Indian Broadcasting & Digital Foundation

IBDF's Response to TRAI Consultation Paper dated 9 Aug 2024 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

A. Preliminary Submissions:

We thank TRAI for this opportunity to provide our inputs regarding amendments to the Interconnect Regulation, 2017 and the Audit Manual. Reviewing the audit framework is an important step as TRAI moves towards a de-regulated and transparent framework for the entire Broadcasting & Cable Services industry.

Under the New Regulatory Framework, subscriber count has become the industry's currency, and any incorrect subscriber reporting and/or content security breach has huge financial ramifications for the whole sector, and especially for the broadcasters and also for the public exchequer. Hence it is imperative that along with a transparent audit process, equal opportunity should be given to broadcasters to verify the subscriber base and also validate the addressable systems deployed by the Distribution Platform Operators (**DPOs**) for transmission of TV channels.

Major issues with the current regime

As highlighted in previous submissions to TRAI, there are longstanding issues with the current audit process[1]. For example, while the current regime provides for mandatory DPO-caused audits, it has been observed (as also acknowledged by TRAI in the Consultation Paper ("CP")[2]) dated 09 August 2024 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, that a majority of DPOs have either never conducted an audit of their systems or failed to do so in a time-bound manner.

Even where DPOs are conducting audits, the audit reports are incomplete, rife with discrepancies, and are either not submitted to broadcasters, or are submitted late, leading to outdated and incorrect information. When the statutory period of 2 years for retaining data expires, verification of the subscriber base for that period is not possible.

These issues persist; despite penalties prescribed under the regulations and broadcasters using the regulatory provisions at their disposal, constantly following up with DPOs, the number of DPO-caused audits has not increased significantly. Furthermore, DPOs do not permit broadcasters to conduct audits under Regulation 15(2).

Broadcasters should have an unfettered, first right to audit

To overcome the aforesaid audit-related issues, it is imperative that broadcasters have an unfettered, first right to audit and the DPO-caused audits under Regulation 15(1) be done away with. Broadcasters are the owners of TV channels and subscriber base forms the basis of broadcasters' revenues. Hence, broadcasters must be able to independently verify the veracity of the reported subscriber numbers and validity of the DPOs addressable systems to mitigate under-reporting and manipulation of the CAS and SMS systems[3], without relying on a DPO-caused audit / Monthly Subscriber Reports ("MSRs") submitted by DPOs.

[1] Please refer to IBDF's Representation on DPO Audit-Related Concerns from December 14, 2023.
[2] Para 2.2 of the CP
[3] For further details, please refer to IBDF's Representation on DPO Audit-Related Concerns from December 14, 2023.

Currently, DPOs push back on broadcaster-caused audits, by asking broadcasters to provide strict proof of discrepancies found in the DPOs' audit report, and by delaying the broadcaster-caused audits on various pretexts. The very purpose of audits is to ensure transparency and verify Monthly Subscriber Reports and validate addressable systems deployed by the DPOs to retransmit TV channels of broadcasters. The Hon'ble TDSAT in the matter titled *Sony Pictures Networks India Pvt Ltd. Vs Digiana Projects Pvt Ltd*[4] has also held that the 15(2) right "does not and should not require any contest or legal dispute for permitting the broadcaster to proceed with its right to hold an audit." Accordingly, only broadcasters should have an unfettered, first right to audit, and the provision relating to DPO-caused audits under Regulation 15(1) should be deleted.

This will even provide relief to small DPOs, relieving of them burden of the audit fee and related obligations.

Irrespective of which party causes the audit, the process of conducting audits, including the information sought and the time period covered, should be uniform.

To summarize broadly, provision of Regulation 15(1) should be abolished because of inter-alia the following reasons:

1. Ineffective Audits under Regulation 15(1):
   a. Audits under Regulation 15(1) have been ineffective.
   b. Majority of DPOs have failed to submit any reports.

2. Exploitation of Regulation 15(1) by DPOs:
   a. DPOs are using Regulation 15(1) to avoid broadcaster-led audits under 15(2).

3. TRAI's Efforts and Minimal Progress:
   a. TRAI has urged DPOs to conduct audits with minimal success.
   b. Penalties for non-compliance haven't led to significant improvements.
   c. Broadcasters have kept up regulatory follow-ups with DPOs, yet DPO-conducted audits remain low.

4. Broadcaster Audits Ignored or Delayed:
   a. Broadcaster audits are often ignored or delayed due to restrictions by Regulation 15(1) provisions.
   b. The broadcaster audit process is becoming sluggish and outdated.

5. Deadlock Due to DPO Demands:
   a. Some DPOs demand proof of dissatisfaction from broadcasters before allowing audits, creating a deadlock.

6. Rejection of Broadcaster Audits:
   a. Some DPOs reject broadcaster audits under Regulation 15(2), interpreting that these audits are only for validating issues from Regulation 15(1) audit reports.

7. Auditor Appointment Issues:
   a. Some DPOs appoint auditors but fail to submit reports to broadcasters.
   b. Problems include non-payment of audit fees, auditor changes without notice, collusion between auditors and DPOs, and audits lasting over a year without submitted reports.

8. Delay Tactics by DPOs:
   a. When broadcasters request audits under 15(2), DPOs often delay by stating their Regulation 15(1) audit is ongoing or planned.
   b. Courts tend to allow DPOs to complete Regulation 15(1) audits before Regulation 15(2) audits can commence.

[4] **Broadcasting Petition/658/2020**

9. Conflict Between Regulation 15(1) and Regulation 15(2) Audits:
   a. DPOs often initiate Regulation 15(1) audits when broadcasters begin Regulation 15(2) audits.
   b. DPOs use Regulation 15(1) audit reports to dispute and discredit findings from Regulation 15(2) audits.
   c. This tactic undermines broadcaster-led audits and prolongs legal battles.

10. Ineffectiveness of DPO Audits:
   a. DPO audits fail to uncover discrepancies identified in broadcaster audits.
   b. DPO audit reports are often worded to prevent actionable outcomes like disconnection of signals or increased subscription revenue.

11. TRAI Consultation Paper Insights:
   a. Even in its Consultation Paper on 'Review of Regulatory Framework for Broadcasting and Cable services' dated 8th August 2023, TRAI noted that many MSOs and LCOs argue against mandatory annual audits due to high charges from audit agencies, which they find unaffordable.

In case Regulation 15 (1) is retained, it is imperative that broadcasters continue to enjoy an unfettered right to audit under Regulation 15(2), independent of DPO-led audits under Regulation 15(1).

Infrastructure sharing should meet broadcasters' requirements

Considering that neither stakeholders nor TRAI have benefit of hindsight on issues / problems arising out of infrastructure sharing therefore, it is important for all stakeholders and TRAI to tread carefully to ensure that overall distribution ecosystem is not adversely impacted by any misuse of infrastructure sharing provisions. Broadcasters are already under tremendous pressure due to revenue leakages on account of *inter-alia* under-reporting of subscriber numbers and day-by-day increasing modes of piracy due to technological developments. On top of that, promoting / encouraging infrastructure sharing by making changes to the regulations, without gaining (including through regulatory sandboxing) practical knowledge of the problems / challenges that can arise, will only add to the broadcasters' woes. Some of the anticipated challenges are as under:

a. **Difficulty in Enforcing Regulations**: Broadcasters and Regulator would find it challenging to enforce regulations and ensure compliance specially if CAS and SMS are shared among multiple DPOs.

b. **Compromised Content Security**: CAS and SMS are crucial for protecting content from unauthorized access. Sharing CAS and SMS could lead to its compromise, enabling piracy and revenue loss for content creators, broadcasters and public exchequer.

c. **Loss of Subscriber Data Control**: CAS and SMS contain sensitive subscriber information. Sharing CAS / SMS risks data breaches, privacy violations, and potential misuse of subscriber data.

d. **Reduced Control Over Service Offerings**: DPOs using CAS and SMS of another DPO would lose effective control of consumers leading to disputes amongst themselves as well as with broadcasters.

e. **Reduced Incentives for upgradation**: Sharing CAS and SMS could reduce the incentives for DPOs to upgrade since they would need to take along all DPOs who may or may not agree to incur expenses.

f. **Potential for Consumer Complaints**: Sharing CAS and SMS could lead to service disruptions, billing errors, and other issues, resulting in increased consumer complaints.

It is requested that a regulatory sandboxing approach may kindly be adopted to allow infrastructure sharing in a controlled and monitored environment. Depending on learnings on account of such approach, a guidance can be prepared for relevant stakeholders to comply with in case they intend to share infrastructure. Such guidance

would be better suited to deal with problems arising out of infrastructure sharing since, they would be based on empirical data and learnings. We would request the Authority to kindly consider the IBDF submissions and issues raised in the past in this regard.

It is essential that any infrastructure sharing only takes place between DPOs, provided the addressable systems meet technical requirements that are acceptable to the broadcasters, including setting up of portals that give individual broadcasters access to switch-off individual DPOs as and when required due to inter-alia non-payment or piracy issues.

An opportunity for greater effectiveness

Since the implementation of the New Regulatory Framework, the framework for conducting audits, enforcing compliance, and imposing penalties for non-compliance has been ineffective. The recent regulatory amendments show TRAI's faith in a de-regulated system. We are of the strong view that allowing for market-based agreements would resolve all audit-related issues present in the current regime.

B. Response to 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?

We believe that Regulation 15(1) should be removed from the Interconnection Regulation 2017, and broadcasters should be given an unfettered, first right to cause audits of DPOs' systems. Accordingly, suitable modifications should be carried out in the extant Interconnection Regulations.

This change will ensure that broadcasters, who are the owners of TV channels, have the ability to verify the MSRs which form the basis of their revenue, and can do so in a timely manner.

Under the current regime, although DPOs were mandated to conduct audits, a majority of them failed to do, or did so only after inordinate delays and repeated requests of broadcasters. There have been multiple instances where the broadcaster has sought time to conduct an audit, and the same has been denied by the DPO. There have also been instances where it has been found that the DPO's audit report has been manipulated, incomplete, and inaccurate. Even when a DPO does submit an audit report, it is often delayed. This has led to expiration of the statutory period for retaining data, meaning there can be no verification of data for that particular period. As a result of Regulation 15(1), broadcasters are forced to resort to litigation in order to exercise their right to audit under Regulation 15(2).

Further, in order to ensure accuracy, completeness and truthfulness of MSRs provided by a DPO to a broadcaster, it should be mandated upon the DPO that:

i. At the time of submission of MSR for a particular month, DPO must also submit 1 week's raw data from its SMS and from its CAS for any of the week ending on 7th / 14th / 21st / 28th of such month. This will

enable the broadcaster to verify the correctness of the submitted MSR by cross-referencing it with the raw data.

ii. Currently, DPOs generate MSR from their SMS, that is connected with their CAS, and submit the MSR to Broadcasters. We propose that in addition to submitting MSR generated from their SMS, DPOs should also submit MSR generated from their CAS. This will help in confirming whether DPOs are complying with the stipulation that CAS and SMS systems should be synchronized and integrated.

iii. MSR should also mention the names of the DPOs' CAS and SMS in use through which MSR has been generated and submitted with broadcasters. This will plug gaps of under-declaration of CAS / additional SMS and will bring more transparency in subscriber reporting and thus reducing the number of audits.

We believe that implementation of the above-mentioned measures will bring in more transparency and will resultantly reduce the number of audits by broadcasters.

In case Regulation 15 (1) is retained, it is imperative that broadcasters continue to enjoy an unfettered right to audit under Regulation 15(2), independent of DPO-led audits under Regulation 15(1). We suggest that it would be beneficial to amend Regulation 15 (2) for clarity.

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?**

We recommend that Regulation 15(1) should be removed from the Interconnection Regulation 2017, and broadcasters be given the unfettered first right to audit. This will alleviate the burden on smaller DPOs and eliminate the need for categorization.

However, in case Regulation 15(1) is retained in some form or the other, then we are of the opinion that any DPO with less than 30,000 subscribers should be exempted from Regulation 15(1) audit. With respect to such DPOs, a broadcaster can conduct audit under Regulation 15(2) at its discretion once in a calendar year. Also, once the broadcaster has informed the DPO that it would like to conduct audit under Regulation 15(2), then the DPO cannot create impediment / stall the broadcaster audit by stating that it will get audit conducted under Regulation 15(1). However, such exemption shall not apply in case a DPO has less than 30,000 subscribers and forms a part of a JV or is otherwise sharing infrastructure, unless the JV or the parties to the infrastructure sharing arrangement together have less than 30,000 subscribers.

Further, with respect to a DPO that is offering services through more than one distribution platform, for the purpose of determining if such DPO has 30,000 subscribers or not, the collective/combined subscriber base of all its distribution platforms should not be consideration since it executes separate interconnection agreement with broadcasters for each of its distribution platform.

It should be mandated upon the smaller DPOs that:

i. At the time of submission of MSR for a particular month, small DPOs must also submit 1 week's raw data from its SMS and from its CAS for any of the week ending on 7th / 14th / 21st / 28th of such month. This will enable the broadcaster to verify the correctness of the submitted MSR by cross-referencing it with the raw data.

ii. In addition to submitting MSR generated from their SMS, small DPOs should also submit MSR generated from their CAS. This will help in confirming whether small DPOs are complying with the stipulation that CAS and SMS systems should be synchronized and integrated.

iii. MSR should also mention the names of the small DPOs' CAS and SMS in use through which MSR has been generated and submitted with broadcasters. This will plug gaps of under-declaration of CAS / additional SMS and will bring more transparency in subscriber reporting and thus reducing the number of audits.

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.

Please see our response to Question 1. Our submission/request is to abolish Regulation 15(1) of the Interconnection Regulations for the reasons stated above. However, in case Regulation 15(1) is retained in some form or the other, then we are fine with DPOs conducting audit under Regulation 15(1) once in a calendar year, as long as the same is strictly adhered. It is suggested that it would be beneficial to amend Regulation 15 (2) for clarity.

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 30th September every year.

ii) In cases, where a broadcaster is not satisfied with the audit report received under regulation15(1), broadcaster may cause audit of the DPO under Regulation 15(2) and such audit shall be completed latest by 31st December.

iii) In case DPO does not complete the mandatory annual audit of their systems by 30th September in a year, broadcaster may cause audit of the DPO under Regulation 15(2) from 1st October to 31st December year. This shall not absolve DPO from causing mandatory audit of that year by 30th 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.

AND

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?**

Please see our response to Questions 1 and 3 above with respect to the requirement of abolishing Regulation 15(1) of the Interconnection Regulations.

However, in case Regulation 15(1) is retained in some form or the other, then we propose that DPOs be mandated to complete audit under Regulation 15(1) and submit audit reports (including submission of missing annexures and/or supporting data/documents that may be pointed out by broadcaster and/or responding to other audit queries) to broadcasters by 30th June of a calendar year, so that broadcasters get ample time to conduct audit under Regulation 15(2) at their discretion. For clarity, broadcasters will continue to have the right to conduct audit under Regulation 15(2) at any time (i.e., even before 30th June). Accordingly, we suggest that Regulation 15 (2) be amended for clarity.

With respect to binding broadcasters to conduct audit under Regulation 15(2) within a fixed timeline post receipt of Regulation 15(1) audit reports from DPOs, we submit that such timeline should not be mandated upon broadcasters since majority of the audit reports submitted by DPOs under Regulation 15(1) have important annexures, supporting data/documents missing and DPOs take months to furnish the same and also to respond to broadcaster's audit queries. Some DPOs also use the excuse of data migration/system crash/server issues/non availability of CAS/SMS tech support.

With respect to binding broadcasters to conduct audit under Regulation 15(2) within a fixed timeline post end of a calendar year, when DPOs have not got audit done under Regulation 15(1) during the calendar year, we submit that such timeline should not be mandated upon broadcasters since DPOs most of the time face challenges in arranging necessary technical support for facilitating broadcasters' audit requirements.

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

Please see our response to Questions 1 and 3 above. Our primary submission/request is to abolish Regulation 15(1) of the Interconnection Regulations for the reasons stated above. However, in case Regulation 15(1) is retained in some form or the other, then to ensure timely completion of audits by DPOs, such heavier penalties that can act as deterrent should be imposed on DPOs for non-compliance, along with cancellation of license to operate their respective distribution platform and blacklisting them for a period of 3 years from operating any kind of distribution platform. Further, it should be mandated that audit should be completed within 10-14 days.

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.

We propose that the existing audit manual needs to be strengthened by specifying strict timelines for completion of audits caused by DPOs. Further, the same should not be watered down in any manner whatsoever since the same is susceptible to be further misused by DPOs. Sufficient concessions already exist for encoders (including provisioning for watermarking) that were procured by DPOs before the regulations came into effect. For clarity, we do not concur with the new concessions being proposed in question Nos. 7 & 8 in terms of STB compliance certification, fingerprinting, covert finger printing compliances, non-availability of de-active data during audits etc. Such concessions will be detrimental for the industry *inter-alia* in terms of piracy control. Also, a sunset date of 31st March 2025 ought to be fixed for decommissioning and replacement of non-compliant encoders and STBs with compliant ones, so that all DPOs become compliant with TRAI's regulatory requirements. Further, with respect to infrastructure sharing, both infrastructure provider and infrastructure seeker should be able to verifiably demonstrate that any watermarking done by them from encoder level and from STB level, respectively, are not capable of being removed. To illustrate, it should not be possible to remove watermarking by rebooting STBs, remotely or otherwise.

Without prejudice to the foregoing, with an aim to honor TRAI's request, please see Annexure 1, attached.

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.

It is reiterated that the existing audit manual needs to be strengthened by specifying strict timelines for completion of audits by DPOs. Further, the same should not be watered down in any manner whatsoever since the same is susceptible to be further misused by DPOs. Sufficient concessions already exist for encoders (including provisioning for watermarking) that were procured by DPOs before the regulations came into effect. For clarity, we do not concur with the new concessions being proposed in question Nos. 7 & 8 in terms of STB compliance certification, fingerprinting, covert finger printing compliances, non-availability of de-active data during audits etc. Such concessions will be detrimental for the industry *inter-alia* in terms of piracy control. Also, a sunset date of 31st March 2025 ought to be fixed for decommissioning and replacement of non-compliant encoders and STBs with compliant ones, so that all DPOs become compliant with TRAI's regulatory requirements. Further, with respect to infrastructure sharing, both infrastructure provider and infrastructure seeker should be able to verifiably demonstrate that any watermarking done by them from encoder level and from STB level, respectively, are not capable of being removed. To illustrate, it should not be possible to remove watermarking by rebooting STBs, remotely or otherwise.

Without prejudice to the foregoing, with an aim to honor TRAI's request, please see Annexure 2, attached.

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?

AND

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.

We respectfully reiterate our concerns regarding the proposed regulatory framework for infrastructure sharing by DPOs, as outlined in the CP. The proposed stipulations require proper examination and practical testing before introduction. It is submitted that the current proposals appear to be based on theoretical understanding rather than practical experience. There is no evidence presented on how commands executed through CAS or SMS can be definitively attributed to a specific DPO. Before any changes are made, TRAI needs to conduct comprehensive study, tests and analysis of the practical challenges involved and how they can be demonstratively addressed. The proposed stipulations are susceptible to misuse, especially in scenarios where competing DPOs collude to target another DPO sharing infrastructure. Attributing their own subscribers to the targeted DPO could unfairly burden the latter with additional regulatory compliance and costs. TRAI has not provided any clarity on the recourse or remedies available to address such situations. It is crucial to anticipate various potential misuse scenarios and have robust remedial solutions in place. The regulatory framework should be proactive in preventing and addressing such situations, rather than reactive. Further, TRAI's initial stance appeared to focus on the sharing of only hardware infrastructure. However, the current proposals seem to suggest that software sharing may also be permitted. This potential deviation needs further clarification, as it could have significant implications for the competitive landscape and the DPOs ability to differentiate / identify their services / subscribers. The proposed stipulations could necessitate joint and simultaneous audits of multiple DPOs, which could be a complex and resource-intensive task, especially if numerous DPOs are involved in sharing infrastructure, or if some are no longer operational. TRAI has not conducted any analysis or study on the potential impact of competing DPOs being provided with substandard feeds of TV channel signals. This could adversely affect the consumer experience and undermine the quality of service provided by DPOs. The regulatory framework should address this concern and ensure that adequate safeguards are in place. In light of the aforementioned concerns, we strongly recommend that TRAI conducts thorough and transparent testing through regulatory sandboxing before implementing any sweeping changes. Regulatory sandboxing provides a controlled environment where new regulatory approaches and technologies can be tested in a real-world setting, without exposing stakeholders and consumers to undue risks. This approach allows for evidence-based policymaking and ensures that the regulatory framework is both effective and practical. By utilizing regulatory sandboxing, TRAI can gather valuable insights into the potential impact of the proposed stipulations, identify potential loopholes and vulnerabilities, and fine-tune the regulatory framework before its full implementation. In view of the above, we urge TRAI to reconsider the proposed stipulations and conduct further studies and analysis, including regulatory sandboxing, before making any changes to the regulatory framework for DPOs. This will ensure that the final regulations are robust, fair, and conducive to a healthy and competitive market.

Further, both infrastructure provider and infrastructure seeker should be able to verifiably demonstrate that any watermarking done by them from encoder level and from STB level, respectively, are not capable of being removed. To illustrate, it should not be possible to remove watermarking by rebooting STBs, remotely or otherwise.

Without prejudice to the foregoing, with an aim to honor TRAI's request, we suggest the following:

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

*Provided that ~~only the~~ encoders deployed ~~after~~ **before** coming into effect of Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019 (7 of 2019) ~~shall~~ **that do not** support watermarking network logo for all pay channels at the encoder end **shall be decommissioned and replaced with encoders that support watermarking network logo for all pay channels at encoder end, on/before 31st March 2025**.*

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. ***The two watermarks should be visible on the screen, one watermark of the infrastructure sharing provider from encoder end & one watermark of the DPO taking services from the infrastructure provider distributor from STB end. Provided that the STB watermark should be 50% transparent.****"*

Since infrastructure sharing involves two or more DPOs, provision for watermarking from the STB end should be made, along with watermarking from the encoder end. Since 2 watermarks are appearing on the screen, the STB-end watermark should be kept at 50% transparency so as not to hamper the consumer's viewing experience.

The primary DPO/infrastructure sharing provider should insert its watermarking network logo for all pay channels at Encoder end while each DPO taking services from infrastructure provider distributor shall insert watermarking network logo for all pay channels at STB end, placed in such a way that watermarking network logo of infrastructure sharing provider should not get overlapped or hidden. Ideally Infrastructure sharing provider watermarking network logo should be 50% transparent with 2cm X 2 cm and to be placed on the right lower side of the screen and each DPO taking services from infrastructure provider shall insert logo with 50% transparent 50% with 1.5cm X 1.5 cm on lower left side of the screen and ensure that both logos should be prominently visible on the subscriber's TV screen. It will help the field team to identify both logos without any confusion and help to trace the source of the signal in case of piracy.

Further, it should be mandatory for infrastructure sharing platforms to enable fingerprinting at every 10 minutes interval on all STBs. Implementing these measures will help in tracking piracy events.

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?

We suggest the following amendment:

"The CAS shall be independently capable of generating, recording, and maintaining logs, for a period of at least immediate preceding ***three*** *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 ***three*** *consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS."*

The CAS and SMS should have the feature to tag separately all STB/VCs of respective distributors because in case CAS does not have capability to whitelist and tag STB/VC of respective distributors then it shall not be

possible to generate logs of respective distributors only. The CAS shall be capable of whitelisting and tagging all STB/VCs of respective distributors and generating, recording and maintaining logs with date and time stamp for a period of at least immediately preceding 3 consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.

A three-year period is suggested so as to enable broadcasters to conduct audits, keeping in mind the number of DPOs each broadcaster must provide signals to, and the complexity involved in auditing DPOs which are sharing infrastructure. This will also align with the requirement for IPTV under Schedule X, where TRAI has recognized that three years is appropriate in view of period of limitation.

However, we also submit that in case of infrastructure sharing, only the headend/video signals/transport stream should be shared between the infrastructure provider and the infrastructure seeker, and each entity should maintain its own independent CAS & SMS. Importantly, the costs of CAS and SMS have reduced over time, making the argument for their sharing based on cost savings unwarranted. It is important to note that there is nothing on record to reflect the need and necessity of such sharing on the basis of cost saving. We reiterate that TRAI should not permit the sharing of CAS and SMS as it also undermines the fundamental principles of competition, service differentiation and service / subscriber identification / correlation to relevant DPOs. These systems remain crucial for DPOs to manage subscriber access, deliver unique services, and protect content security. Further, it could lead to potential content security and distribution risks, including under-declaration of subscribers, which would adversely impact broadcasters. Additionally, sharing sensitive subscriber information across multiple entities increases the risk of data breaches and creates a larger attack surface for malicious actors.

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.**

In cases where the CAS and SMS are not being shared between the infrastructure provider and seeker, for the infrastructure seeker, all elements have to be audited, not just the elements of the infrastructure provider which are being shared, so as to evaluate if infrastructure sharing is actually happening and to what extent. The audit should commence simultaneously for all infrastructure providers and seekers. The audit of the infrastructure seeker so far as the shared infrastructure is concerned, should extend to all elements including MUX, SMS, CAS and QAM of the infrastructure provider and infrastructure seeker because all channels get configured, encrypted and configured Transport Stream at MUX end and without doing audit of all systems/servers, SMS and CAS installed at DHE or in the field or at location of infrastructure seeker, auditor shall not be able to do meaningful audit.

The broadcaster should be permitted to cause complete audit of all elements of all the DPOs involved in the infrastructure sharing arrangement, including the audit of shared infrastructure, as a precondition for the broadcaster to provide signals of television channels, so as to understand the type and manner of infrastructure being shared between DPOs and how many DPOs are sharing the infrastructure. In the past certain DPOs have taken advantage of infrastructure sharing to underreport, manipulate reports, and misrepresent data. Complete audits will ensure sanctity of systems and the ability of the systems to report true and accurate data.

Elements such as integration of multiplexers, server connectivity, any physical change / physical disconnection of systems from headend cannot be addressed if standalone audits of DPOs are conducted in case of infrastructure sharing setup.

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.**

Where CAS and SMS are being shared amongst service providers, the systems of the DPO providing infrastructure should be capable of generating individual reports for each DPO seeking infrastructure. Additionally, it should be possible for broadcasters to disconnect individual DPOs sharing infrastructure for any reason, including but not limited to non-compliance with provisions of the regulations or defaulting in payments towards subscription fees, or indulging in piracy.

Broadcasters should be allowed to conduct joint and simultaneous audits covering all elements of all the DPOs sharing the infrastructure.

However, we also submit that in case of infrastructure sharing, only the headend/video signals/transport stream should be shared between the infrastructure provider and the infrastructure seeker, and each entity should maintain its own independent CAS and SMS. Importantly, the costs of CAS and SMS have reduced over time, making the argument for their sharing based on cost savings unwarranted. It is important to note that there is nothing on record to reflect the need and necessity of such sharing on the basis of cost saving. We reiterate that TRAI should not permit the sharing of CAS and SMS as it also undermines the fundamental principles of competition, service differentiation and service / subscriber identification / correlation to relevant DPOs. These systems remain crucial for DPOs to manage subscriber access, deliver unique services, and protect content security. Further, it could lead to potential content security and distribution risks, including under-declaration of subscribers, which would adversely impact broadcasters. Additionally, sharing sensitive subscriber information across multiple entities increases the risk of data breaches and creates a larger attack surface for malicious actors.

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?

We submit that multiplexers play an important role of carrying the services in encrypted or unencrypted mode. Auditors should be specifically given free access to review the same. Regulations should be amended to specifically reflect that MUX logs should be made available for review / verification during audits to ensure channel encryption status throughout the audit period. DPOs should be mandated to maintain such logs at least in the form of non-editable archived reports for a period of at least three preceding years *inter-alia* for the reasons mentioned above.

The following amendments are required in Schedule III of the Interconnect Regulation and the audit manual for assessment of multiplexer's logs during audit procedure:

i) Both infrastructure provider & infrastructure seeker should maintain the logs of the Network Service Manager controlling the compression chain of all encoders and all Multiplexer ("MUX") and the MUX logs must be maintained with details of audio video PID mapping, service IDs, service names, and all information related to the services and encryption. The distributor of television channels shall provide recording of all the Transport Stream ("TS") being distributed from its headends on request by the broadcaster.

We have come across DPOs who encrypt / decrypt channels regularly with the intent of under declaring. Further DPOs keep changing LCN, genre ranking without informing broadcaster in violation of terms of agreement. The logs will track the above activities which can be used during audits to verify.

ii) Encryption of all channels distributed by the distributor of television channels must be implemented only by the CAS on the MUX and not on any other device of the Headend.

Many DPOs pass the channels through the MUX in unencrypted mode and scrambles the entire stream at the QAM (Modulator) which cannot individually activate / deactivate a channel on the subscriber STBs. This results in under declarations since these channels have no record in the CAS and SMS systems.

Amendment to Clause D14 "the primary DPO/infrastructure sharing provider should insert its watermarking network logo for all pay channels at Encoder end while each DPO taking services from infrastructure provider distributor shall insert watermarking network logo for all pay channels at STB end, place in such a way that watermarking network logo of infrastructure sharing provider should not get overlapped or hide. Ideally Infrastructure sharing provider watermarking network logo to be placed on the left lower side of the screen and each DPO taking services from infrastructure provider shall insert logo on lower right side of the screen".

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?

We suggest the following amendment:

"Check configuration of MUX installed in infrastructure provider & infrastructure seeker headends 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)**. TS recording to be done in all headends & in field for each DPO location. Logs of MUX should be mandatorily maintained in the form of archived reports for the preceding three years.".** Mux should be able to store all logs with date and time stamps. The Mux shall ensure all logs are un-editable, stamped with date and time of all configurations. The MUX shall not allow altering or modification of any logs. There shall be no facility for the distributor/users to purge logs.

This is essential to ensure that TS in field is the same as in MUX in headends.

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."

We suggest the following amendment:

"5.3 Certificate from all the CAS vendors (Format as in Annexure 1) **installed at infrastructure provider & infrastructure seeker.**

5.4 Certificate from SMS vendors (Format as in Annexure 2) **installed at infrastructure provider & infrastructure seeker.**

Note:

i) **in case CAS and SMS are being shared, all the certificates/ documents related to CAS and SMS, should be given by the infrastructure provider distributor to the broadcaster on the basis of certificate issued to it by CAS and SMS vendor.**

ii) **In case CAS and SMS are not being shared, all the certificates/ documents related to CAS and SMS, should be given by each infrastructure seeker to the broadcaster on the basis of certificate issued to it by CAS and SMS vendor.**

The following points should also be captured in the certificate from CAS vendor:

1. Database Server detail and location of installation -
2. Any DB instance/split created, if yes please specify -
3. No. of ECMG and EMMG server -
4. Location of ECMG and EMMG servers -
5. Number of DPOs/network configured (in case infrastructure sharing) -

The following points should also be added in the certificate from SMS Vendor:

1. Database Server detail and location of installation
2. Number of DPOs/network configured (in case infrastructure sharing)

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 <u>any other existing provisions of Interconnection Regulations 2017 or introduce any additional regulation(s)</u> 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.

Please see Annexure 3

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.

Please see Annexure 4

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

a. To enable auditors to conduct audit of IPTV apps being offered by DPOs in their closed networks, it is essential that the features of such apps be standardized, or a whitelisting procedure for such apps be introduced.

b. Audit & Audit Manual suggestions:
   i) Auditors should release the audit report to DPOs and broadcasters simultaneously on the same day.
   ii) Analysis on the data dump to verify 20% random sample weeks of the audit period in respect of MSR submitted by DPO to every broadcaster. The auditor should be required to verify the MSR data for every pay channel of broadcasters available on DPO's network for these 20% sample weeks covering at least one week of every month for the entire audit period.
   iii) As on data, verification is currently being done at aggregate level only of total active subscribers in CAS versus in SMS. This should also include number of entitlements (i.e., total channels active on each active CAS card) versus total number of entitlements on each CAS card in SMS.
   iv) IPTV platforms who want to deliver the services other than through STB, should also be required to get their audit done through Info security Auditors that includes Testing of Headend /IT Application testing / Security Testing and control testing / Configuration of the Application including configuration and vulnerability and other testing.
   v) Each empanelled audit agency should have trained personnel, who are well versed with the CAS/SMS, digital headend and related head-end systems. It is noted that most of the enrolled empanelled agencies have experience in financial audits and not in the CATV/DAS/IPTV environment audits.
   vi) It is extremely important for auditors to have monthly subscribers' number from each SMS and CAS so that he can do the comparison with the data extracted during the audit for the MSR submitted to the broadcaster and reconcile the data between CAS and SMS to check the integration between the two systems. Therefore, it is suggested that the audit process will be meaningful only if the DPO submits CAS and SMS wise subscriber number as part of the monthly subscriber report submitted to broadcaster every month.
   vii) Infrastructure sharing DPOs shall mandatorily schedule finger printing at an interval of every ten (10) minutes on 24×7×365(6) days basis and in such a manner that fingerprinting is visible on TV screens of connected STBs.
   viii) So as to ensure that there is no data loss in case of server failure in simulcrypt environment (infrastructure sharing), DPOs shall ensure that it mandatorily has a disaster recovery system (back-up / stand-by servers) in place in respect of its CAS and SMS which is capable of recording and preserving each action performed on and through its CAS and SMS for minimum of immediately preceding three (3) consecutive years.

ix) In case of HITS infrastructure sharing environment, COPE units issued by HITS provider to MSO's local cable operators ("**LCO**")/DPOs needs to be clearly identified / visible in their systems. Further, during audit of HITS, HITS shall provide detailed information including installation address of COPE units to the empanelled auditors. Further, HITS shall provide detailed information including installation address of COPE units to the broadcaster as and when requested by broadcaster.

x) Infrastructure provider shall use reasonable efforts to maintain a service availability (a service free from viewer discernible problems including, without limitation, video with no audio, audio with no video or significant signal distortion) without any interruption or deviation from the daily transmission schedule.

xi) Infrastructure provider should create a broadcaster remote live control panel (dashboard) to *inter-alia* allow broadcasters to remotely activate / deactivate / reactivate signals of their respective channels to the secondary DPOs.

xii) Dashboard should clearly display details of each CAS along with CAS number that have been deployed by infrastructure provider and the secondary DPO in real time.

xiii) Dashboard should clearly display status of encryption to respective broadcasters i.e., whether such channels are encrypted or unencrypted in real time.

xiv) Dashboard should clearly display name of all respective broadcasters services that are available on the platform in respect of infrastructure provider and the secondary DPO.

xv) Any CAS that is added or deleted on infrastructure sharing platform should reflect on Dashboard with date and time stamp of such addition and/or deletion, as applicable. It should be the obligation of the infrastructure provider and infrastructure seeker to inform broadcaster in writing about any proposed changes 30 days in advance.

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Annexure 1

Response to Q7 (Inputs regarding proposed amendments in the Audit Manual)

S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
1.	Page 8	4.4		No	Obtain the list of IRDs issued by the Broadcasters including serial/VC numbers. The Auditor shall check all the IRDs +VCs issued by the broadcaster. The checking may be done during lean hours. The auditor shall ensure that there is no disruption of the live service of DPO.	List of all decoder issued by the broadcaster should be verified irrespective of whether it has been deployed in the headend or not. In case the clause is amended as suggested in the Consultation paper, IRDs which are not deployed will not be validated and broadcaster shall not be able to know the status of those IRDs. This is also important to avoid misuse of IRDs by the DPOs.
2.	Page 9	5.7		No	Certificate from STB vendor (Format as in Annexure 4)	The amendment proposed can be added only subject to adding of provision that Simulation testing for such STB model is facilitated by DPO and conducted by the auditor during the audit.
3.	Page 9	5.8		**No**	List of all the decoders along with VC serial numbers issued by broadcasters to DPOs.	All inventory (100% decoders provided by broadcasters) needs to be verified by the auditors as issued by broadcaster. Possibility of misuse of inventory can lead to instances of piracy.

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S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
4.	New Add[5]	New Add	**5.9**	**No**	Before generating the system generated reports, auditors should acquaint himself with all data extraction queries that are run on the live CAS & SMS servers and database structured used for generating the reports. 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 .	First line should be added along with the proposed amendment to avoid any conflict w.r.t clause 16.7 and 16.9 of the Audit Manual.
5.	New Add	New Add	**7A**	**No**	No change should be made	All such STBs which are deployed prior to 2017 are having less piracy control features. If this amendment is made, then responsibility for occurrence of any piracy will go unaccounted. Instead, option should be explored for write off of old STBs as they are already nearing their life end.
6.	Page 11	7.A.1		**Yes**	NA	NA
7.	Page 16	7.A.12 and 7.A.13		**No**	No change should be made	Existing provision should continue. If proposed amendment is introduced, then there shall be no

[5] New Add means a new clause proposed by TRAI

S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
						evidence available with the auditor if a conflict arises after the publish of the audit report.
8.	Page 17	7.A.14		**No**	No change should be made	Existing provision should continue. If proposed amendment is introduced, then there shall be no evidence available with the auditor if a conflict arises after the publish of the audit report.
9.	Page 20-21	7.B.1		**No**	Original text to continue. Proposed text to be deleted.	Screenshot should be made available for all makes of STBs and not on a sample basis. Technical compliances to the systems cannot be ensured if boxes are in use on ground but not provided for testing during audit. To avoid any doubts at later stage it should be clarified that auditor may carry all screenshots with him and only sample screenshots may be enclosed in the audit report.
10.	Page 21			**No**	Original text to continue. Proposed text to be deleted.	Screenshot should be made available for all makes of STBs and not on a sample basis. Technical compliances to the systems cannot be ensured if boxes are in use on ground but not provided for testing during audit.

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S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
11.	Page 23	7.B.11		Yes	NA	NA
12.	Page 24	7.B.14		Yes	NA	NA
13.	Page 26	7.C.8		No	Auditor should trigger Forced message 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. Screenshots may accordingly be enclosed.	FP command should appear as per parameters given through SMS only and not CAS. "If available" should be removed from amended clause
14.	Page 26	7.C.9		**Yes**		
15.	Page 27	8.1		No	Every audit should be ideally completed within four 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. Additional 3-4 days' time may be taken if more than 2 CAS are deployed in the headend.	Timelines can also be added based on number of CAS deployed by the DPO. If there are more than 2 CAS deployed by the DPO, then 3-4 additional days may be provided.
16.	Page 27	8.3		Yes	NA	NA
17.	Page 27	8.5		Yes	NA	NA

S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
18.	Page 27	8.7		No	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 and Auditor.	In case of additional time required for a Broadcaster caused audit, the auditor may take additional time as mutually agreed between the Broadcaster and Auditor. If required, in case of delay, Auditor may inform the DPO of a delay, however, it should not require agreement of DPO.
19.	New Add	New Add	**8.8**	**No**	If 15(1) clause is getting removed then this clause gets redundant. This proposed change can be accepted only if Auditors release the complete audit report with all annexures to DPOs and Broadcasters simultaneously on the same date.	Four weeks is not sufficient time to communicate issues/doubts/clarifications with the audit report shared by the DPO if the report is not shared simultaneously with the Broadcaster.
20.	Page 29-30	10.3 (i)		**No**	iii. Analysis on data dumps to verify the as on date active, de-active count of STBs available on the network of DPO. iv. 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	iii. De-active word should not be removed, in many audits it has been noticed that VC is deactive as per SMS and CAS Deactive Report, however same VC is active

S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
					bring the variance to the notice of concerned broadcaster. However, as on date active and deactive counts from both SMS and CAS must be reported by the auditor in the audit report	with ZEEL channels as per logs and active on ground. Also, in many instances variance is noted between deactive subscribers in SMS and CAS. Auditor must identify the reason for such variance and report the reason for variance in the audit report. iv. To avoid any doubt, it should be clarified that as on date active and deactive counts from both SMS and CAS must be reported by the auditor in the audit report, irrespective of the variance from audit period.

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S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
21.	Page 31	11.6		**No**	Monthly SMS report regarding state wise active/de-active STB count for the audit period. This report is applicable for all DPOs	De-active word should not be removed, in many audits it has been noticed that VC is deactive as per SMS and CAS Deactive Report, however same VC is active with ZEEL channels as per logs and active on ground. Also, in many instances variance is noted between deactive subscribers in SMS and CAS. Auditor must identify the reason for such variance and report the reason for variance in the audit report.
22.	New Add	11.7		**No**	Before generating the system generated reports, auditors should acquaint himself with all data extraction queries that are run on the live CAS & SMS servers and database structured used for generating the reports. 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 .	First line should be added along with the proposed amendment to avoid any conflict w.r.t clause 16.7 and 16.9 of the Audit Manual.
23.	Page 33	14(a)		**Yes**	- NA	- NA

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24.	Page 34	15(a)		**No**	The auditors are required to complete the subscription audit and submission of report within 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. Additional 3-4 days' time may be taken if more than 2 CAS are deployed in the headend.	Timelines can also be added based on number of CAS deployed by the DPO. If there are more than 2 CAS deployed by the DPO, then 3-4 additional days may be provided.
25.	Page 34		**15(b)**	**Yes**	-	-
26.	Page 34	15(c)		**No**	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 and Auditor.	In case of additional time required for a Broadcaster caused audit, the auditor may take additional time as mutually agreed between the Broadcaster and Auditor. If required, in case of delay, Auditor may inform the DPO of a delay, however, it should not require agreement of DPO.
27.	NeAdd	15(d)		**No**	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	Many times, DPO shares audit report without the annexures. Hence the clause needs to be slightly amended as suggested.

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S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
					the receipt of complete final audit report along with all annexures.	
28.	Page 37-38	18.A.2		**No**	Audit being conducted in the year should be completed within **the prescribed period** including issue of final report.	If audit is initiated in December, then audit will mostly not get completed in December month. As per this clause, it will not be practically possible to conduct audits in the month of December. Hence this clause should not be introduced. This is to ensure that audits are conducted in a timely manner, whether calendar or financial year is used.
29.	New Add	18.A.17		**No**	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 two year after that audit. In case of any ongoing legal dispute between broadcaster and DPO, the laptop and data should be preserved until such legal dispute is over.	Two years in place of one year because of after audit activities. In case of any ongoing legal dispute between broadcaster and DPO, the laptop and data should be preserved until such legal dispute is over.
30.	Page 42	18.C.14		**Yes**	NA	NA
31.	New Add	18.C.35		**No**	In case Auditor has used its own laptop for an audit, then Auditor shall preserve that laptop along with entire	Two years in place of one year because of after audit activities. In case of any ongoing legal

S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
					data of the DPO till at least two years 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 two year after that audit In case of any ongoing legal dispute between broadcaster and DPO, the laptop and data should be preserved until such legal dispute is over, in case where legal dispute has been communicated to the auditor by the DPO/Broadcaster.	dispute between broadcaster and DPO, the laptop and data should be preserved until such legal dispute is over.
32.	Page77	Annex 7		**Yes**	NA	NA
33.	Page 82	1Annex 7		**No**	No change should be made	Inactive count should not be removed, in many audits it has been noticed that VC is deactive as per SMS and CAS Deactive Report, however same VC is active with broadcaster channels as per logs and active on ground. Also, in many instances variance is noted between deactive subscribers in SMS and CAS. Auditor must identify the reason for such

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S no	Page number of the existing Audit Manual	Clause number of the clause in existing Audit Manual, wherein amendment is proposed	Clause number (in case of new addition) of the proposed Audit Manual	Do you agree with the amendment proposed in this CP (Yes/No)	If you do not agree with the amendment proposed in this CP, then provide amended Clause proposed by you	Reasons with full justification of your response
						variance and report the reason for variance in the audit report.
34.	Page 83	Annex 7		**No**	No change should be made	CAS wise and JV wise VC level comparison is necessary and should be provided in the audit report MSR are also submitted by each JVs separately in most instances and hence in this non-linear way, we shall not be able to validate MSRs submitted by such JVs. Where DPOs are sharing infrastructure, CAS and SMS data should be shared DPO-wise.

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Annexure 2

Response to Q8 (Other suggested amendments to the Audit Manual)

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	Existing			10(3)	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.	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 **covering at least one week of every month for the entire audit period.**	This will ensure visibility over reported numbers for all the months and that there is no revenue leakage / under reporting of subscribers.
2	Existing		30 of 94	10(3)	Analysis on data dumps to verify the as on date active, de-active count of STBs available on the network of DPO.	**Analyse and report the overall "as on date" active, de-active & suspended count of STBs available on the network of DPO along with counts of individual SMS & CAS.** **Analyse the mismatch of subscribers present in CAS but absent in SMS & vice-versa.**	This will ensure visibility of the DPO's overall universe. This will ensure that all the data among systems is integrated.

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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		
3	Existing			10(3)	As on date DPO package wise, a-la-carte and broadcaster bouquet wise STB/VC details (both from SMS & CAS system)	**Provide** as on date DPO package wise, a-la-carte and broadcaster bouquet wise STB/VC details (both from SMS & CAS system) **along with DPO package wise, a-la-carte and broadcaster bouquet wise STB/VC details for 5 random dates.**	This will allow a comparison of percentage variance in the numbers of subscribers reported on reporting days vs. non-reporting days
4	New	17.5				**Auditors shall verify the system entitlements provided on the ground with entitlements available in the systems, and cover the same as a part of ground sample verification.**	This will help in ascertaining any difference in channels / packages available on ground vs. DPOs systems.
5	New	17.6				**Auditors should conduct TS recordings of all DPO headends along with field visits for each location of the area serviced by the DPO.**	This will ensure all CAS declared by DPO are verified.
6	Existing		34	15(a) and (b)		**Timelines to conduct and submit audit report with subscriber base beyond 5 lakhs to be extended to 6-8 weeks and DPOs with subscriber base less than 5 lakhs, the timelines to be revised to 4 weeks instead of 3 weeks.**	

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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		
7	New	D-15				**The CAS shall also support and enable forensic watermarking at STB level. This should be applicable to all new DPOs starting from 1st Mar 2025 & existing DPOs should have this feature from 1st Mar 2026.**	This will ensure availability of a foolproof mechanism to identify piracy.
8	Existing		17	Schedule III – C5	The SMS and the CAS should be integrated in such a manner that activation and deactivation of STB happen simultaneously in both the systems.	**CAS deactivation command (EMM) should be continuous for 24hrs & for 31 days.**	In some DPO locations the CAS deactivation command is set for a short duration. If the STB is powered OFF during the DA command time & powered ON later after the DA command is stopped, the STB will continue to receive the channels permanently. Subscriber status in CAS & SMS will show as de-active whereas the subscriber will be able to see channels.

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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		
9	New	4.17	9	4	-	Historical logs of PSI/SI should be validated by the auditor.	Currently not available
10	New	4.18	9	4	-	Complete historical logs of MUX should be available to the auditor to validate.	Currently not available
11	New	4.19	9	4	-	Auditor should obtain the list of access criteria for all channels including all broadcasters and shall validate the access criteria on sample basis.	Currently not available
12	Existing	-	35	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	Note: The exemption of data extraction from live servers is only applicable for DPO who are having more than 5 lakhs active subscriber base on the date of audit and when there is practical difficulty is extracting the data dump from live servers. This will be decided by auditor after understanding the	Currently there is ambiguity

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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		
					understanding the systems of such DPOs and in case they find explanations relevant	systems of such DPOs and in case they find explanations relevant.	
13	Existing	-	35	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	Note: The exemption of data extraction from live servers is only applicable for DPO who are having more than 5 lakhs active subscriber base on the date of audit 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. The exemption specified above is only for SMS and CAS weekly date extracted from SMS and CAS. However, transaction logs of SMS and CAS should be extracted from the live system.	Currently not available
14	New	-	-	-	-	Separate audit Manual needs to be proposed for IPTV audit.	Currently not available

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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		
15	New	4.20	9	4	-	Auditor should validate that there should not be any provision to add multiple SID/Access criteria in one SID/Access criteria	Currently not available
16	New	4.21	9	4	-	Auditor should validate audit trail to verify if CAS database has been modified.	Currently not available
17	Existing	10.3	30	10	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	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. If variance of more than 1% is noted by the auditor in the 20% random sample weeks selected by the auditor, then auditor to validate the variance for the entire audit period	Currently not available

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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		
18	New	Schedule III – C22				DPO and its LCOs (those who are inserting channels) should maintain the logs of the Network Service Manager controlling the compression chain of all encoders and all Multiplexer ("MUX") and the MUX logs must be maintained with details of audio video PID mapping, service IDs, service names, and all information related to the services and encryption. The DPO and its LCOs shall provide recording of all the Transport Stream ("TS") being distributed from its headends on request by the broadcaster.	We have come across DPOs and its LCOs who encrypt / decrypt channels regularly with the intent of under declaring. Further DPOs keep changing LCN, genre ranking without informing broadcaster in violation of terms of agreement. The logs will track the above activities which can be used during audits to verify.

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Annexure 3

Response to Q17 (Changes required in the Interconnection Regulation, 2017 amended as on date - as regards infrastructure sharing)

S no	Regulation number of the existing Interconnection Regulation 2017/New Regulation number proposed in the Interconnection Regulations 2017	Provisions of the existing Regulation	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
1	Chapter VI	Miscellaneous	Infrastructure Sharing	Chapter VI renamed as Infrastructure Sharing to add any clauses related to infrastructure sharing. Accordingly, 'Miscellaneous' will become Chapter VII and all the Regulations will be re-numbered accordingly.
2	New	N/A	Any infrastructure sharing request will be subject to meeting the broadcasters' technical requirements and written approval, hence, DPOs shall seek approval/NOC from the Broadcasters on any pending technical/commercial issues.	Since the broadcaster is the owner of TV channels and the copyright therein, any infrastructure being shared should ensure the security and sanctity of the subscriber numbers and guard against piracy. This will ensure that transparency is maintained at all levels.
3	New	N/A	In case of infrastructure sharing the primary MSO should enable activation/ deactivation portal and provide access to Broadcaster to such portal to exercise its right to deactivate defaulting primary or secondary MSO (as applicable) independently.	It is essential that the primary MSO gives control of customer messaging and switching off of the defaulting secondary MSO to the respective broadcaster via an application which directly controls the signals of the respective MSO.
4	New	N/A	In case CAS and SMS are shared, the primary DPO shall store CAS and SMS data of each secondary DPO separately and ensure that the same is accessible individually. If only TS signals are being provided to the secondary DPOs, then details of each secondary DPO should be stored and shared individually.	This will ensure that the data of each DPO sharing infrastructure are accessible to the broadcaster.

5	New	N/A	Audits of entities sharing infrastructure shall be conducted jointly and simultaneously.	Simultaneous audit is necessary to stop data migration from hidden CAS server to Live CAS server, and will restrict shifting of a DPO sharing infrastructure from one DPO to another to avoid audit.
6			All DPOs desiring to share infrastructure shall be mandatorily required to get their systems pre-audited by the broadcaster's technical team (prior to getting into any arrangements for infrastructure sharing).	This will ensure that the systems of the DPOs desiring to share infrastructure meet the requirements and approval of the broadcaster.
7			In case a secondary DPO shifts from one primary DPO to another for sharing infrastructure, such DPO shall provide a No Objection Certificate from the broadcaster prior to sharing infrastructure with another primary DPO	This will ensure that DPOs do not shift from one primary DPO to another to avoid non-compliance of the laid down regulations such as non-payment of outstanding subscription fees.
8			The primary DPO shall ensure that the secondary DPO receives good quality and uninterrupted supply of signals of broadcasters' TV channels.	This will ensure that the quality of signals is maintained, and that the consumer receives the same quality signals as the primary DPO receives from the broadcasters.

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Annexure 4

Responses to Q18 (Changes required in Audit Manual - as regards infrastructure sharing)

S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
1	5	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.	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. • TEC test report for CAS & SMS.	This will ensure that systems are in place to secure broadcaster revenue and content. Based on the audit findings broadcaster can provide their approval for infra sharing.

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S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
				In the case of infrastructure sharing, it **is clarified that the DPO, prior to raising a request for infrastructure sharing, shall get its DAS system installed in all headends audited by big 4 / empanelled auditors as per Schedule III compliance under sub-regulation (6) of regulation 10 of Interconnection Regulations 2017 & schedule IX.**	
2	8	4.1	Perform walk-through of the main headend/s where CAS and SMS servers are deployed.	Perform walk-through of the main headend/s **of all shared DPOs. During audit, auditors must be allowed to have access to all systems – namely MUX, Scrambler, CAS, SMS and any other hardware / software at all locations.**	Auditor to validate all the systems involved in channel delivery

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S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
3	8	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.	Perform checks on IP configuration to confirm and identify live and proxy servers of **the DPO, and in case of infrastructure sharing, all DPOs sharing infrastructure**. This shall include IP credentials of all the servers including MUX.	This will ensure validation of all servers of CAS & SMS and MUX including where infrastructure is being shared.
4	8	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)	Check configuration **of MUX installed in all headends** 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). **TS recording to be done in all headends and in field for each DPO location**	To validate TS at field is as same as in MUX in headends including where infrastructure is being shared.
5	8	4.7	Take information of QAMs installed and powered to identify streams available for local insertion by LCOs.	Take information of QAMs installed and powered to identify streams available for local insertion by **DPOs and/**or LCOs.	DPO channel insertion is possibility & same to be verified
6	9	5.1	Valid DAS license/ permission issued by Ministry of Information and Broadcasting (MIB)	**Valid** DAS license/ permission issued by Ministry of Information and Broadcasting (MIB) **of all DPOs, including those sharing infrastructure**	To ensure all DPOs have valid DAS licence
7	9	5.2	BIS certificates for all makes & models of STB deployed by DPO after DAS implementation.	BIS certificate for all makes & models of STB deployed by DPOs, **including those sharing infrastructure**.	To ensure all DPOs have STBs with valid BIS certificate
8	9	5.3	Certificate from all the CAS vendors (Format as in Annexure 1).	Certificate from all the CAS vendors **for CAS deployed by DPOs, including those sharing infrastructure (Format as in Annexure 1).**	To ensure all the CASs deployed are covered and certificate is valid. Annexure 1 to be amended accordingly.

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S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
9	9	5.4	Certificate from SMS vendors (Format as in Annexure 2)	Certificate from all the SMS vendors **for SMS deployed by DPOs, including those sharing infrastructure (Format as in Annexure 2)**.	To ensure all the SMSs deployed are covered and certificate is valid. Annexure 2 to be amended accordingly.
10	9	5.5	Block Schematic diagram of Headend including CAS and SMS.	Block Schematic diagram of all Head-ends including CAS and SMS of all DPOs with location & integration mechanism.	This will provide all the information on CAS & SMS deployed with location and integration mechanism
11	9	5.6	Signed and stamped copy of compliance audit form as per Annexure 3.	**Individual compliance audit form for each headend of DPOs sharing infrastructure & consolidated compliance form providing complete information**	To ensure complete information on all the hardware installed is captured. Annexure 3 to be amended accordingly.
12	9	5.7	Certificate from STB vendor (Format as in Annexure 4).	**STB vendor certificate for all makes & models of STB deployed by DPOs sharing infrastructure.**	To ensure all DPOs have STBs with valid STB vendor certificates. Annexure 4 to be amended accordingly.
13	24	7 A15	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.	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. **All DPOs sharing in infrastructure must have systems in place to take necessary action to notify broadcaster and take necessary action by deactivating pirated STBs within 10 minutes.**	Pirated STB should be deactivated within a reasonable time of 10 minutes to stop piracy effectively. Otherwise it does not have any effect in case of live programs of sports or shows.

Indian Broadcasting & Digital Foundation

S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
14	24	7 B14	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 the Amendment regulations shall support watermarking network logo for all pay channels at the encoder end.	The watermarking network logo for all pay channels shall be inserted at encoder end only **for the primary DPO and for the secondary DPO STB should insert secondary DPO watermarks. Two watermark should be visible on the screen, one primary DPO watermark from the encoder & secondary DPO watermark from the STB.**	To distinguish source of feed on checking DPOs watermark.
15	32	12.1	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.	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. **Auditor must conduct comprehensive audit at all headends simultaneously of all DPOs sharing infrastructure including mini/standby/satellite headends, irrespective of whether any additional CAS or SMS servers are deployed at these headends. Simultaneous audit shall be conducted of all DPOs sharing infrastructure (CASs, SMSs & other hardware / software involved in sharing) with complete access to CASs & SMSs logs.**	Simultaneous audit is necessary to stop data migration from hidden CAS server to live CAS servers.

Indian Broadcasting & Digital Foundation

S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
16	New	New	New	DPOs should **demonstrate a** mechanism **that allows deactivation by broadcasters individually for** each DPO sharing infra **structure and** the main DPO having broadcaster IRDs.	To ensure that after deactivation of the defaulting DPO, its subscribers do not receive signals.
17	New	New	New	The primary DPO should have adequate system / process in place to ensure that all DPOs getting feed should get uninterrupted good signal quality.	To ensure that all DPOs have equally good signal quality and reasonable uptime in shared mode.
18	New	New	New	The primary DPO should not deny any channels of broadcaster to DPOs sharing the feed.	This will ensure that the primary DPO provides all the subscribed channels to the secondary DPO when only IRDs & compression system are shared.
19	Nil	Nil	Nil	Network diagram showing complete details of all the systems involved in infrastructure sharing from headend to subscriber with location of all DPOs to be provided	This will provide the complete infrastructure sharing details
20		New Clause	-	In case infrastructure is shared between one or more distributors, Auditors should validate that the CAS and SMS have the capability to tag separately all STB/VCs of respective distributors.	In case CAS does not have capability to whitelist and tag STB/VC of respective distributors then it shall not be possible to generate logs of respective distributors only.

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S. No.	Page number of the existing Audit Manual	Clause number of the existing/New clause Number Audit Manual	Existing Clause	Amendment/ new provision(s) suggested by the stakeholder	Reasons/ full justification for the proposed amendment
21	-	New Clause	-	In case infrastructure sharing, the audit must be commenced simultaneously with all infrastructure providers and seekers. The audit of the infrastructure seeker so far as the shared infrastructure is concerned, should extend to all elements including MUX, SMS, CAS and QAM of the infrastructure provider and infrastructure seeker.	All channels get configured, encrypted and configured Transport Stream at MUX end and without doing audit of all systems/servers, SMS and CAS installed at DHE, auditor shall not be able to do meaningful audit.
22	-	New Clause	-	Auditor should obtain TS record for both infrastructure providers and infrastructure seekers during the audit.	To confirm whether all channels are encrypted
23	-	New Clause	-	CAS and SMS provider shall certify that how many headend/MUX are configured in infra sharing	To ensure that all MUXs configured are validated by the auditor.

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Provisions of Schedule IX[6] to be included in audit manual (essential for auditors to ensure that these requirements are met by DPOs' systems).

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
24	A6	Logical Channel Number (LCN): CAS shall not support carriage of channel with same name or nomenclature in the distributor's network served by each headend under more than one LCN, and another channel descriptor. Further, each channel available in CAS shall be uniquely mapped with channels available in SMS.	Logical Channel Number (LCN): CAS shall not support carriage of channel with same name or nomenclature in the distributor's network served by each headend under more than one LCN, and another channel descriptor. Further, each channel available in CAS shall be uniquely mapped with channels available in SMS.	Existing clause to be added to Audit Manual as it is already in the IR.
25	A7	Hybrid STB: In case a distributor of television channels has deployed hybrid STBs, CAS shall ensure that the over-the-top (OTT) App does not get access to the linear Television channels, and the CAS does not get access to channels delivered through OTT platform: Provided that, all the mandatory requirements for CAS shall be complied by the hybrid STBs.	Hybrid STB: In case a distributor of television channels has deployed hybrid STBs, CAS shall ensure that the over-the-top (OTT) App does not get access to the linear Television channels, and the CAS does not get access to channels delivered through OTT platform: Provided that, all the mandatory requirements for CAS shall be complied by the hybrid STBs.	Existing clause to be added to Audit Manual as it is already in the IR.

[6] Schedule IX of TRAI Regulation dated 11.06.2021

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Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
26	A9	CAS Database and tables: a) There shall not be any active unique subscriber outside the database tables. Further, there shall not be an option to split CAS database for creation of more than one instance by a DPO or a vendor. b) CAS must support the following options with reference to uploading of unique access (UA)/ viewing card (VC) details in CAS database: i. a secure un-editable file of card details, as purchased by the distributor, to be uploaded by the CAS vendor on the CAS Server directly, or, ii. if it is uploaded in any other form, UA/VC in CAS database shall be captured in logs. iii. Further, CAS shall support an automated, application programming interface (API)-based mechanism to populate such UA/VC details in the SMS, without any manual intervention.	CAS Database and tables: a) There shall not be any active unique subscriber outside the database tables. Further, there shall not be an option to split CAS database for creation of more than one instance by a DPO or a vendor. b) CAS must support the following options with reference to uploading of unique access (UA)/ viewing card (VC) details in CAS database: i. a secure un-editable file of card details, as purchased by the distributor, to be uploaded by the CAS vendor on the CAS Server directly, or, ii. if it is uploaded in any other form, UA/VC in CAS database shall be captured in logs. iii. Further, CAS shall support an automated, application programming interface (API)-based mechanism to populate such UA/VC details in the SMS, without any manual intervention.	Existing clause to be added to Audit Manual as it is already in the IR. This will stop use of same CAS database of DPO in both infrastructure shared mode and independent mode.

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Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
27	A11	CAS Backup Server: In the event of provisioning of a backup server, logs of all activities carried out in main server shall be concurrently copied into the backup server: Provided that a log of all such instances shall be maintained along with date and time stamp, where the backup server has been used as the main server: Provided further that the main and backup server shall always be in sync with regard to the key data such as subscription data, STB UA/VC details, entitlement level information, etc.	CAS Backup Server: It should be mandatory to have backup servers available, logs of all activities carried out in main server shall be concurrently copied into the backup server: Provided that a log of all such instances shall be maintained along with date and time stamp, where the backup server has been used as the main server: Provided further that the main and backup server shall always be in sync with regard to the key data such as subscription data, STB UA/VC details, entitlement level information, etc.	Existing clause to be added to Audit Manual as it is already in the IR. Backup is required to preserve data in case of loss of data due to damage of server.
28	A14	Provision of à-la-carte channels or bouquet: (a) CAS (and SMS) shall be able to handle all the channels, made available on a platform, in à la carte mode. (b) CAS (and SMS) shall have the capability to handle such number of broadcaster/DPO bouquets, as required by the DPO.	Provision of à-la-carte channels or bouquet: (a) CAS (and SMS) shall be able to handle all the channels, made available on a platform, in à la carte mode. (b) CAS (and SMS) shall have the capability to handle such number of broadcaster/DPO bouquets, as required by the DPO.	Existing clause to be added to Audit Manual as it is already in the IR. It is needed if CAS or SMS or both are shared.
29	A15	CAS and SMS Server Separation: CAS and SMS applications, along with their respective databases,	CAS and SMS Server Separation: CAS and SMS applications, along with their respective databases,	Existing clause to be added to Audit Manual as it is already in the IR. It is needed if CAS or SMS or both are shared.

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
		shall be stored in such a way that they can be separately identified.	shall be stored in such a way that they can be separately identified.	
30	A16d	CAS shall have the capability to run fingerprinting at regular intervals (e.g., minimum of 2 fingerprints per hour on a 24x7x365 basis) and provide broadcasters with the fingerprint schedule on request.	CAS shall have the capability to run fingerprinting at regular intervals (i.e., minimum of 6 fingerprints per hour on a 24x7x365 basis, at an interval of 10 mins each) and provide broadcasters with the fingerprint schedule on request.	Existing clause to be added to Audit Manual as it is already in the IR. This will enable broadcasters to initiate anti-piracy action
31	A18	Firewall Access: CAS shall be accessible through a Firewall only.	Firewall Access: CAS shall be accessible through a Firewall only.	Existing clause to be added to Audit Manual as it is already in the IR. Firewall is required to protect server from viruses in order to avoid loss of data.
32	A19	CAS Server Hardware: CAS shall be deployed on hardened secure server hardware. CAS shall protect against any backdoors, malicious software deployments, and cyber security threats.	CAS Server Hardware: CAS shall be deployed on hardened secure server hardware. CAS shall protect against any backdoors, malicious software deployments, and cyber security threats.	Existing clause to be added to Audit Manual as it is already in the IR. To protect CAS server from viruses in order to avoid loss of data.

Indian Broadcasting & Digital Foundation

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
33	B2	Channel/Bouquet management: SMS shall support the following essential requirements: (a) Create and manage all channels and bouquets along with the relevant details such as name, tariff, broadcaster, or DPO bouquet, etc. (b) Manage changes in the channel/bouquet, as may be required, from time to time. (c) Link the products'IDs for à-la-carte channels and bouquets (Single and Bulk) created in CAS with the product information being managed in SMS, for smooth working of SMS and CAS integration. (d) Management of historical Data of Product name, i.e., Broadcasters (name), maximum retail price (MRP), distributor retail price (DRP).	Channel/Bouquet management: SMS shall support the following essential requirements: (a) Create and manage all channels and bouquets along with the relevant details such as name, tariff, broadcaster, or DPO bouquet, etc. (b) Manage changes in the channel/bouquet, as may be required, from time to time. (c) Link the products'IDs for à-la-carte channels and bouquets (Single and Bulk) created in CAS with the product information being managed in SMS, for smooth working of SMS and CAS integration. (d) Management of historical Data of Product name, i.e., Broadcasters (name), maximum retail price (MRP), distributor retail price (DRP).	Existing clause to be added to Audit Manual as it is already in the IR. This ensures authenticity of data in both CAS & SMS database for all DPOs sharing infrastructure.

Indian Broadcasting & Digital Foundation

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
34	B8	SMS Database and tables: (a) There shall not be any active unique subscriber outside the database tables. (b) SMS shall not provide an option to split SMS database or for creation of more than one instance. (c) SMS shall have the provision to enable or disable channel (à-la-carte channel or bouquet of channels) selection by subscribers either through website or an application through interface provided by the distributor platform operator. (d) SMS shall be capable of capturing the following information required for audit or otherwise: (i) Bouquet à la carte status change history (ii) Bouquet composition change history (iii) Change in status of connection (primary to secondary and vice versa)	SMS Database and tables: (a) There shall not be any active unique subscriber outside the database tables. (b) SMS shall not provide an option to split SMS database or for creation of more than one instance. (c) SMS shall have the provision to enable or disable channel (à-la-carte channel or bouquet of channels) selection by subscribers either through website or an application through interface provided by the distributor platform operator. (d) SMS shall be capable of capturing the following information required for audit or otherwise: (i) Bouquet à la carte status change history (ii) Bouquet composition change history (iii) Change in status of connection (primary to secondary and vice versa)	Existing clause to be added to Audit Manual as it is already in the IR. This ensures that the same SMS database of DPO in both infrastructure shared mode and independent mode is not used.
35	B9	Firewall Access: SMS shall be accessed through a Firewall.	Firewall Access: SMS shall be accessed through a Firewall.	Existing clause to be added to Audit Manual as it is already in the IR. Firewall is required to protect server from viruses in order to avoid loss of data.
		CAS Desirable Requirements:	CAS Desirable Requirements:	

Indian Broadcasting & Digital Foundation

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
36	C	Message Queue: (a) In the event of unsuccessful transmission of messages due to network failure (for instance, due to power failure), the headend should have an option to queue up the messages. Further, there should be a provision to retry them at specified intervals using additive back off retrial timings. (b) In the event of unsuccessful deliveries of the messages, the life of the messages should be specifiable. 2. Geographical Blackout: CAS shall have the feature of geographical blackout. Explanation 1: Geographical blackout is the ability of CAS to blackout a particular region based on the postal index number (PIN) Codes [Geographic Area Code], if required by government agencies or for other reasons. 3. After-Sales Service Support: The required software and hardware support should be available to the distributor of the television channels' installations from the CAS vendor's support teams located	Message Queue: (a) In the event of unsuccessful transmission of messages due to network failure (for instance, due to power failure), the headend should have an option to queue up the messages. Further, there should be a provision to retry them at specified intervals using additive back off retrial timings. (b) In the event of unsuccessful deliveries of the messages, the life of the messages should be specifiable. 2. Geographical Blackout: CAS shall have the feature of geographical blackout. Explanation 1: Geographical blackout is the ability of CAS to blackout a particular region based on the postal index number (PIN) Codes [Geographic Area Code], if required by government agencies or for other reasons. 3. After-Sales Service Support: The required software and hardware support should be available to the distributor of the television channels' installations from the CAS vendor's support teams located	Existing clause to be added to Audit Manual as it is already in the IR. This is required in CAS deployed of all DPOs sharing infrastructure to have uniformity.

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
		in India. The support should be such as to ensure the CAS system with 99.99% uptime and availability. The systems should have sufficient provisions for backup systems to ensure quality of service and uptime. Explanation 1: (i) The requirement for hardware support should be applicable, only if the hardware is directly or indirectly provided by the CAS vendor. (ii) The actual service-level arrangement for the system support shall be governed by the mutual agreement / service-level agreement (SLA) between the service provider, i.e., CAS vendor and the customer (DPO). (iii) The signatories to the said agreement may mutually choose lenient/stringent service-level guarantee.	in India. The support should be such as to ensure the CAS system with 99.99% uptime and availability. The systems should have sufficient provisions for backup systems to ensure quality of service and uptime. Explanation 1: (i) The requirement for hardware support should be applicable, only if the hardware is directly or indirectly provided by the CAS vendor. (ii) The actual service-level arrangement for the system support shall be governed by the mutual agreement / service-level agreement (SLA) between the service provider, i.e., CAS vendor and the customer (DPO). (iii) The signatories to the said agreement may mutually choose lenient/stringent service-level guarantee.	
		SMS Desirable Requirements	SMS Desirable Requirements	Existing clause to be added to Audit Manual as it is already in the IR.

Indian Broadcasting & Digital Foundation

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
37	D	1. Data Verification: (a) SMS should have the facility to carry out auto-reconciliation of channels/à la carte and all bouquets with their respective ID created in SMS with CAS configuration, and the variance report should be available in the system with logs. 2. SMS Reports: SMS should have a provision of generating the following reports pertaining to STB/VC: (a) White list of STB/VC along with active/inactive status (b) Faulty STB/VC – repairable and beyond repairable (c) Warehouse fresh stock (d) In stock at local cable operator (LCO) end (e) Blacklist (f) Deployed with activation status (g) Testing/demonstration STB/VC with location 3. Audit-related requirements: SMS should have the capability to capture below-mentioned information that may be required for audit and otherwise: a. Subscriber related: (i) Subscriber contact details	1. Data Verification: (a) SMS should have the facility to carry out auto-reconciliation of channels/à la carte and all bouquets with their respective ID created in SMS with CAS configuration, and the variance report should be available in the system with logs. 2. SMS Reports: SMS should have a provision of generating the following reports pertaining to STB/VC: (a) White list of STB/VC along with active/inactive status (b) Faulty STB/VC – repairable and beyond repairable (c) Warehouse fresh stock (d) In stock at local cable operator (LCO) end (e) Blacklist (f) Deployed with activation status (g) Testing/demonstration STB/VC with location 3. Audit-related requirements: SMS should have the capability to capture below-mentioned information that may be required for audit and otherwise: a. Subscriber related:	

Indian Broadcasting & Digital Foundation

Sl. No.	Clause no.	Existing Provisions	New Provisions/ Suggested changes in the existing provisions	Rationale
		change history (ii) Connection count history (iii) Transition of connection between Disconnected/Active/Temporary Disconnected (iv) Subscription change history b. LCO related: (i) LCO Contact details change history (ii) LCO and DPO sharing change history c. Product (Bouquet/à-la-carte channel) related: (i) Broadcaster à-la-carte relation (ii) Bouquet name change history (iii) À la carte name change history Page 9 of 23 (iv) Bouquet à-la-carte channel rate change history d. STB/Smartcard related: (i) Change in location history (ii) Change in status (Active/Damaged/Repaired)	(i) Subscriber contact details change history (ii) Connection count history (iii) Transition of connection between Disconnected/Active/Temporary Disconnected (iv) Subscription change history b. LCO related: (i) LCO Contact details change history (ii) LCO and DPO sharing change history c. Product (Bouquet/à-la-carte channel) related: (i) Broadcaster à-la-carte relation (ii) Bouquet name change history (iii) À la carte name change history Page 9 of 23 (iv) Bouquet à-la-carte channel rate change history d. STB/Smartcard related: (i) Change in location history (ii) Change in status (Active/Damaged/Repaired)	