trigger fingerprint on two test STBs and confirm the fingerprint displayed are unique to the VCs in the STBs (UA no. in card-less STBs).</p>
7	<p><b><u>Schedule III – D 7</u></b></p> <p>The fingerprinting should appear on the screens in all scenarios, such as menu, Electronic Program Guide (EPG), Settings, blank screen, and games etc,</p>	<p>a) Auditor should trigger 120 seconds or more duration fingerprint on test STB and use remote control of STB to navigate to Menu page, EPG page, Settings page, Blank screen and Games page.</p> <p>b) Fingerprint should be displayed on all the above-mentioned pages.</p>

8	<p><b><u>Schedule III – D 8</u></b></p> <p>The location, font color and background color of fingerprint should be changeable from head end and should be random on the viewing device.</p>	<p>Auditor should trigger fingerprint on test STB multiple times, each time with at least 3 different permutation/combinations of location, font color, and background box color. The locations of the fingerprint should be seen on random areas of the TV screen to make it unpredictable to viewer.</p>
9	<p><b><u>Schedule III – D 9</u></b></p> <p>The finger printing should be able to give the numbers of characters as to identify the unique STB and/or the VC.</p>	<p>Auditor should trigger fingerprint on two test STBs and confirm the fingerprint displayed are corresponding uniquely to the actual VCs in the STBs (UA no. in cardless STBs).</p>
10	<p><b><u>Schedule III – D 10</u></b></p> <p>The finger printing should be possible on global as well as on the individual STB basis.</p>	<p>a) Auditor should trigger fingerprint to all STBs and confirm fingerprints are displayed on all test STBs provided DPO has no objection while testing the feature of global FP on all its STBs.</p> <p>b) If DPO has objection then this feature can be checked by giving ECM FP on a non-popular channel.</p> <p>c) Auditor should trigger fingerprint to one test STB and confirm it is displayed on the particular STB only.</p>
11	<p><b><u>Schedule III – D 11</u></b></p> <p>The overt fingerprinting should be displayed by the distributor of television channels without any alteration with regard to the time, location, duration and frequency.</p>	<p>a) Auditor should obtain fingerprint Schedules from some <b>(minimum 2 broadcasters)</b> broadcaster channels distributed by the DPO.</p> <p>b) Auditor should monitor sample channels of those broadcaster on DPO's STB and take screenshot of broadcaster fingerprint seen on TV screen as proof of compliance.</p>

12	<p><b>Schedule III – D 12</b></p> <p>Scroll messaging should be only available in the lower part of the screen.</p>	<p>a) Auditor should trigger scroll message of 120 characters from the DPO’s SMS or CAS targeted to all test STBs.</p> <p>b) The scroll should be displayed as a horizontally moving ticker on the lower part of the TV screen.</p>
13	<p><b>Schedule III – D 13</b></p> <p>The STB should have a provision that fingerprinting is never disabled.</p>	<p>a) Auditor should trigger a fingerprint of 120 seconds or more duration FP from SMS/ CAS to the test STB.</p> <p>b) The STB should be rebooted, and fingerprint should reappear again automatically. If fingerprint disappears, this requirement is not complied with.</p> <p>c) The STB declaration (<b>Annexure 4</b>) should also mention this capability.</p>
14	<p><b>Schedule III – D 14</b></p> <p>The watermarking network logo for all pay channels shall be inserted at encoder end only.</p> <p>Provided that only the encoders deployed after coming into effect of the Amendment regulations shall support watermarking network logo for all pay channels at the encoder end.</p>	<p>To confirm the network logo is inserted from the encoder end only for all channels:</p> <p>a) Auditor should disconnect all test STBs from RF signal and then observe the TV screen.</p> <p>b) If network logo is still visible on TV screen, then the requirement of insertion of network logo at the encoder end is not complied with.</p> <p>c) Screenshot of the observations should be included as part of the audit report.</p> <p><b>Note:</b> Only the encoders deployed after coming into effect of the Amendment regulations shall support watermarking network logo for all pay channels at the encoder end.</p> <p>The above requirement of schedule III can be checked and verified by auditor only if the DPO has deployed encoders with watermarking network logo capability. If the DPO encoders are old (procured</p>

		before 30 <sup>th</sup> October 2019) and do not have this capability the same observation is captured in the audit report along with declaration of DPO mentioning the deployment of encoders before 30 <sup>th</sup> October 2019.
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**(C) Set Top Box (STB):**

<b>S. no</b>	<b>Regulatory Provision</b>	<b>Audit Procedure</b>
1	<b><u>Schedule III – E1</u></b> All STBs should have a Conditional Access System.	To inspect all models of STBs available in the inventory of MSOs or deployed (2 units of each make & model) under test and confirm the STB serial no./VC no./UA no. exists in the live CAS database.
2	<b><u>Schedule III – E 2</u></b> The STB should be capable of decrypting the Conditional Access messages inserted by the Head-end.	The auditor will check and verify whether the STB is able to execute all the commands initiated from the CAS whether activation/de-activation of particular channel or package or FP/messaging command without any major delay or issue.
3	<b><u>Schedule III – E 3</u></b> The STB should be capable of doing fingerprinting. The STB should support both Entitlement Control Message (ECM) and Entitlement Management Message (EMM) based fingerprinting.	<p>a) To trigger fingerprinting on a particular channel and confirm fingerprint is seen on all test STBs on that particular channel only at the same time. This is ECM based fingerprinting.</p> <p>b) To trigger fingerprinting on all channels and confirm fingerprint is seen on all test STBs on all channels at the same time. This is EMM based fingerprinting.</p> <p>c) The auditor will check and verify both types of fingerprinting on each and every model of STB available with DPO in its inventory.</p>
4	<b><u>Schedule III – E 4</u></b> The STB should be individually	The auditor will verify whether the STB are addressable by performing simulation tests on the STB for activation/de-activation.

	addressable from the Head-end.	
5	<b><u>Schedule III – E 5</u></b> The STB should be able to receive messages from the Head-end.	<p>a) Auditor should trigger scroll message of 120 characters from the DPO’s SMS targeted to all test STBs.</p> <p>b) The scroll should be displayed in its entirety as a horizontal moving ticker on the lower part of the TV screen.</p>
6	<b><u>Schedule III – E 6</u></b> messaging character length should be minimal 120 characters.	<p>a) Auditor should trigger scroll message of 120 characters from the DPO’s SMS targeted to all test STBs.</p> <p>b) The scroll should be displayed in its entirety as a horizontal moving ticker on the lower part of the TV screen.</p>
7	<b><u>Schedule III – E 7</u></b> There should be provision for global messaging, group messaging and the individual STB messaging	<p>a) Auditor should trigger scroll to all STBs and confirm it is displayed on all test STBs.</p> <p>b) Auditor should trigger scroll to one test STB and confirm it is displayed on the particular STB only.</p>
8	<b><u>Schedule III – E 8</u></b> The STB should have forced messaging capability including forced finger printing display.	<p><b>Auditor should trigger Forced message (If available) and Fingerprinting from SMS or CAS to testing STBs to confirm availability of Forced messaging and fingerprinting commands. It means, when a forced messaging/FP is run on the STB, no buttons on the remote should function which can disable the force message or Fingerprinting. Further, the FP command should appear as per parameters given through SMS/CAS.</b></p> <p><b>Screenshots may accordingly be enclosed.</b></p> <p><b>Auditor should trigger scroll messaging from SMS or CAS to all STB in the network which should display the fingerprint as the message. Auditor should take screenshot of the display</b></p>
9	<b><u>Schedule III – E 9</u></b>	<p>a) Auditor should take copies of BIS certificates from the DPO for each make</p>

	<p>The STB must be compliant to the applicable Bureau of Indian Standards</p>	<p>&amp; model of STB procured after 2012. <b>The BIS certificate of a STB may be of the year when the STB was purchased.</b></p> <p><b>Alternately, Auditor may also verify the validity of the BIS Certificates online (by inputting the Registration Number of the first BIS Certification of the respective STB Models). Screenshots of the online verification of such BIS validity should be provided in the Audit Report.</b></p> <p>b) The certificates should mention exact STB make &amp; model nos.</p> <p><b>c) As of the audit date, the certificates should be valid for the STB models which are available in the physical stock and the current inventory of DPO for deployment. For this purpose, DPO must ensure that at least 2 STBs of each STB model, that have been deployed and activated by the DPO post 2017, are available in the stock.</b></p> <p><b>For old STB models deployed before the 2017 the DPO need to have at least one BIS Certification (whether valid/expired) to prove BIS Compliance at the time of seeding the STBs.</b></p>
10	<p><b>Schedule III - E 10</b></p> <p>The STBs should be addressable over the air to facilitate OTA software upgrade.</p>	<p>DPO shall give a declaration on its letterhead mentioning the availability of this facility.</p>

11	<p><b><u>Schedule III – E 11</u></b></p> <p>The STBs with facilities for recording the programs shall have a copy protection system</p>	<p>Auditor to check and report:</p> <p>a) For STBs having recording facility to internal and/or external storage devices such as USB / Hard Disk drives, auditor should check recorded content plays only on the specific STB where content was recorded.</p> <p>b) Auditor to check that scheduled fingerprint and scroll messaging is displayed even when stored content is played on the STB.</p> <p>c) Auditor should confirm that recorded content cannot be played if STB is in de-active state</p>
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## 8. Timelines under pre-signal/Compliance Audit

8.1 Every audit should be ideally completed within **four** ~~three~~ weeks and the proposed suggested timelines under compliance audit are mentioned below.

**Additional one week time may be taken for each headend in case of more than one headend.**

8.2 Audit visit at DPO shall be completed within one week by the auditor excluding the travelling time.

8.3 ~~1 to 2~~ **to 3** weeks maximum for the analysis of the data and finalization of the audit report.

8.4 Auditors are also required to share the relevant queries/observations/anomalies (if any) in brief with DPO in writing after the completion of audit visit.

8.5 **Two** ~~One~~ **s** weeks time will also be given to DPO to respond and provide explanation on these issues flagged by auditor.



- 8.6 Auditor will incorporate these explanation/responses if found relevant and satisfactory in its audit report.
- 8.7 In case whether verification and analysis of TS recording and ground VC are also required the auditor may take additional one week for sample verification of the recordings and ground VC samples. **Provided that in case of broadcaster caused audit, the auditor may take additional time (depending upon the location and no of samples to be tested) as mutually agreed between the Broadcaster, DPO and Auditor.**
- 8.8 **In case the broadcaster has any issues/doubt/clarifications with the audit report shared by the DPO the same needs to be communicated by broadcaster within four weeks after the receipt of audit report**

## **9. Subscription Audit**

- 9.1 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. It may be noted that all the subscription report for each month with respect to each broadcaster with whom the distributor has signed an agreement will be necessarily required to be checked by the auditor. This audit is generally called subscription audit. The audit fee for such audit will be borne by the distributor. As per sub-regulation (1) of Regulation 15, the annual Audit caused by Distributor shall include the Audit to validate compliance with the Schedule III of the Interconnection Regulations 2017 and the Subscription Audit, as provided for in Interconnection Regulations 2017.

In case of new distributor, before acquiring the content, no such subscription reports would be available for verification. The auditor will duly record this fact and carry -on the audit on all other aspects.

- 9.2 The subscription audit's focus is on ascertaining the subscriber numbers being reported by distributors to broadcaster. As per the Interconnection Regulation 2017 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.
- 9.3 Therefore, in addition to compliance audit, DPO are required to conduct the subscription audit every year and share the copy of the report with every broadcaster with whom interconnection agreements are signed.
- 9.4 Sub-regulation (2) of Regulation 15 of the Interconnection Regulations 2017 further specifies that in cases, where a broadcaster is not satisfied with the audit report received under sub-regulation (1) of Regulation 15 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.
- 9.5 The audit fee for compliance audit or subscription audit commissioned by a broadcaster to re-verify the addressable system requirements, will be payable by the broadcaster.
- 9.6 In case 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.

9.7 It may be noted that the scope of subscription audit will be limited to validation of the monthly subscriber report submitted by DPO to the respective broadcaster with whom interconnection agreements are signed.

## **10.Scope of work under Subscription Audit**

10.1 In view of the section 15 of the Interconnection Regulations 2017, the scope of subscription audit will be limited to validation of the monthly subscriber report submitted by DPO to every broadcaster with whom interconnection agreements are signed. However, in order to ensure the sanctity of data certain checks regarding integration of CAS and SMS will also be carried out by the auditor before data extraction.

10.2 Auditor will verify the integration of the CAS and SMS deployed by DPO by performing few simulation tests on sample STBs such as activation/deactivation, fingerprinting and messaging command and generating respective reports from both SMS and CAS. The auditors will then check the SMS and CAS logs also regarding command execution timings to validate the integration between CAS and SMS.

10.3 After verification of integration of CAS and SMS deployed by DPO (or after conducting compliance audit), auditor needs to carry out data extraction from the SMS and CAS as per the scope mentioned below.

- i. Extraction of as on date data dumps from the SMS and CAS server deployed by DPO for SMS and CAS data reconciliation.***
- ii. Analysis on the data dump to verify the 20% random sample weeks of the audit period in respect of monthly subscriber report submitted by DPO to every broadcaster. The auditor is required to verify the MSR data for every pay channel of***

**broadcasters available on DPO's network for these 20% sample weeks selected on random basis by the auditor.**

**iii. Analysis on data dumps to verify the as on date active, ~~de-active~~ count of STBs available on the network of DPO.**

**iv. Analysis on data dump to report the active STB count on 5 random dates from the audit period other than 7<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup> and 28<sup>th</sup>.**

**As on date DPO package wise, a-la-carte and broadcaster bouquet wise STB/VC details (both from SMS & CAS system). In case of variance of more than 15% of the "as on date" data and the audit period data, the auditor shall bring the variance to the notice of concerned broadcaster.**

**v. Verification and reporting of Channel to package mapping along with service ID (with creation, modification and discontinue date) from SMS & CAS on the minimum 20% random selected dates of the audit period (as per point ii above).**

**vi. As on Date Reconciliation of VC and STB from complete CAS and SMS for the date of Audit. Any discrepancy of VC not active in SMS but found active in CAS, excluding test/monitoring VC/STB, or vice versa should be reported in Actual numbers as well as percentage of the total base.**

10.4 Details of test/monitoring VC/STB should be separately recorded.

10.5 Auditor will ensure that no parallel SMS or CAS systems which are not reported by DPO are deployed in the headend of DPO where the audit is being carried out by auditor.

10.6 Audit will check the transaction logs of the audit period to ensure no manipulation in the logs of CAS and SMS are done by DPO in order to under report the active STB count.

10.7 Reconciliation of LCN and Genre declared by broadcaster with the actual LCN and genre found during Audit. All mismatches of LCN and genres found during audit to be reported.

10.8 Auditor to connect STB to DPO signal in headend and Scroll through all channels and make list of genre wise LCN + Channel name against actual channels seen on the screen and report all mismatches of LCN and genres found during audit.

10.9 Analysis and verification of TS recording/VC samples provided by broadcasters may also need to be covered under scope of work. However, the procedure to be followed for carrying out such analysis and verification are mentioned separately in the section 17 of the audit manual.

## **11. Documents required under Subscription audit by auditor**

11.1 Valid DAS license/ permission issued by Ministry of Information and Broadcasting.

11.2 Block schematic diagram of Headend including CAS and SMS.

11.3 Certificate from all the CAS vendors **(Format as in Annexure 1)**.

11.4 Certificate from SMS vendors **(Format as in Annexure 2)**.

11.5 Signed and stamped copy of subscription audit form as per **Annexure 5**.

11.6 **Monthly SMS report regarding state wise active/~~de-active~~ STB count for the audit period. This report is applicable for all DPOs.**

11.7 It may be noted that in case system generated reports captures all the field specified in the above declaration format, then the auditor may accept such system generated reports .

## **12. Methodology to be adopted for Subscription audit**

12.1 The audit either will be caused by the DPO or Broadcaster by selecting BECIL or any of the audit agencies empanelled by TRAI.

12.2 Once the audit is scheduled, the auditor will immediately ask DPO whether he has any objections regarding usage of its laptop for the conduct of audit.

12.3 If DPO wants to provide its own laptop for conduct of audit then auditor need to convey its requirement of software or any other tool required during the conduct of audit.

12.4 The DPO shall respond immediately on the same whether he is willing to provide laptop and other necessary tools/software required or wants auditor to use his/her own laptop.

12.5 The minimum configuration requirement of laptop is mentioned in section 19 of the Audit Manual which should be provided by DPO to auditor. DPO is free to provide laptop of higher configuration also.

12.6 The DPO will also be required to inform all the broadcaster regarding the conduct of subscription audit of its DAS system by the auditor along with audit Schedule in case of DPO caused audit.

12.7 The auditor will also share the documents requirements with DPO as specified in Section 11 of the Audit Manual before the conduct of audit.

**12.8 Auditor will cover all the scope of work mentioned in section 10 of the audit manual during subscription audit.**

12.9 The data extraction procedure from CAS and SMS should be carried out as mentioned in section 16 of the Audit Manual.

12.10 In case of DPO having multiple headends, the auditor is required to conduct subscription audit at these headends separately if any additional CAS or SMS server are deployed at these headends.

12.11 After completion of subscription audit, auditor shall ensure that subscription report w.r.t particular broadcaster only contains relevant information which includes information in respect of his channels and bouquets only. For example, if there are 20 broadcasters with whom interconnection agreements are signed then 20 such broadcaster wise subscription reports are required to be made.

12.12 If the audit is caused by the broadcaster then the auditor will share the audit copies both with broadcaster as well as DPO.

### **13. Procedure to be followed for inspection of Subscription audit**

13.1 The primary objective of the subscription audit is to validate the monthly subscriber report submitted by DPO to its respective broadcasters.

13.2 In this regard, scope of work to be covered and data extraction methodology to be adopted under subscription audit is specified in section 10 and section 16 of the Audit Manual.

13.3 Thus, auditor needs to ensure that the subscription audit should be carried out keeping in view of the scope of work and data extraction procedure mentioned in the Audit Manual.

13.4 The format of the report required under subscription audit is provided in the **Annexure 7** of the audit manual.

13.5 No specific analysis procedure on data dump is specified here and auditor is free to choose its own analysis method, tools, software to achieve the desired result.

## **14. Scheduling of Subscription Audits**

- a) All the ~~DPO~~DPOs are required to conduct the subscription audit within calendar year as mandated by Interconnection Regulation 2017. Further the first subscription audit under this framework will be from the date of coming into effect of the framework, but not later than 1<sup>st</sup> April 2019. The annual Audit as caused by Distributor under regulation 15 (1) shall be scheduled in such a manner that there is a gap of at-least six months between the audits of two consecutive calendar years. Further, there should not be a gap of more than 18 months between audits of two consecutive calendar years.
- b) Post first subscription audit, the DPO (in case of DPO caused subscription audits) may conduct the subscription audit of the unaudited period.
- c) If the audit is caused by the broadcaster, then he/she can request auditor to conduct the audit of a maximum of previous 2 years from the date of audit even if the audit of such period is conducted by the DPO. Provided that the audit under this framework will be from the date of coming into effect of the framework, but not later than 1<sup>st</sup> April 2019.

## **15. Timelines for completion of Subscription Audits**

- a) The auditors are required to complete the subscription audit and submission of report within ~~four~~ six weeks from the date of first visit of DPO with subscriber base above 5 lakhs. **Additional one week time may be taken for each headend in case of more than one headend.**



- b) The auditors are required to complete the subscription audit and submit report within **four** ~~3~~ weeks from the date of first audit visit of DPO with subscriber base below 5 lakhs.
- c) In case where verification and analysis of TS recording and ground VC are also required the auditor may take additional one week for sample verification of the recordings and ground VC samples. **Provided that in case of broadcaster caused audit, the auditor may take additional time (depending upon the location and no of samples to be tested) as mutually agreed between the Broadcaster, DPO and Auditor.**
- d) **In case the broadcaster has any issues/doubt/clarifications with the audit report shared by the DPO the same needs to be communicated by broadcaster within eight weeks after the receipt of audit report**

## **16. Data Extraction procedure to be followed by auditor under compliance and subscription audit**

- 16.1 DPO to declare all admin/super admin login access to CAS & SMS servers and will depute a resource who has complete knowledge of the systems (CAS and SMS). The resource can be common or different for CAS and SMS systems depending upon his/her expertise.
- 16.2 The DPO resource under supervision of auditor will take the access in both systems and extract data and run queries.
- 16.3 Auditors are not allowed to interfere with the live systems (CAS and SMS) of DPO without its permission and assistance.
- 16.4 If the extraction from the live SMS and CAS systems are not possible due to any technical issue or taking excess time in extraction then auditor are

allowed to use latest automated or manually downloaded dump data from the server after due verification of the query used for downloading the same.

16.5 If the auditor is satisfied with the procedure of downloaded data dump and finds that the dump is not compromised or altered, he/she may use the same for audit purpose.

**16.6 Note: The exemption of data extraction from live servers is only applicable for DPO who are having more than 5 lakhs subscriber base and when there is practical difficulty is extracting the data dump from live servers. This will be decided by auditor after understanding the systems of such DPOs and in case they find explanations relevant.**

16.7 The DPO is also requested to share the database structure table's fields and column along with other necessary information required by auditor to work on the data dump in order to extract the active /de-active STB/VC count from the data dump.

16.8 If required, all extracted data should be loaded on PC/ Laptop provided for Audit.

16.9 All data from CAS and SMS server should be extracted in such a manner that no STB/VC is left out from the database. The Auditors should acquaint themselves with the data extraction queries that are run on the live CAS & SMS servers.

16.10 Data extraction queries scripts and explanation of terminology used must be preserved.

16.11 The auditor should understand what all filters (if any) are being applied to either exclude data of other DPOs, or even exclude data of certain geographical areas that may have a bearing on the overall count of the subscriber numbers.

16.12 Auditor should be present in-person during the extraction of CAS & SMS data. Auditor to certify that the Data extraction has been done under his/her supervision.

## **17. Analysis and Verification of TS recordings/ VC samples**

17.1 If the audit is caused by the DPO whether compliance or subscription audit then the information regarding the schedule/conduct of audit along with audit agency will need to be shared with broadcasters at least 30 days before the conduct of audit.

17.2 The broadcasters may provide the TS recordings or ground VC (if any) to auditors for verification and analysis of the TS recordings and VC samples before the conduct of audit.

17.3 If the audit (whether compliance or subscription audits) is caused by broadcaster then broadcaster can directly share the information regarding TS recordings or VC samples (if any) with the audit agency.

17.4 The analysis and verification of TS recordings shall be carried out as per following procedure:

- The broadcaster cannot share more than 5 TS recordings and 100 VC samples with auditor in case the audit is caused by DPO. In case the audit is caused by broadcaster there is no restriction on sample size of TS/VC recordings. Broadcaster should ensure that these TS recordings and VC samples are correct and should be provided with date, time and complete address/location details.

- The auditor should verify these TS recordings and VC samples during conduct of audit. In case he/she is not able to find some VC samples in the CAS and SMS database of DPO and TS recordings parameters also have some variation w.r.t TS recordings of headend than random physical verification of such VC samples and TS recordings also should be carried out by auditor in order to validate the shared VC samples/recordings.
- In such cases where a certain amount of VC samples provided by broadcasters are not found in the CAS and SMS database of DPO then auditor will select minimum five (5) number of VC samples from these VC samples and one (1) TS recordings on random basis for carrying out physical verification in order to ensure the correctness of samples.
- The cost of carrying out minimum physical verification of these TS recordings and VC samples which are not found in the DPO system shall be borne by the DPO if the audit is caused by DPO.
- Further, any physical inspection cost during audit caused by broadcaster shall be borne by broadcaster however 6 minimum (5 VC samples and 1 TS) physical inspection needs to be carried out by auditor in order to validate the TS recordings and VC samples which are not found/matched in the system of DPO.
- It may be noted that it should be the responsibility of broadcaster to provide necessary assistance and support to auditor during physical verification of TS recording and ground samples whenever validation of such VC samples and TS recordings are required.

## **18. Responsibilities in respect of Compliance and Subscription Audit**

### **A. Distribution Platform Operator**

- 1) The DPO should abide by the provisions of Interconnection Regulation 2017 w.r.t. provisions related to Audit.
- 2) The DPO should ensure all the compliance of the Digital Addressable System (CAS, SMS and STB) as per Schedule III of Interconnection Regulation 2017 and cause the compliance audit and the subscription audit of its system every calendar year. **Audit being conducted in the year should be completed within that calendar year including issue of final report.**
- 3) Every DPO shall ensure the availability of complete data in CAS and SMS for minimum 2 years from the date of conduct of audit.
- 4) It is the responsibility of DPO having shared CAS and SMS systems with its JV companies to share the complete data from SMS and CAS including JV companies data with auditor during compliance or subscription audit whether caused by DPO or broadcaster. Thus, it would be advisable for such DPO to conduct audit of its complete DAS system including JV companies.
- 5) The DPO shall timely inform the broadcasters whenever compliance or subscription audit is scheduled at least 30 days in advance.
- 6) The DPO will share the relevant part of the report of the compliance audit and subscription audit caused by DPO with concerned broadcaster.
- 7) If the subscription audit of DPO reveals more than zero point five percent variance in the monthly subscription report submitted by DPO of any broadcasters then it is the responsibility of the DPO to inform those broadcasters regarding revision of the invoices already issued and paid.
- 8) The DPO will provide full support and assistance to auditor conducting its audits whether caused by self or broadcaster.

- 9) If the DPO does not want auditor to use his laptop for audit purpose then it is the responsibility of DPO to provide laptop of configuration as mentioned in the audit manual or higher to auditor. The specification in respect of minimum configuration of laptop to be provided by DPO is mentioned in section 19 of the Audit Manual.
- 10) The DPO also needs to ask auditor about any other specific requirements in advance regarding the software or tools required for data analysis purpose before the commencement of audit.
- 11) These requirements shall be available to auditor at his disposal for usage during the conduct of audit whether audit caused by self or broadcaster.
- 12) DPO should inform broadcaster if below mentioned changes are made in its CAS, SMS and other related systems within 7 days from the implementation date of these changes:
- a. Addition/Deletion of SMS**
  - b. Change in the SMS version w.r.t last audited SMS**
  - c. Addition/Deletion of CAS**
  - d. Change in the CAS version w.r.t last audited CAS**
  - e. Deployment of new type of STBs by DPO which were not audited earlier.**
- 13) Subject to conformance to Regulation 11, the distributor may extend territory of interconnection agreement by giving a written notice to the broadcaster providing at least 30 days to the broadcaster. In such cases, the distributor shall also inform the Broadcaster formally after 7 days of actual extension of the territory.
- 14) DPO should provide access to CAS, SMS servers and related addressable system to the auditor and depute a resource/expert of

deployed CAS and SMS systems who will perform data extraction under supervision of auditor.

- 15) Auditor can demand specific data, logs and reports and the DPO should extract the data in front of the auditor and provide the same. DPO should ensure that no STB/VC is left out from the database.
- 16) The DPO should also allow Broadcaster's representative in case of audit initiated by Broadcaster's to be physically present during the conduct of audit.
- 17) In case DPO has provided its own laptop (in this audit manual 'laptop' includes 'computer/PC/laptop') to the auditor for an audit, then DPO shall preserve that laptop along with entire data used by the auditor till at least one year after that audit.

## **B. Responsibility of Broadcaster**

- 1) The Broadcaster should abide by the provisions of Interconnection Regulation 2017 w.r.t. provisions related to Audit.
- 2) The broadcaster should ensure that the correct TS recordings and ground VC samples (if any) are provided to auditors before conduct of audit whether compliance or subscription audit.
- 3) The broadcaster should also provide full support to auditor and provide necessary information if required by auditor such as fingerprint schedule, assistance in physical verification of sample TS recordings/ground VC samples etc.
- 4) During the audit initiated by broadcaster the representative of broadcaster will not interfere with the audit proceedings during the

conduct of audit. If there are any relevant concerns or objections the same shall be shared before the conduct of audit.

- 5) If the audit is caused by the broadcaster then the broadcaster is not allowed to send more than two representatives to observe the audit proceedings.

### **C.Responsibility of Auditor**

- 1) The auditor should abide by the provisions of Interconnection Regulation 2017 w.r.t. provisions related to Audit and the terms and conditions of the empanelment by TRAI.
- 2) The Auditors' main role and responsibility is to carry out the above mentioned compliance and subscription audits in an objective, transparent and impartial manner as per provisions of Interconnection Regulations 2017.
- 3) It is the responsibility of auditor to keep all the data extracted or information collected during audit confidential and produce only the relevant information in the audit report.
- 4) In case the TS recordings and ground VC samples are provided by broadcasters then auditor should verify whether these TS recordings reconcile with headend TS recordings and VC samples are also available in the CAS and SMS database of DPO.
- 5) If the TS recordings parameters are different from those recorded at headend and shared VC samples are not found in the CAS and SMS system of DPO then auditor will also carry out the physical verification of minimum 5 VC samples and 1 TS recordings in order to check the authenticity of same. These 6 samples (5 VC and 1 TS)



shall be selected on random basis from the list of samples/TS which were not found in the system of DPO.

- 6) **The subscription audit period shall not be more than 18 months in case the audit is caused by DPO and 24 months if the audit is caused by broadcaster.**
- 7) The auditor will not carry any data dump outside the DPO premises without his consent. If DPO is not comfortable with providing data dump to auditor for data analysis purposes then auditor shall perform all the data analysis whether under compliance or subscription audit at DPO premises only.
- 8) In such cases, the auditor only will be allowed to carry the result of data analysis along with other necessary documents such as screenshot of queries run, CAS and SMS generated reports and audit related documents (audit forms, vendor declarations, annexures etc.). The auditor will also provide a copy of these documents to DPO.
- 9) The auditor should not enter into any arguments or dispute with DPO during conduct of audit. If there are any issues or non-cooperation from DPO during audit the auditor shall inform the DPO in writing that the audit could not be conducted.
- 10) If auditor feels any justification or explanation is required from DPO on any particular issue observed during the conduct of audit w.r.t compliance or subscription audit, he/she may provide the opportunity to DPO before the finalization of audit report. The justification or explanation of DPO shall also be incorporated in the audit report along with the issue observed by the auditor.
- 11) The auditor will not insist on the specified format of the reports generated from the SMS and CAS systems as mandated in Schedule

III of Interconnection Regulations 2017 or any other report to be generated under scope of work of audit manual. However, the report should be able to reflect and produce desirable information.

- 12) The auditor will make non editable soft copy and hard copy of the audit report both for compliance and subscription audit. Further, number of copies of subscription audit report caused by DPO depends upon the number of broadcasters with whom interconnection agreements are signed by DPO.
- 13) In case the DPO is non-compliant to any of the provisions of extant regulation(s) then it is the responsibility of auditor to clearly mention the same in its report. TRAI should be duly informed of such non-compliance(s) within twenty-one days of conduct of Audit.
- 14) The Auditor shall comply with all the instructions, guidelines, directions, orders etc. issued by TRAI, from time to time, for the purpose of conducting the audit of the Digital Addressable Systems of the Service Providers and reporting thereof. ~~TRAI officials may also associate with the Auditor in the conduct of such audit and the Auditor shall carry out instructions, if any, given by such officials in writing.~~
- 15) The Auditor shall not undertake audit of addressable system of any service provider for whom the Auditor is also the statutory auditor or internal auditor or concurrent auditor or where the Auditor is the consultant to the service provider.
- 16) The Auditor shall not undertake audit of the addressable system of any service provider consecutively for more than three years.
- 17) The Auditor shall submit the report to TRAI about the details of audits carried out by the Auditor, as per the format prescribed by TRAI from time to time.

- 18) In case the Auditor observes any major discrepancy in the Digital Addressable Systems of the service provider during audit, the Auditor shall report the same to TRAI immediately.
- 19) TRAI reserves the right to review, dissolve the panel of Auditors, extend the validity of the panel, expand the panel and remove any Auditor from the panel for unsatisfactory performance, at any time.
- 20) TRAI may remove any Auditor from the panel of empanelled auditors, in case, it is established that the Auditor have performed two wrong audits.
- 21) The Auditor shall continue to meet all the eligibility conditions specified in the Expression of Interest for Empanelment of Auditors to carry out audit of Digital Addressable Systems, throughout the period of empanelment. The Auditor must immediately inform TRAI in case the Auditor fail to meet any of the eligibility criteria specified, at any time during the period of empanelment so that TRAI may remove the Auditor from the list of empaneled auditors. In case the Auditor do not inform, and it comes to the notice of TRAI through any source at a later date then TRAI may blacklist such auditor forever and forfeit performance bank guarantee and issue press release in this regard.
- 22) The Auditor shall adhere to the scope of work given in the Expression of Interest and shall follow the Comprehensive Audit Manual which TRAI may prescribe.
- 23) The Auditor and their staff/audit personnel must carry out the tasks with the highest degree of professional integrity and technical competence. They must be free from all pressures and inducements, particularly financial, which might influence their judgment or the results of any assessment, especially from persons or groups of persons with an interest in such results.

- 24) The Auditor must guarantee the impartiality of inspection staff/audit personnel. Their remuneration must not depend on the number of assessments carried out or on the results of such assessments.
- 25) In case of any misconduct or negligence; TRAI is free to report the matter at any time to any Government agency or department/statutory body/ICAI/ ICWAI or any other concerned professional body.
- 26) The Auditor shall maintain confidentiality as mentioned in the EOI.
- 27) The Auditor shall maintain, at all times during its period of empanelment, necessary office set up and adequate personnel to ensure proper deployment and timely completion of the assignments.
- 28) The Auditor shall not sub-contract the audit work assigned to the Auditor to any outside firm or other persons.
- 29) In case any information/documents submitted by the Auditor, whether at the time of submission of proposal or thereafter, to TRAI is found to be incorrect or false or misleading, the Auditor shall be removed from the panel immediately. In addition, the audit agency and the professionals will be liable for appropriate action in accordance with statutory guidelines or professional rules.
- 30) TRAI reserves the right to remove the Auditor from the panel in case it is found that any of the conditions laid down in the Expression of Interest have been contravened or the performance of the auditor is found to be unsatisfactory or any serious act of omission or commission is noticed in the Auditor's working. In such a case the Auditor will be blacklisted for empanelment with TRAI for a period of two years. If felt necessary, the matter may be reported

to ICAI and/or RBI/IBA/ICSI/ICWAI/BCI or any other concerned professional body for necessary action.

- 31) TRAI may call the Auditor for meetings/ presentation for seeking/ providing clarifications or for reviewing the progress of audit. The Auditor shall attend such meetings/ presentation at its own expenses.
- 32) The Auditor shall indemnify and hold TRAI harmless against any and all claims, demands, disputes or judgment of any nature brought against TRAI arising out of the services provided by the Auditor to the service provider under this agreement. TRAI shall be entitled to get the monetary loss suffered by it, if any, reimbursed from the Auditor. TRAI may also, at its discretion, remove the Auditor from the panel in such circumstances, without prejudice to the Auditor's obligation under this clause, which shall survive the Auditor's removal from the panel.
- 33) In case of disputes/ clarifications arising out of EOI, the decision of TRAI shall be final and binding on the Auditor.
- 34) The Auditor shall comply with and be governed by the laws of India for the time being in force.
- 35) In case Auditor has used its own laptop for an audit, then Auditor shall preserve that laptop along with entire data of the DPO till at least one year after that audit. This is in case DPO had no objection to auditor using its own laptop and DPO permits auditor to take data outside its premises. Besides, in such cases, DPO shall also preserve entire data given to auditor and/or extracted by auditor, till at least one year after that audit.



## 19. Minimum Laptop Configuration to be provided by DPO

Particulars	Subscriber base > 50 Lakhs	Subscriber base between 10 Lakh to 50 Lakh	Subscriber base between 1 Lakh to 10 Lakh	Subscriber base less than 1 Lakh
Processor	Intel® Core™ i7	Intel® Core™ i5 or i7	Intel® Core™ i5 or i7	Intel® Core™ i5 or i7
Hard Disk Space available in C drive	1 TB or above	500 GB or above	500 GB or above	100 GB or above
RAM	16 GB or above	16 GB or above	8 GB or above	8 GB or above
Partition in drive	No partition required in the drive, need a single drive	No partition required in the drive, need a single drive	Not Applicable	Not Applicable
Data source location (Local/Server)	RDP	Local or RDP	Local	Local
Operating System – 32 bit / 64 bit	Windows 64bit	Windows 64bit	Windows 64bit	Windows 64bit
Microsoft SQL Server Management Studio & SQL Server Data Tools (SSDT)	Microsoft SQL Server developer edition	Microsoft SQL Server developer edition	Microsoft SQL Server developer edition/Microsoft Access	Microsoft SQL Server Express/ developer edition, Microsoft Access, Microsoft Excel
	<b>(not Express edition)</b>	<b>(not Express edition)</b>	<b>(not Express edition)</b>	Express edition /Developer
	(any year version of 2012 / 2014 /2016 /2017)	(any year version of 2012 / 2014 /2016 /2017)	(any year version of 2012 / 2014 /2016 /2017)	(any year version of 2012 / 2014 /2016 /2017)
	Complete suite of SSDT or Visual Studio Professional	Complete suite of SSDT or Visual Studio Professional	Complete suite of SSDT or Visual Studio Professional	Complete suite of SSDT or Visual Studio Professional
Data source format	.csv or .txt	.csv or .txt	.csv or .txt	.csv or .txt /excel ( .xlsx, .xls )

## 20. Formats of Annexures and Reports

### Annexure 1

#### **Format of declaration from CAS Vendor**

(On CAS company letterhead)

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s \_\_\_\_\_ (DPO Name) \_\_\_\_\_ address: \_\_\_\_\_

\_\_\_\_\_ having its DAS headend at \_\_\_\_\_ has installed Conditional Access System (CAS) from our company for its distribution network.

Date of CAS Installation and operational: \_\_\_\_\_ CAS Version: \_\_\_\_\_

CAS ID: \_\_\_\_\_, Network ID: \_\_\_\_\_

Location of CAS servers (Database server, ECMG, EMMG): \_\_\_\_\_

Detail of main and back up CAS servers installed: \_\_\_\_\_ -- \_\_\_\_\_

Server time format: \_\_\_\_\_

Database detail: \_\_\_\_\_

Attached schematic diagram of CAS network including ECMG/EMMG & other servers installed in headend/remote/back up headend.

With respect to the CAS installed at above mentioned headend and in terms of Schedule-III of THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2017 of TRAI, we confirm the following:

- 1) All activation and deactivation of STBs can be done with the commands of the SMS. – CAS certificate to be in two parts – DPO and CAS vendor
- 2) The current version of CAS does not have any history of hacking.
- 3) We have the capability of upgrading of CAS in case it gets hacked.
- 4) The CAS is currently in use by other pay TV services and it has an aggregate of at least 1 million subscribers in the global pay TV market.
- 5) It is not possible to alter the data and logs recorded in the CAS.



- 6) That all the CAS system provided to the said distributor at all the locations (head-ends) have been duly reported explicitly.
- 7) We, the CAS system provider are able to provide monthly and date wise log of activation and deactivation on a particular channel or on a particular Bouquet / Subscriber Package.
- 8) This CAS is capable of individually addressing subscribers, on a channel by channel and STB by STB basis.
- 9) This CAS is 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.
- 10) The CAS has the capability of upgrading STBs over-the-air (OTA), so that the connected STBs can be upgraded.
- 11) The CAS has the capacity to activate or deactivate services or STBs of at least 5% of the subscriber base of this customer's distribution network within 24 hours.
- 12) That we \_\_\_\_\_(CAS Company Name) are fully compliant to the requirements of CAS system as per schedule III of the of THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2017 of TRAI.

I \_\_(\_name)\_\_\_\_\_ undertake that the information provided above is true and full disclosure of all the CAS system(s) provided to the said distributor has been made above and no information has been concealed.

Thanking you,

For (CAS company name)

(Signature)

Name :

Designation : (not below the level of COO or CEO or CTO)

Date :

Company seal :

Date: (within 30 days prior to audit)

## Annexure 2

### Format of declaration from SMS Vendor

(On SMS Company Letter Head)

Date:

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s \_\_\_\_\_,  
address: \_\_\_\_\_  
having its DAS headend at \_\_\_\_\_  
has installed Subscriber Management System (SMS) from our company for its  
distribution network.

Date of installation of SMS: \_\_\_\_\_ SMS Version: \_\_\_\_\_

Location of SMS servers: \_\_\_\_\_

SMS Database detail with number of instances  
created: \_\_\_\_\_

Please find enclosed the schematic diagram of SMS and CAS system(s) integration.

With respect to the SMS installed at above mentioned headend and in terms of Schedule-III of THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2017 of TRAI, we confirm the following:

1. The SMS is currently in use by other pay TV services that have an aggregate of at least 1 million subscribers in the global pay TV market (wherever applicable)
2. The SMS has the capacity to activate or deactivate services or STBs of at least 5% of the subscriber base of the distributor within 24 hours.
3. We have the technical capability in India to be able to maintain our systems on 24x7 basis through the year.
4. We, the SMS system provider are able to provide monthly and date wise log of activation and deactivation on particular channel or on a particular Bouquet / Subscriber Package with date/time stamp.

5. The SMS is capable of individually addressing subscribers, on a channel by channel and STB by STB basis.
6. This SMS is independently capable of generating log of all activations and deactivations.
7. The SMS is 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. ( as per period of service)
8. Please find enclosed sample log of activations & deactivations of a channel generated from this SMS system.
9. That we \_\_\_\_\_(SMS Company Name) are fully compliant to the requirements of SMS system as per schedule III of the of THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2017 of TRAI.

I \_\_(\_name)\_\_\_\_\_ undertake that the information provided above is true and full disclosure of all the SMS system(s) provided to the said distributor has been made above and no information has been concealed.

Thanking you,

For (SMS company name)

(Signature)

Name :

Designation: (not below the level of COO or CEO or CTO)/Authoirzed signatory

Company seal :

---

## Annexure 3

### **Format of Audit form to be filled in by DPO (Compliance Audit Form)**

On DPO Letter Head

Type of DPO: CATV/HITS/IPTV/DTH .....		Date : .....				
Address of the headend .....						
Headend technical person : .....Contact No. ..						
<b>1</b>	No..of SD & HD Channels presently running in the network		<b>FTA</b>	<b>PAY</b>	<b>TOTAL</b>	<b>Total no. of Transport Stream</b>
		SD				
		HD				
<b>Sl. No.</b>	<b>CAS Make</b>	<b>Version</b>	<b>For Software based (Cardless)</b>			<b>Server Location</b>
			<b>Encryption Strength</b>	<b>Key Length</b>	<b>Video Scrambling</b>	
1						
2						
<b>Sl. No.</b>	<b>SMS Make</b>	<b>Version</b>	<b>Date of Installation</b>	<b>Server Location</b>		
1						
2						
<b>Sl. No.</b>	<b>STB Make</b>	<b>Model</b>	<b>(HD, SD, PVR)</b>	<b>MPEG 2/4</b>	<b>Card/ Cardless</b>	<b>Embedded CAS Name</b>
1						
2						
3						
4						
5						
<b>A) Conditional Access System (CAS) &amp; Subscriber Management System (SMS)</b>		<b>Yes/No</b>				
<b>1</b>	Is the SMS computerized and capable to record the vital information and data concerning the subscribers such as:					
	a. Unique Customer 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. Email id		
	i. Service/Package subscribed to		
	j. Unique STB Number		
	k. Unique VC Number		
<b>2</b>	Is the SMS able to undertake the following:		
	a. Viewing and printing historical data in terms of the activations, deactivations etc.		
	b. Location of each and every set top box VC unit		
	c. Generating historical data of changes in the subscriptions for each subscriber and the corresponding source of requests made by the subscriber.		
	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.		
<b>3</b>	Are SMS and CA integrated for activation and deactivation process from SMS to be simultaneously done through both the systems? Is the CA system independently capable of generating log of all activation and deactivations?		
<b>4</b>	Are SMS & CAS capable of individually addressing subscribers, on a channel by channel and STB by STB basis?	<b>CAS</b>	<b>SMS</b>
<b>5</b>	For VC based CAS, is the STB & VC paired from head-end to ensure security?		
<b>6</b>	Is CAS system provider able to provide monthly log of the activations on a particular channel or on the particular package?		
<b>7</b>	Is SMS able to generate itemized billing such as content cost, rental of the equipments, taxes etc?		
<b>8</b>		<b>CAS</b>	<b>SMS</b>

	Do CAS & SMS have provision to tag and blacklist VC numbers and STB numbers that have been involved in piracy in the past to ensure that the VC or the STB cannot be redeployed?				
<b>9</b>	Is CAS able to provide reports at any desired time about:				
	a. Active and De-active VC wise details as on any particular date				
	b. STB-VC Pairing / De-Pairing c. STB Activation / De-activation d. Channels Assignment to STB e. Report of the activations or the deactivations of a particular channel for a given period.				
<b>10</b>	Is CAS & SMS able to provide reports at any desired time about:	<b>CAS</b>		<b>SMS</b>	
	a. VC wise log of changes in packages/channels for any particular period				
	b. Logs of creation and modification of packages for any particular period				
<b>12</b>	Total No. of STBs deployed in the network presently?	In field SD: In field HD:			
<b>B) Fingerprinting &amp; Scroll messaging</b>		<b>STB1</b>	<b>STB2</b>	<b>STB3</b>	<b>STB4</b>
		<b>Yes/No</b>			
<b>1</b>	Is FP Facility available (ECM/EMM) a. Visible (Overt) b. Invisible (Covert)?				
<b>2</b>	Is the finger printing removable by pressing any key on the remote control / front panel of STB?				
<b>3</b>	Is the fingerprinting on the topmost layer of the video?				
<b>4</b>	Can the Finger printing identify the unique STB number or the unique Viewing Card (VC) number?				
<b>5</b>	Does fingerprinting appear on all the screens of the STB, such as Menu, EPG etc.?				
<b>6</b>	Is the location of the Finger printing changeable from the Headend and random on the viewing device?				
<b>8</b>	Is finger printing possible on global STB basis? Is finger printing possible on individual STB basis?				
<b>9</b>	Is overt finger printing displayed by the MSO without any alteration with regard to the time, location, duration and frequency.				
<b>10</b>	Is the STB capable of doing finger printing and support Entitlement control message (ECM) based finger printing? Is the STB capable of doing finger printing and support Entitlement management Message (EMM) based finger printing?				

11	Is the scroll messaging character length 120 or more?					
12	Does STB has forced messaging capability?					
13	Is there provision for the global messaging, group messaging and the individual STB messaging?					
<b>D) STB</b>		<b>STB1</b>	<b>STB2</b>	<b>STB3</b>	<b>STB4</b>	<b>STB5</b>
		<b>Yes/No</b>				
1	Is Valid BIS certificate of each model of STB available?					
2	Does the STBs with facilities for recording the programs have copy protection system?					
3	Is STB addressable to be upgraded by OTA?					
4	Watermark of the network logo is Encoder or STB generated?					

I \_\_(\_name)\_\_\_\_\_ undertake that the information provided above is true and full disclosure of all the CAS and SMS system(s) and STB has been made above and no information has been concealed.

---

### **DPO Signature**

(Signature)

Name :

Designation: (not below the level of COO or CEO or CTO)/Authorized signatory

---

Company seal :

## Annexure 4

### **Format of declaration from STB Vendor**

(On STB company letterhead)

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s \_\_\_\_\_ (DPO Name) \_\_\_\_\_ address: \_\_\_\_\_

\_\_\_\_\_ having its DAS headend at \_\_\_\_\_ has procured below mention STB model no from our company for its distribution network.

S. no	STB Model no	BIS Compliant (yes/No)	Date of BIS Certificate

All the STB deployed/purchased by DPO are in compliance to Schedule-III of THE TELECOMMUNICATION (BROADCASTING AND CABLE) SERVICES INTERCONNECTION (ADDRESSABLE SYSTEMS) REGULATIONS, 2017 of TRAI w.r.t STB requirements as mentioned below:

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 fingerprinting. 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



I \_\_(\_name)\_\_\_\_\_ undertake that the information provided above is true and full disclosure of all the STB(s) provided to the said distributor has been made above and no information has been concealed.

---

Thanking you,

For (STB company name)

(Signature)

Name :

Designation : (not below the level of COO or CEO or CTO)

Date :

Company seal :

Date:  
(.....)



## Annexure 5

### **Format of subscription audit form (Letter head of DPO)**

S.No	Area	Data requested	DPO Response
1	<b>Head End</b>	<b>General Details</b>	
1.1	<b>Details</b>	Headend Location	
1.2		Date of establishment of the Headend	
1.3		Number of digital headend/sub Headends with encryption details and areas covered	
2		<b>Hardware Details ( if it is not covered in network diagram of all DHE's)</b>	
2.1		Details of IRD's with make & model number	
3		<b>Others</b>	
3.1		Local Channel detail:(number of local channels)	
3.2		Is a unique LCN defined for each channel(Service ID)	
3.3		Encryption:	
3.4		Transport streams:	
3.5		Number of Transport Streams	
3.6		Watermarking:	
3.7		Is watermark inserted? If yes, from where?	
4		<b>Features</b>	
4.1		Make & version number	
4.2		Types of STB's used with make, model number & compatibility with CAS	
4.3		STB-VC ID Pairing details if applicable	
4.4		Modules in SMS & the activities performed for each of the module	
4.5		Audit/trail/log of all changes for all changes made to the customer account & STB	
4.6	<b>Subscriber Management System (SMS)</b>	Channels to package mapping	
4.7		Fingerprinting ( STB wise, Group/All)	
4.8		Messaging ( STB wise, Group/All)	
5		<b>Reporting</b>	
5.1		Is reporting module configured to extract the following reports:	
5.2		As on historical date, count and details of STB status (active/de-active) as per the system	
5.3		Count and details of Activation/ deactivation of STBs for a defined period	
5.4		STB/Account wise Package modification report for a defined period	
6	<b>Conditional Access</b>	<b>Features</b>	

6.1	<b>System (CAS)</b>	Number of CA systems installed at the headend & the version of each	
6.2		Number of channels configured on each CAS	
6.3		Channel(SID) to package/product mapping	
6.4		Fingerprinting (STB wise, Group/All)	
6.5		Messaging ( STB wise, Group/All)	
6.6		Audit/trail/log of all changes for each CAS	
7		<b>Reporting</b>	
7.1		Is reporting module configured to extract the following reports:	
7.2		As on historical date, count and details of active STB status as per the system	
7.3		Activation and deactivation log for each STB/ VC Id	
7.4		Activation and deactivation log of channels and packages for each STB/ VC ID	

### **Undertaking**

I \_\_(\_name)\_\_\_\_\_ undertake that the information provided above is true, full and complete disclosure of all the CAS and SMS system(s) and STB has been made above and no information has been concealed.

(Signature)

Name :

Designation: (not below the level of COO or CEO or CTO)/Authoirzed signatory

---

Company seal :



Compliance Report of  
Addressable System of

M/s \_\_\_\_\_

for conformity to Schedule III of  
Interconnection Regulation 2017

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## **INTRODUCTION AND BACKGROUND**

---

### **Background of the DPO**

[

*Background on the DPO organization.*

*Brief detail of the business operation and experience on the cable TV distribution.*

*Details regarding the expansion of the DPO services*

*Annexure: Copy of valid license/ permission from MoI&B*

]

### **Terminologies used in Audit Report**

[

*Explanation of terms used in the report but are not part of the Act/ Rules/ Regulations/ Guidelines*

]

### **Headend Architecture**

[

*Explanation on the entire infrastructure of the DPO including Disaster Recovery Site for the operations.*

*Explanation of the following processes:*

- i. Content Reception*
- ii. Content Procession*
- iii. Encryption details*
- iv. Monitoring setup*
- v. Content reception at consumer premises*

*Annexure: Copy of Headend Schematic Diagram*



]

**Details of Broadcaster's IRD(s)**

[

*List of Broadcaster's IRDs present at the headend and their operational status*

]

**Details of CAS(s)**

[

*Details of the CAS(s) installed*

*Detail of the licensed/authorized VC/STBs available in the respective CAS(s)*

]

**Details of SMS(s)**

[

*Details of the SMS(s) installed*

*Detail of the SMS(s) installed with the respective CAS(s)*

]

## **Detail of the Signal Processing Systems**

[

*Details w.r.t. configurations of the following hardware in the network (at main/satellite / remote headends)*

- i. EMM Servers*
- ii. ECM Servers*
- iii. Scramblers*
- iv. QAM*
- v. Multiplexers*
- vi. PSI/ SI servers*
- vii. Fiber transmitters*

]

## **LCN wise service details**

[

*List of the LCN-wise channels present on the EPG as well as content available on the screen (to be checked and recorded after assigning all the available services to the test STB)*

]

## **Package Configuration**

[

- i. Package-wise list and detail of services configured in SMS(s) for entire period of audit*
- ii. Package-wise list and detail of services configured in CAS(s) for entire period of audit*

]

## **Network Architecture**

[

*Annexure: Copy of Network Diagram w.r.t. Main Headend and Satellite/ Remote Headends*

]

## **Set Top Box Management Process**

[

*Detail of the STB management system w.r.t. following:*

- i. Authorization process of STB/ VC in CAS,*
- ii. Transfer of STBs/VCs from DPO to LCO and LCO to consumer*

*Annexure: Flow Chart of the STB Management*

]

## **Consumer Acquisition Process**

[

*Detail of the consumer acquisition process including allocation of the STB/VC, pairing of STB-VC and activation of packages/ services on the STB*

*Identification process of each STB in cases when multiple STB are assigned to single consumer*

*Annexure: Flow Chart of the Consumer Acquisition Process*

]

## Data Management Process

[

*Explanation of the system and procedure adopted by DPO for management of the data from CAS and SMS deployed for the headend*

*Explanation may include details regarding:*

- i. Servers*
- ii. Backup server/ Mirror server*
- iii. Reporting servers*
- iv. Etc.*

]

## **METHODOLOGY ADOPTED FOR COMPLIANCE AUDIT**

---

[

*Section will provide details of the audit team(s) and explanation of the procedure for compliance audit.*

]

## AUDIT DETAILS

---

//

### Audit Period & Locations

[

*Section will provide the audit period including no. of audit visits and duration of each visit and details of visit at remote site(s)*

]

## **SCHEDULE III COMPLIANCE REPORT**

---

//

### **Compliance Report for CAS & SMS**

[

*Section will cover point-wise compliance for the requirements w.r.t. CAS & SMS specified in the Schedule-III of the Interconnection Regulations 2017*

*(Ideally in tabular form)*

]

### **Compliance Report for Finger Printing**

[

*Section will cover point-wise compliance for the requirements w.r.t. fingerprinting specified in the Schedule-III of the Interconnection Regulations 2017*

*(Ideally in tabular form)*

]

### **Compliance Report for STB**

[

*Section will cover point-wise compliance for the requirements w.r.t. STB specified in the Schedule-III of the Interconnection Regulations 2017*

*(Ideally in tabular form)*

]



## AUDITOR'S OBSERVATIONS

---

[

*Section will cover point-wise explanation for any-compliance parameter OR any deviation OR any abnormality in the Addressable System w.r.t. the requirements specified in the Scope of work in the Audit Manual*

*(Ideally in tabular form)*

<b>Scope of Work</b>	<b>Status/ Observations</b>
IP configuration to confirm and identify servers and mux deployed	
Inventory details of the Broadcasters IRDs+ VCs	
MUX configuration to validate number of Transport Streams ("TS")	
Details of QAM installed in the network	
Record of PSI/ SI servers (for EPG and LCN)	
Watermarking provisions	
Encryption status of the channels/ services	
Compliance Status of the CAS & SMS	
Compliance Status of the Fingerprinting	
Compliance Status of the STBs deployed	
Analysis of TS / VCs	

]

## **AUDITOR'S OPINION & CONCLUSION**

---

[

*Section will provide the auditor's opinion and conclusion for the addressable system deployed by the DPO*

]

## **ANNEXURES OF PRE-SIGNAL/COMPLIANCE AUDIT REPORT**

---

[

*Section will have the annexures as required and mentioned in the Audit Report*

]

a)

b) Format of Subscription Audit Report (**Annexure 7**).

**Annexure-7**

Audit Report of verification carried  
out for

conforming the completeness,  
truthfulness and correctness of  
Monthly Subscription Reports  
(MSR) submitted to

<Name of the Broadcaster> by

M/s \_\_\_\_\_

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## **INTRODUCTION AND BACKGROUND**

---

### **Background of the DPO**

[

*Background on the DPO organization.*

*Brief detail of the business operation and experience on the cable TV distribution.*

*Details regarding the expansion of the DPO services*

*Annexure: Copy of valid license/ permission from MoI&B*

]

### **Terminologies used in Audit Report**

[

*Explanation of terms used in the report but are not part of the Act/ Rules/ Regulations/ Guidelines*

]

### **Headend Architecture**

[

*Explanation on the entire infrastructure of the DPO including Disaster Recovery Site for the operations.*

*Explanation of the following processes:*

- i. Content Reception*
- ii. Content Procession*
- iii. Encryption details*
- iv. Monitoring setup*
- v. Content reception at consumer premises*

*Annexure: Copy of Headend Schematic Diagram*

]

**Details of Broadcaster's IRD(s)**

[

*List of Broadcaster's IRDs present at the headend and their operational status*

]

**Details of CAS(s)**

[

*Details of the CAS(s) installed*

*Detail of the licensed/ authorized VC/STBs available in the respective CAS(s)*

]

**Details of SMS(s)**

[

*Details of the SMS(s) installed*

*Detail of the SMS(s) installed with the respective CAS(s)*

]

## **Detail of the Signal Processing Systems**

[

*Details w.r.t. configurations of the following hardware in the network (at main/satellite / remote headends)*

- i. EMM Servers*
- ii. ECM Servers*
- iii. Scramblers*
- iv. QAM*
- v. Multiplexers*
- vi. PSI/ SI servers*
- vii. Fiber transmitters*

]

## **LCN wise service details**

[

*List of the LCN-wise channels present on the EPG as well as content available on the screen (to be checked and recorded after assigning all the available services to the test STB)*

]

## **Package Configuration**

[

- i. Package-wise list and detail of services configured in SMS(s) for **entire period of audit** **minimum 20% random selected dates of MSR verification.***
- ii. Package-wise list and detail of services configured in CAS(s) for **entire period of audit** **minimum 20% random selected dates of MSR verification.***

]



## **Network Architecture**

[

*Annexure: Copy of Network Diagram w.r.t. Main Headend and Satellite/ Remote Headends*

]

## **Set Top Box Management Process**

[

*Detail of the STB management system w.r.t. following:*

- i. Authorization process of STB/ VC in CAS,*
- ii. Transfer of STBs/VCS from DPO to LCO and LCO to consumer*

*Annexure: Flow Chart of the STB Management*

]

## **Consumer Acquisition Process**

[

*Detail of the consumer acquisition process including allocation of the STB/VC, pairing of STB-VC and activation of packages/ services on the STB*

*Identification process of each STB in cases when multiple STB are assigned to single consumer*

*Annexure: Flow Chart of the Consumer Acquisition Process*

]

## Data Management Process

[

*Explanation of the system and procedure adopted by DPO for management of the data from CAS and SMS deployed for the headend*

*Explanation may include details regarding:*

- i. Servers*
- ii. Backup server/ Mirror server*
- iii. Reporting servers*
- iv. Etc.*

]

## **METHODOLOGY ADOPTED FOR COMPLIANCE AUDIT**

---

[

*Section will provide details of the audit team(s) and explanation of the procedure for compliance audit.*

]

## AUDIT DETAILS

---

//

### Audit Period & Locations

[

*Section will provide the audit period including no. of audit visits and duration of each visit and details of visit at remote site(s)*

]

## AUDIT REPORT

---

//

### List of <Name of the Broadcaster>'s channels distributed by the DPO

[

Auditor will provide the list of broadcaster's channels which are being distributed by the DPO OR were distributed by the DPO in entire duration of the audit

(Ideally in tabular form)

]

### Count of subscribers as derived by the auditor

#### Total count of subscribers

Count as on XX.XX.XXXX	Count of VC/ STB			
	As per CAS	As per SMS	Present in SMS not in CAS	Present in CAS not in SMS
<b>Active count</b>				
CAS 1				
CAS 2				
CAS 3				
---				
CAS N				
<b>Inactive count</b>				
<b>CAS 1</b>				
<b>CAS 2</b>				
<b>CAS 3</b>				

				
CAS N				

### **MSR Verification Table (Suggestive Format)**

**It may be noted that in case system generated reports captures all the field specified in the format, then the auditor may accept such system generated reports . In case of shared CAS architecture, where the same is shared by JVs of DPO or in case a DPO has multiple CAS, the MSR verification can be done in nonlinear manner where the total package/channel count of SMS needs to be reconciled with the total package/channel count of CAS i.e. In case of JVs sharing common CAS(s) or in case a DPO has multiple CAS, the data can be reconciled in totality or by summing up the HC wise count from CAS and reconciling the same with SMS count. This is a non-linear way of reconciliation**

**Subscriber Count of Channel 1**

*As on XX.XX.XXXX (any of the randomly picked date from MSR)*

Count as on XX.XX.XXXX	Count of VC/ STB									
	As per CAS 1	As per CAS 2	-----	As per CAS N	As per SMS	Present in SMS not in CAS 1	Present in SMS not in CAS 2	----- --	Present in SMS not in CAS N	Present in CAS not in SMS
A-la-carte Subscriptions										
Broadcaster's Package 1 Subscriptions										
Broadcaster's Package 2 Subscriptions										
-----										
Broadcaster's Package N Subscriptions										



DPO's Package 1 Subscriptions										
DPO's Package 2 Subscriptions										
-----										
DPO's Package N Subscriptions										

[

*Section will cover reports for at least 12 weeks i.e. 12 dates for all the PAY Channels*

]

## Deviation in the count

## AUDITOR'S OBSERVATIONS

---

[

*Section will cover point-wise explanation for deviation in the count from MSR  
(Ideally in tabular form)*

<b>Scope of Work</b>	<b>Status/ Observations</b>
<i>Observations on the Data Extraction Process</i>	
Observations on the Data Analysis	
Observations on the Channel to Package Mapping	
Observations and details of Test STB/ VCs	
Observations on the transaction logs	
EPG wise channel List	
Observations on analysis of TS Recordings	

]

## **AUDITOR'S OPINION & CONCLUSION**

---

[

*Section will provide the auditor's opinion and conclusion for the Completeness, Correctness and Truthfulness of the Subscriber count*

]

## **ANNEXURES OF SUBSCRIPTION AUDIT REPORT**

---

[

*Section will have the annexures as required and mentioned in the Audit Report*

]

No. N-36012/5/2020-BP&L  
Government of India  
Ministry of Information & Broadcasting

Shastri Bhawan, New Delhi  
Dated, the 06<sup>th</sup> November, 2020

**ORDER**

In pursuance of the powers conferred under para 19.3 of the "Headend-in-the-Sky (HITS) Guidelines for Broadcasting Service in India" dated 26.11.2009, the Government of India hereby decides that the following shall be added after para 15 of the existing HITS Guidelines as paras 16 and 17 as under:

**Para 16 : Sharing of Infrastructure by HITS operator:**

16.1 General Sharing of the infrastructure – Wherever technically feasible, the HITS operator may share the platform infrastructure on voluntary basis, in flexible ways, for distribution of TV channels provided that the signals of the HITS platform are distributed to subscribers through Cable operator only and the encryption of signals, addressability and liabilities are not compromised.

16.2 Sharing of its transport stream transmitted by HITS platforms, between HITS operators and MSOs will be permitted.

16.3 The HITS platform will not be allowed to be used as teleport for up linking of TV channels.

16.4 HITS operator willing to share its transport stream with an MSO, should ensure that MSO has valid written interconnection agreement with the concerned broadcasters for distribution of Pay TV channels to the subscribers.

16.5 For sharing of infrastructure by HITS operator with MSO, the operator will be allowed sharing only on Indian controlled satellites. A written permission from Department of Space (DOS) would be required in this regard.

16.6 For infrastructure sharing, the new applicant(s) and existing licensee(s) will jointly submit a detailed proposal for infrastructure sharing giving details of infrastructure proposed to be shared and in the manner infrastructure is proposed to be shared as well as roles and responsibilities of each party to Ministry of Information and Broadcasting with a copy each to NOCC and WPC, DoT.

The proposal should contain:

- (i) Acceptance from all concerned stakeholders for sharing the infrastructure in writing.
- (ii) No Objection / Permission for sharing of infrastructure will be subject to:
  - a. Security clearance by Ministry of Home Affairs,

- b. Clearance of satellite use and transponder sharing from Department of Space,
- c. Wireless Operating License issued by Wireless Planning and Coordination Wing,
- d. National Operational Control Centre (NOCC-DOT) certification

(iii) Copies of the Agreements between the parties sharing the infrastructure with conditions stipulated in the guidelines.

(iv) An undertaking by both the parties proposing to share the infrastructure that there will not be any violation of the underlying terms and conditions of the licence granted or to be granted.

16.7 The sharing of the Satellite resources and Up-linking infrastructure (on voluntary basis) will be allowed with the written permission of MIB and WPC and NOCC, DoT.

16.8 To enable sharing of HITS infrastructure and Transport stream, the condition in the existing guidelines relating to hiring of satellite capacity and setting up of the Earth station, will stand modified accordingly to the extent as per these amended guidelines.

16.9 To ensure continuity of service to subscribers in the event of any disaster, the operator should have arrangement of sharing disaster recovery system in hot-standby mode.

16.10 For CAS & SMS, sharing parties may use common hardware. Details of such arrangement should be intimated to MIB and broadcasters, 30 days in advance. However, the respective HITS operator, MSO/cable operator will be accountable for integrity and security of CAS and SMS data pertaining to the respective operator.

16.11 Maintenance of historical logs of data of CAS and SMS for two years will be the responsibility of respective operators individually.

16.12 The access to CAS & SMS for audit purpose and also to the authorised officers of Govt. and their representatives will also be the responsibility of the respective operator individually.

16.13 For transport stream sharing each operator shall be individually responsible for setting up the system and processes which ensure that the broadcasters can exercise right for disconnection in case of default of payment or due to any other reason in terms of inter connection agreements between the broadcaster and the operator as well as the relevant regulations in place.

**Para 17: The permission will be granted subject to following conditions:**

17.1 The adherence and compliance to all the provisions of the rules and guidelines issued by MIB and NOCC and WPC, DoT for grant of licence to the HITS operator will be the responsibility of the both, the existing operator and the new applicant proposing to share the infrastructure, respectively to the extent as required / applicable individually.

17.2 Each operator in sharing environment should undertake to ensure the encryption of signals and addressability to all the subscribers in all circumstances and provide requisite access for Audit or for authorized officers of Government wherever demanded.

17.3 Accountability of operators is ensured with reference to the SMS, their respective subscribers and to the respective state Governments and local administration as well as to the Central Government on all relevant aspects of Tax collection.

17.4 Compliance to TRAI regulation pertaining to CAS/SMS, Finger printing, STB as per Schedule III of the regulation will be the responsibility of the respective operator individually to ensure proper reporting of subscriber's base, checking unauthorised distribution and piracy.

Note: Please note that all permissions & approvals and final up-linking permissions in all cases will continue to be taken from NOCC as per existing guidelines, norms and practice.

2. The Paras 16,17,18 and 19 and their sub-Paras in the existing HITS Guidelines are renumbered as Paras 18,19,20 and 21 and their sub-Paras respectively.

(Neerja Sekhar)

Joint Secretary to the Government of India

Copy to:-

1. Cabinet Secretary, Cabinet Secretariat.
2. Secretary, Ministry of Home Affairs.
3. Secretary, Department of Telecommunications
4. Secretary, Department of Economic Affairs.
5. Secretary, Department of Revenue
6. Secretary, Department of Space.
7. Secretary, Ministry of Commerce and Industry
8. Secretary, Ministry of Corporate Affairs
9. Secretary, Department of Promotion of Industry and Industrial Trade (DPIIT)
10. CEO, Prasar Bharati



11. Secretary, Telecom Regulatory Authority of India, Mahanagar Doorsanchar Bhawan (next to Zakir Hussain College), Jawaharlal Nehru Marg (Old Minto Road), New Delhi-110 002
12. M/s IndusInd Media & Communication Ltd. IN Centre, 49/50, MIDC, 12<sup>th</sup> Road, Andheri (East), Mumbai-400012

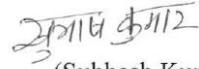
F. No. 45001/8/2019-DAS  
Government of India  
Ministry of Information & Broadcasting

Shastri Bhawan, New Delhi  
Dated: 29/12/2021

ORDER

Subject: Guidelines for sharing of infrastructure by Multi System Operators.

Consequent upon acceptance of TRAI recommendations on "Sharing of Infrastructure in Television Broadcasting Distribution Sector" dated 29/03/2017 by the competent authority, the sharing of infrastructure by Multi-System Operators is permitted as per the enclosed guidelines.



(Subhash Kumar)

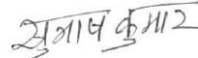
Deputy Secretary to the Government of India

Copy to,

1. TRAI – w.r.t. to their above quoted recommendations.
2. NIC – for posting on MIB website
3. All MSOs
4. AIDCF

Copy for information to :

1. Addl. PS to HMIB
2. PPS to Secretary (I&B)
3. PPS to AS(I&B)
4. PPS to JS (B)
5. PPS to JS(P&A)
6. PS to Director (BP&L)



(Subhash Kumar)

Deputy Secretary to the Government of India

**Guidelines for Sharing of Infrastructure by Multi-System Operators**

1. Wherever technically feasible, the MSO may share infrastructure with another MSO on voluntary basis. While sharing the infrastructure with another MSO, the responsibility of compliance to the relevant Acts/ rules/ regulations/ license/ orders/ directions/ guidelines would continue to be of each MSO independently.
2. The existing condition of MSO's permission / registration "You shall have an independent digital head-end of your own and shall provide digital addressable cable TV services for all channels, satellite or local, only from your own head-end" is deemed to be modified to the extent to allow sharing of head-end as follows : "In case, the head-end and other infrastructure i.e. CAS and SMS hardware is shared, on voluntary basis, with the other MSO, the guidelines issued by MIB regarding sharing of infrastructure shall be followed".
3. Each MSO should undertake to ensure encryption of signals and addressability of subscribers in all circumstances; and to provide access of all the systems and the networks, used to provide broadcasting distribution network services, to the concerned broadcasters for the purpose of audit as per the regulations and the authorized officers of the Governments and their representatives whenever demanded.
4. On voluntary basis, sharing of head-end used for Cable TV services & transport streams transmitting signals of TV channels, among MSOs, is permitted
5. MSO, willing to share its transport stream of TV channels with another MSO, should ensure that the latter MSO has valid written interconnection agreements with concerned broadcasters for distribution of pay TV channels to the subscribers.
6. MSOs may share the common hardware for their SMS applications. The details of such arrangements should be reported to the MIB, the TRAI, and the concerned broadcasters, 30 days in advance.

*सुभाष कुमार*

7. MSOs may share the common hardware for their CAS applications. The details of such arrangements should be reported to the MIB, the TRAI, and the concerned broadcasters, 30 days in advance.

8. Each MSO shall be accountable for ensuring the integrity and security of the CAS and the SMS data pertaining to such distributor.

9. Each MSO shall maintain the backup of transaction logs and data of the CAS and the SMS, on near real time basis, for at least past two years, at any point of time, on a secondary storage device.

10. Each MSO shall undertake to provide access of the CAS and the SMS, used to provide broadcasting distribution network services, to the concerned broadcasters for the purpose of audit as per the regulations and the authorized officers of the Governments and their representatives whenever demanded.

11. Each MSO sharing its infrastructure and transport streams of TV channels with other MSO, should set up systems and processes which ensure that the broadcasters are able to exercise their right of disconnection of signals in case of default of payment or due to any other reason, in terms of the interconnection agreement entered into between the broadcaster and the distributor and the relevant regulations in place.

12. MSOs sharing the infrastructure, should put in place necessary technical arrangements for detecting the specific pirate in the unlikely event of any such incidence, and satisfy the broadcaster's reasonable concerns at the time of initial audit itself.

13. For infrastructure sharing the new applicant and existing licensee will jointly submit a detailed proposal for infrastructure sharing giving details of the infrastructure proposed to be shared and in the manner infrastructure is proposed to be shared as well as roles and responsibilities of each to Min. of I&B. The proposal should contain:

- Acceptance from all concerned stakeholders for sharing the infrastructure.
- Copies of the Agreements between the parties sharing the infrastructure with conditions stipulated in the guidelines.
- An undertaking by both the parties proposing to share the infrastructure that under the sharing arrangement proposed, there will not be any violation of the underlying terms and conditions of the license granted.



14. To ensure continuity of service to subscribers in the event of any disaster, the operator should have arrangement of sharing disaster recovery system in hot-standby mode.

15.. MSO providing DAS service using the shared infrastructure with another operator can establish, maintain and operate its own MSO/DAS platform at a later stage within the license validity period, following due procedures.

16. The adherence and compliance to all the provisions of the rules and guidelines issued by MIB for grant of license to the MSO operator will be the responsibility of the existing operator and the new applicant proposing to share the infrastructure to the extent as may be required / applicable individually.

17. Compliance to TRAI regulation pertaining to CAS/SMS, finger printing, STB as per Schedule III of the regulation will be the responsibility of the respective operator individually to ensure proper reporting of subscriber's base, checking unauthorized distribution and piracy.

\*\*\*\*\*

21/12/2021

**No. 8/7/2020-BP&L  
Government of India  
Ministry of Information & Broadcasting**

Shastri Bhawan, New Delhi  
Dated, the 16<sup>th</sup> September, 2022

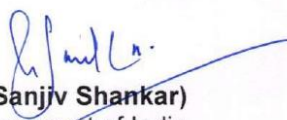
**ORDER**

**Subject: Operational Guidelines for Direct-To-Home (DTH) Broadcasting Services in India – regarding.**

The Government of India had notified the Guidelines for obtaining License for providing Direct-To-Home (DTH) Broadcasting Services in India vide order No.8/1/99-PBC.(Vol.II) dated 15.03.2001 and certain amendments therein have been notified vide Order No.8/3/2004-BP&L dated.01.06.2005, Order No.8/3/2004-BP&L dated 11.05.2006, Order No.8/12/2006-BP&L dated 31.07.2006, Order No.8/12/2006-BP&L dated 29.05.2007, Order No.8/12/2006-BP&L dated 10.09.2007, Order No.8/12/2006-BP&L dated 06.11.2007 and Order No. 8/7/2020-BP&L dated 30.12.2020.

2. It has been decided to issue operational guidelines in respect of License fee, Platform Service Channels and Sharing of Infrastructure by DTH operators. These provisions along with those contained in the said amendment vide Order No. 8/7/2020-BP&L dated 30.12.2020 will supersede the guidelines issued on 15.03.2001 and amended upto 06.11.2007 to the extent these change the relevant provisions of those guidelines and additions proposed hereinafter shall be read accordingly.

Encl: As above.

  
**(Sanjiv Shankar)**  
Joint Secretary to the Government of India  
Tele:011-23384453

.....2/-

Copy to:-

1. Cabinet Secretary, Cabinet Secretariat.
2. Secretary, Ministry of Home Affairs.
3. Secretary, Department of Telecommunications.
4. Secretary, Department of Expenditure.
5. Secretary, Department of Economic Affairs.
6. Secretary, Department of Revenue.
7. Secretary, Department of Space.
8. Secretary, Department of Commerce.
9. Secretary, Department of Promotion of Industry and Industrial Trade (DPIIT).
10. Secretary, Ministry of Corporate Affairs.
11. Secretary, Ministry of Electronics and Information Technology (MeitY)
12. Secretary, Department of Legal Affairs.
13. Secretary, Telecom Regulatory Authority of India, Mahanagar Doorsanchar Bhawan (next to Zakir Hussain College), Jawaharlal Nehru Marg (Old Minto Road), New Delhi-110 002.
14. CEO, Prasar Bharati.
15. Wireless Advisor, Wireless Planning Coordination, Department of Telecommunication, Ministry of Communication, 20 Ashoka Road, New Delhi.
16. Dy. Director General, Network Operational & Control Centre, Department of Telecommunication, Room No.212-214, Eastern Court, Janpath, New Delhi.
17. All DTH Operators.

Copy for information to:

1. PS to HMIB
2. PPS to Secretary (I&B)
3. Sr. PPS to AS & FA, M/o I & B
4. Sr. PPS to AS (I&B)
5. PPS to JS(P&A), M/o I & B
6. PPS to JS(B-II), M/o I & B
7. PPS to JS(Films), M/o I & B
8. PS to Sr. Economic Advisor, M/o I & B

  
(Sanjiv Shankar)

Joint Secretary to the Government of India  
Tele: 011-23384453



**MINISTRY OF INFORMATION & BROADCASTING**  
**OPERATIONAL GUIDELINES IN RESPECT OF LICENSE FEE, PLATFORM**  
**SERVICE CHANNELS AND SHARING OF INFRASTRUCTURE BY DIRECT TO**  
**HOME SERVICE PROVIDERS IN INDIA**

(Enclosed with Order No.8/7/2020-BP&L dated 16<sup>th</sup> September, 2022)

**1. PAYMENT OF LICENSE FEE**

- (i) The Licensee shall pay an annual fee equivalent to 8% of its Adjusted Gross Revenue, calculated by excluding GST from Gross Revenue (GR) as reflected in the audited accounts of the Company for that particular financial year.
- (ii) The minimum annual license fee shall be subject to 10% of the Entry Fee.
- (iii) The license fee is to be paid on a quarterly basis, the quantum thereof to be equal to the actual License Fee payable for the preceding quarter. The first payment of license fee for the previous quarter shall be made on the basis of provisional account for the quarter within one month of the end of a particular quarter. The annual settlement of the License Fee shall be done at the end of the financial year.
- (iv) The payment of license fee for the 4<sup>th</sup> quarter shall be made after adjustments and settlements of accounts for the whole year and on the basis of the finalised audited statement of the entity and latest by 30<sup>th</sup> September succeeding the financial year.
- (v) The licensor will have the right to modify the license fee as a fixed percentage of AGR during the validity of license period.

**2. PLATFORM SERVICE CHANNELS**

- (i) The Platform Services (PS) are programs transmitted by Distribution Platform Operators (DPOs) exclusively to their own subscribers and does not include Doordarshan channels and registered TV channels. PS shall not include foreign TV channels that are not registered in India.

Page 1 of 5

*J. M. L.*  
16/09/22



- (ii) The programme transmitted by the DTH operator as a platform service shall be exclusive and the same shall not be permitted to be shared directly or indirectly with any other Distribution Platform Operator (DPO).
- (iii) In case the same programme is found available on the PS of any other DPO, MIB may issue direction to immediately stop the transmission of such programme. MIB also reserves the right for cancellation of registration of such PS of the DTH operator.
- (iv) Total number of permitted PS for a DTH operator shall be capped to 5% of the total channel carrying capacity of the DTH operator platform.
- (v) A one-time non-refundable registration fee of ₹10,000 per PS channel shall be charged from a DTH operator.
- (vi) The DTH operators shall provide an option of activation/deactivation of platform services as prescribed in the orders/directions/regulations issued by TRAI from time-to-time.
- (vii) The platform services channels shall be categorised under the genre 'Platform Services' in the Electronic Programmable Guide (EPG) subject to orders/directions/regulations issued by TRAI from time-to-time.
- (viii) The respective maximum retail price (MRP) of the platform service shall be displayed in the EPG against each platform service subject to orders/directions/regulations issued by TRAI from time-to-time.
- (ix) A provision for putting a caption as 'Platform Services' shall be required to distinguish the platform services from the linear channels.
- (x) A DTH operator, who wants to operate Platform Service Channel, is required to furnish an application for the same in the prescribed proforma as per 'FORM-E'.

### 3. SHARING OF INFRASTRUCTURE BY DTH OPERATOR

- (i) General Sharing of the infrastructure – Wherever technically feasible, the DTH operator may share the DTH Platform infrastructure on voluntary basis. The infrastructure sharing of DTH Platform will be allowed for DTH services

*J. Sankar*  
16/09/22

only and not for other distribution platform operators like MSOs or HITS operators.

(ii) For infrastructure sharing the new applicant and existing licensee will jointly submit a detailed proposal for infrastructure sharing giving details of the infrastructure proposed to be shared and in the manner infrastructure is proposed to be shared as well as roles and responsibilities of each to Min of I&B with a copy to WPC and NOCC, DoT. The proposal should contain:

- (a) Acceptance from all concerned stakeholders for sharing the infrastructure.
- (b) Copies of the Agreements between the parties sharing the infrastructure with conditions stipulated in the guidelines.
- (c) An undertaking by both the parties proposing to share the infrastructure that under the sharing arrangement proposed, there will not be any violation of the under lying terms and conditions of the licence granted.

(iii) No Objection / Permission for sharing of infrastructure will be subject to security clearance by Ministry of Home Affairs; Clearance of satellite use and transponder sharing from Department of Space; Wireless Operating License issued by Wireless Planning and Coordination Wing; and National Operational Control Centre (NOCC-DOT) certification.


(iv) The sharing of the Satellite resources and Up-linking infrastructure (on voluntary basis) will be allowed with the written permission of MIB, DOS, WPC and NOCC, DoT.

(v) For a new DTH operator to use existing DTH platform and infrastructure, the condition in the existing guidelines relating to hiring of satellite capacity and setting up of the Earth station, will stand modified accordingly to the extent as per these amended guidelines.

(vi) However, the DTH operator providing DTH service using the shared infrastructure with another operator can establish, maintain and operate its own DTH platform at a later stage within the license validity period, following due procedures.

*Jankar*  
16/09/22

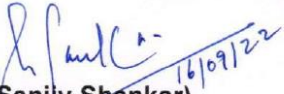
- (vii) To ensure continuity of service to subscribers in the event of any disaster, the operator should have arrangement of sharing disaster recovery system in hot-standby mode.
- (viii) The applicant/ new DTH operator proposing to share the transport stream of TV channels should have valid written inter-connection agreements with the concerned broadcasters for distribution of pay TV Channels to the subscribers.
- (ix) For CAS & SMS, sharing parties may use common hardware. Details of such arrangement should be intimated to MIB and broadcasters, 30 days in advance. However, the respective operator will be accountable for integrity and security of CAS and SMS data pertaining to the respective operator. Maintenance of historical logs of data of CAS and SMS for two years will be the responsibility of respective operator individually.
- (x) Allowing access to CAS & SMS for audit purpose and also to the authorised officers of Govt. and their representatives will also be the responsibility of the respective operator individually.
- (xi) For transport stream sharing each distributor shall be individually responsible for setting up the system and processes which ensure that the broadcasters can exercise right for disconnection in case of default of payment or due to any other reason in terms of inter connection agreements between the broadcaster and the distributor and the relevant regulations in place.
- (xii) The permission will be granted subject to following conditions:
- (a) The adherence and compliance to all the provisions of the rules and guidelines issued by MIB and WPC & NOCC, DoT for grant of licence to the DTH operator will be the responsibility of the existing operator and the new applicant proposing to share the infrastructure to the extent as may be required/ applicable individually.
  - (b) Each distributor in sharing environment should undertake to ensure the encryption of signals and addressability to all the subscribers in all circumstances and provide requisite access for Audit or for authorized officers of Government wherever demanded.

  
16/09/22



- (c) Accountability of operators is ensured with reference to the SMS, their respective subscribers and to the respective state Governments and local administration as well as to the Central Government on all relevant aspects of Tax collection.
- (d) Compliance to TRAI regulation pertaining to CAS/SMS, Finger printing, STB as per Schedule III of the regulation will be the responsibility of the respective operator individually to ensure proper reporting of subscriber's base, checking unauthorised distribution and piracy.

Note: Please note that all permissions & approvals and final up linking permissions in all cases will continue to be taken from NOCC as per existing guidelines, norms and practice.

  
(Sanjiv Shankar)

Joint Secretary to the Government of India  
Tele:011-23384453

**Form-E**

**Application for Platform Service channel**

1. Name of Applicant Company:
2. Address of the Applicant Company
  - I. Head Office :
  - II. Regional Office :
3. Corporate Identification Number (CIN) allocated by Registrar of Companies (RoC) :
4. Identity of its beneficial owners:
5. Total channel carriage capacity:
6. Area of Operation:
7. Details of Platform Services channels:

I. Existing Platform Services channels offered:

S.No.	Name of Channel	Logical Channel No.	Nature / genre of content	Satellite used

II. New Platform Services channels to be offered:

S. No.	Name of Channel	Logical Channel No.	Nature / genre of content	Satellite used

**Declaration:**

It is hereby declared that the programme/content transmitted on the above-said platform channels is exclusive to the platform of M/s..... and shall not be shared directly or indirectly with any other distribution platforms.

*Jamal Co.*  
*16/09/22*

Signature

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**(Name of the Authorized signatory)**

Tele No:

Email Id: