To

Date :

Shri. Anil Kumar Bhardwaj,

Advisor (B&CS),

TRAI

New Delhi.

Dear Sir,

Sub: Reg submitting comments for CP No 12/2022

We are submitting our comments towards the CP No 12/2022. Kindly consider to save our small MSOs Already the corporate like JIO, Airtel and other are providing IPTV but, only there are restriction from Broadcasters for the small MSOs. Kindly consider and save our MSOs from the broadcaster and also from the corporate. Then only the customer can set the full freedom of viewing their own required channels as per TRAI Vision. The broadcaster are already giving their channel through APP based OTT also.

Thank You,

Yours Truly,

For Tamilnadu Digital Cable TV Operators

Chief Head

PRESIDENT
TAMILNADU DIGITAL CABLE TV
Operators Association
Executive Off
No.48, Mela Ponnagaram
12th Street,
Madurai-625 016.
Reg No. 82/2015

TABLE 1: Format for stakeholders' response on issues related to Draft Regulations 2022 raised in this CP - Tamilnadu Digital Cable TV Operators Association

S.NO	Clause number of Draft Regulations 2022	Do you agree with the Draft Regulations 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 for your response
1	Regulation 15 Audit(1)	NO	Provided further that any variation, due to audit, resulting in less than four percent of the billed amount shall not require any revision of the invoices already issued and paid.	As now a days the SMS server software are cloud based so due to internet connectivity we get time lag and because of timelag in command the communication of STBS we get differecce in count of active subscriber so there is a third party intervation a internet as cloud based so it must be increased to four percent.As now multi CAS are used ther is a time delay occurs
2	1A	yes		
3	1.2(2)	NO	when broadcasters not satisfied with the audit report they must send notice to the CAS Vendor and the SMS vendor as this difference should and only the CAS and the SMS vendor is Responsible for this difference in count .there is no part by an MSO ONLY THE VENDORS ARE RESPONSIBLE	As the decoders are given by the broadcasters only after auditing by their team and also the MSO is Paying AMC to the CAS Vendor and a monthly billing to the SMS vendor only they are Responsible for any Difference in Count .IF any tampering found by the Auditor only then an MSO is responsible
4	1.3	yes		
5	1.8	no	the broadcasters representative also must be present during audit if necessary	we mso find difficulty by some broascasters after submitting the report .if an MSO find such in the previous audit then MSO must be empowered to call upon a representativeOF A BROADCASTER during th audit period to get any queries directly from the auditor it will also ease to rectify the previous errors so the CAS and the SMS vendor can update their software in precence of the broadcaster to rectify such occurance in audit

6	1.5	NO	no elements of analysis about the box free app type upgradation to provide channels by the MSO	as now an app can be created and all channels can be streamed by an MSO and the broadcasters can get reports like CAS and SMS based With All Security logs can be Provided an additional coverage can be got from an MSO .before that TRAI must implement the NTO 2
7	1.8	NO	NO INCLUSION OF APP Based	As again going for an SET TOP Boxes it's a waste again its back to digital cable only.its also an E-WASTE our technology is there but the persons who are submitting to TRAI are taking only the OLD type no upgradation .When a broadacacter can have play in app like hotstar or sunnext then why cant an msoo go through an App based .even now TRAI has said to build tv with tuners can get digital signals .SO only the latest version only should be work out by TRAI

8	Page 10 Introduction	No	The term DRM, herein, refers to the management of the encryption systems for, inter-alia, providing the functionality of only CAS for the Internet Protocol Television (IPTV) service provider under these regulations.	Already Mso are having SMS which is already audited ,So we can add the DRM API with the existing available SMS of MSO.No additional SMS is needed.

9	(C) of (a)	No	Retransmission of channels shall be over a closed network owned and controlled by DPO for electronic delivery of audio video stream of linear channels using Internet Protocol through an encrypted, point-to-point system architecture to set top boxes located within a subscriber's premises.	In Emerging Technology growth,internet is essential for customers. Mso already providing Internet to customers and in same closed network IPTV can be provided. Even though its travelling in same path it will have seperate pipe. And In such way DRM will meet the requirements of broadcasters/TRAI security requirement.And it will prevent broadcaster content from internet/OTT piracy.
10	(D) Table 1 Point 1	No	There shall not be any data mismatch between DRM and SMS. Maximum mismatch based on subscription base may be allowed as mentioned below: (1) Must be less than 0.20% for subscriber base up to 100000 subs (0 to 200 for subscriber base of up to 100000) (2) Must be less than 0.04% for subscriber base up to 1000000 subscribers (0 to 400 for subscriber base of up to 1000000) (3) Must be less than 0.01% for subscriber base above 10000000 subscribers (0 to 1000 for subscriber base of up to 10000000) The data between both the systems shall be reconciled on a monthly basis. The reconciliation report shall be stored along with the system data for a minimum of 2 years or at least two audit cycles, or as per Schedule III whichever is later.	Mismatch Between DRM and SMS Cannot be matched with low difference.Because No.Of users(LCO) and No.of Session used in SMS is very high and in 1st week of every month there will be huge commands travelling via api.And SMS need to handle 2 or 3 DRM/CAS in such scinerio there is possible of mismatch.So Making the mismatch can be 1% will be useful for DPO.

11	(D) Table 1 Point 4	NO	All activation and deactivation of <u>STBs/APP</u> shall be done with the commands of the SMS integrated with the DRM.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed. Reduce E waste is the first one.
12	(D) Table 1 Point 5	NO	Necessary and sufficient methods shall be put in place so that each activation and deactivation of <u>STBs/APP</u> is reflected in the reports generated from the SMS integrated with the DRM and vice versa	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

13	(D) Table 1 Point 6	NO	DRM and SMS should be able to activate or deactivate services and/or <u>STBs/APP</u> of the subscriber base of the distributor within 24 hours.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
14	(D) Table 1 Point 8		8. The SMS should be computerized and capable of recording all logs including information and data concerning the subscribers such as: (a) Unique customer identification (ID) (b) Subscription contract number (c) Name of the subscriber (d) Billing address (e) Installation address (f) Landline telephone number (g) Mobile telephone number (h) E-mail address (i) Channels, bouquets and services subscribed (j) Unique STB number (k) Unique VC number or MAC ID.	

15	(D) Table 1 Point 9	NO	The SMS should be capable of: (a) Viewing and printing of historical data in terms of the activations and the deactivations of STBs/APP. (b) Locating each and every STB/APP and VC/MAC ID installed at city and state level. (c) Generating historical data of changes in the subscriptions for each subscriber and the corresponding source of requests made by the subscriber.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
16	(D) Table 1 Point 10		The SMS should be capable of generating reports, at any desired time including about: (a) The total number of registered subscribers. (b) The total number of active subscribers. (c) The total number of temporary suspended subscribers. (d) The total number of deactivated subscribers. (e) List of blacklisted STBs/APP in the system. (f) Channel and bouquet wise monthly subscription report in the prescribed format. (g) The names of the channels forming part of each bouquet. (h) The total number of active subscribers subscribing to a particular channel or bouquet at a given time. (i) The name of a-la carte channel and bouquet subscribed by a subscriber. (j) The ageing report for subscription of a particular channel or bouquet.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

17	(D) Table 1 Point 14	NO	14. SMS shall have a provision to generate synchronization report, with date and time, with the minimum fields as listed below: (a) STB Number (or in case of card-less system, chip ID or MAC ID number of the <u>STB/APP</u>) (b) Product Code pertaining to à-la-carte channels and bouquets available on the platform (c) Start Date of entitlement (d) End Date of entitlement (e) Status of <u>STB/APP</u> (active/Inactive)	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
18	(D) Table 1 Point 23	NO	generating the reports, on channel by channel and <u>STB/MAC ID by STB/MAC ID</u> basis.	FOR App it can be idendified with MAC ID or with its unique ID.

19	(D) Table 1 Point 26	NO	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 change history (ii) Connection count history (iii) Transition of connection between Disconnected/Active/Temporary Disconnected (iv) Subscription change history (b) 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 (iv)Bouquet à-la-carte channel rate change history (c) STB/APP related: (i) Change in location history (ii) Change in status (Active/Damaged/Repaired/Replaced)	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
20	(E) Table 2 Point 3	NO	DRM deployed do not have facility to activate and deactivate a Set Top Box (STB)/MAC ID (APP) directly from the Graphical User Interface (GUI) terminal of DRM. All activation and deactivation of STBs/APP shall be done with the commands of the SMS integrated with DRM. The DRM shall be integrated with the SMS in a manner that ensures security of the channel.	FOR App it can be idendified with MAC ID or with its unique ID.

21	(E) Table 2 Point 4	NO	The SMS and the DRM should be integrated in such manner that activation and deactivation of STB/MAC ID happen simultaneously in both the systems. Explanation: Necessary and sufficient methods shall be put in place so that each activation and deactivation of STBs/APP is reflected in the reports generated from the DRM.	FOR App it can be idendified with MAC ID or with its unique ID.
22	(E) Table 2 Point 6	NO	The DRM deployed should be able to support both carded as well as card-less STBs and APP based for any provisioning	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

			7. The DRM deployed should be able to generate, record, maintain independent reports and logs for verification purpose during audits corresponding to each command executed in the DRM issued by the SMS integrated with the DRM for last two (2)

 years minimum. The reports must have date and time stamp. Proposed reports should include:

(a) Unique active STB count as well as MAC ID wise on any desirable date
(b) Unique bouquet/channel active for a specific STB on any desirable date
(c) MAC ID wise activation-deactivation report for service requests
(d) Any alteration in bouquet and/or channels configured in DRM
(e) Blacklist STB report
(f) Product code pertaining to channels/ bouquets available on the platform
(g) Channel/bouquet authorization/assignment to STB/MAC ID along with start date and end date of entitlement
(h) STB-VC pairing / de-pairing (if applicable)
(i) STB activation / de-activation
(j) Channels assignment to STB/MAC ID | |
| 23 | (E) Table 2 Point 7 | NO | (k) Report of the activations or the deactivations of a | FOR App it can be idendified with MAC ID or with its unique ID. |
| 24 | (E) Table 2 Point 8 | NO | DRM deployed should be able to tag and blacklist the STB/MAC ID (APP) independently in case of any piracy. | FOR App it can be idendified with MAC ID or with its unique ID. |

25	(E) Table 2 Point 15	NO	DRM should support only agreed DPO's branded/proprietary and DPO's supplied business model for STBs	DPO's should not be restricted to use only STB.It will restrict DPO to grow with technology.So providing it as STBs/APP based same os other OTT,DPOs can get advantage and the level play between the DPO and OTT will be in a equal level.And DRM is developed to provide security via APP based also.DRM will secure the content via APP based also and prevent from content piracy without violating any TRAI regulation.
26	(E) Table 2 Point 19	NO	DRM should support encryption of individual tracks of a content stream with individual keys, i.e., track level protection	DRM will encrypt the complete url,Its not same like scrambling to identify the video and audio track.It will encrypt the whole content with rotational key and even in ts record you cant find meta data inside the url while doing encryption.
27	(E) Table 2 Point 25	NO	25. DRM and SMS shall ensure that the access to database is available to authorized users only, and in "read only" mode only. Further, the database audit trail shall be permanently enabled. Explanation: Database here refers to the database where data and log of all activities related to STB/MAC ID activation, deactivation, subscription data, STB UA/MAC ID details, entitlement level information, etc., is being stored.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

| 28 | (E) Table 2 Point 31 | NO | For every change in channels, fresh license keys should be issued by the DRM. License keys issued by DRM should be secure and encrypted. DRM must ensure that the authorization keys are not received by the STB/APP from any other source other than the one specified by the IPTV system | IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed. |

29	(E) Table 2 Point 33	NO	IPTV transmission can be in both multicast and unicsat encrypted way. There cannot be any such case where unicast is allowed(Need to be removed). STBs with facilities for recording programs shall have a copy protection system (i.e., a feature which prevents reproduction of content and/or unauthorized copying and distribution of content) and such recorded content should not be transferrable to any other device.	IPTV transmission via multicast will not prevent from content theft and piracy.As multicast data flows without any feedback or hand sake.So if a multicast with encrypted is hacked it will be hard to find and hard to stop that particular hacking point.So going multicast with encryption will prevent piracy and data theft is baseless.And the global technology growth mentioning "IPTV transmission has to be in multicast mode only just like cable TV transmission" is not acceptable.So even DPO have a technology to provide more than a linear TV ,TRAI should not restrict them with regulation on seek of security.With TCP HTTP even a better security can be provided and Quality of service can be improved as it has feedback for every single session of customer.And even in case of hacking it can be easily identified with feedback from session.And the particular person or a particular point can be blocked.And these OTT vendors are already going with pure HTTP TCP protocol.But the DPOs has to go with multicast is baseless.

30	(E) Table 2 Point 35	NO	IPTV should not be allowed to deliver linear content to any other device except <u>STB/MAC ID (APP)</u> which has been whitelisted in DRM.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
31	(E) Table 2 Point 37	NO	IPTV system should not allow recording of linear channel at headend/network level. It should be allowed to be recorded at STB/DVR level only(Need to be removed),without there being any option available to transfer such recorded content to any other device.	Recording in server side need to be allowed to provide DVR functions of cahnnels and catch up of channel content.Customers are paying for a content where they need a option to playback the previous content of their susbscribed channel.DRM will allow this functions to particular customer who subscribed to the channel.And same kind of encryption can be handled in server side so the content stored in server cant be played in any other devices execpt the STBs/APP of DPO.So there is no possibility of security thread in it.

32	(E) Table 2 Point 37	NO	(d) It should lock access to authorized STBs/APP only. (e) It should have Geo blocking, that enables a broadcaster to determine and instruct the DPO/IPTV service provider to restrict the broadcast of TV channels in locations. (f) It should be able to set expiry date to recorded content at STB end based on various policies.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
33	(E) Table 2 Point 39	NO	The DRM should have the capability of being upgraded over-the-air (OTA) so that the connected STBs/APP always have the most upgraded version of the DRM.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

34	(E) Table 2 Point 41	NO	No such functionality should be added to or removed from the DRM which compromises security of channels. DPO shall be responsible for encryption of channels' signals before their transmission through its IPTV platform using DRM integrated STBs/APP. All costs / expenses (by whatever name called) that are required to be incurred or become payable for such upgradation and for retransmission and/or delivery/distribution of channels to subscribers shall be borne solely by such DPO. The DPO shall employ all reasonable security systems and procedures to prevent any loss, theft, piracy, un-authorized use, reception or copying of channels or any part thereof and shall notify broadcasters as soon as practicable after it becomes aware that such an event has occurred	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
35	(E) Table 2 Point 43	NO	DPO shall promptly, and at it sole cost and expense, correct any issues with the DRM (such as bugs, defects, omissions or the like) that prevents subscribers from accessing the DRM integrated STBs/APP or channels through the DRM integrated STBs/APP	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

36	(E) Table 2 Point 45	NO	DRM should ensure that the integrated STBs/APP are verifiably located within India by reference to internet protocol address and service address. Further, the DRM shall not permit delivery to an Internet/mobile device. The DRM must use industry-standard means (including IP-address look-up technology with screening and blocking of proxies (including anonymizing and spoofed proxies)) to prevent delivery of channels to IP addresses outside of India or to proxies.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
37	(E) Table 2 Point 46	NO	DRM should ensure that channels are accessible on integrated STBs/APP of only such subscribers who are then-current, valid subscribers of the distributor of channels, and such confirmation must take place prior to the DRM actually delivering (or authorizing the delivery of) channel to the integrated STBs/APP of such subscribers.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
38	(E) Table 2 Point 49	NO	The DRM shall not permit subscribers to record and/or store channels/content from channels. Need to be removed	Already we have recording facility in CABLE TV STBs. Recording functionolity is allowed,So this clause needs to be removed

39	(F) Table 3 Point 2	NO	The STB/APP should support both visible and covert types of finger printing.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
40	(F) Table 3 Point 4	NO	The fingerprinting should not be removable by pressing any key on the remote of STB/APP.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

41	(F) Table 3 Point 6	NO	The finger printing should be such that it can identify the unique STB number or the unique VC number or the MAC ID of STBs/APP	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
42	(F) Table 3 Point 9	NO	The finger printing should be able to give the numbers of characters as to identify the unique STB and/or the MAC ID of STB/APP.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

43	(F) Table 3 Point 10	NO	The finger printing should be possible on global as well as on the individual STB/APP basis.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
44	(F) Table 3 Point 13	NO	The DRM shall support and enable forensic watermarking at STB/APP level.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

45	(G)	NO	**DRM Requirements in so far as they relate to STBs/APP**	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
46	(G) Table 3 Point 1	NO	All STBs/APP should have a DRM content protection.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

47	(G) Table 3 Point 2	NO	The STB/APP deployed should be capable to support content decryption, decoding and DRM license evaluation.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
48	(G) Table 3 Point 3	NO	The STB/APP should be capable of displaying fingerprinting inserted from Headend through DRM /SMS. The STB should support both targeted channel fingerprinting as well as all global fingerprinting.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

49	(G) Table 3 Point 4	NO	The STB/APP should be individually addressable from the Head-end.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
50	(G) Table 3 Point 5	NO	The STB/APP should be able to receive messages from the Head-end	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

51	(G) Table 3 Point 7	NO	There should be provision for global messaging, group messaging and the individual STB/APP messaging.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
52	(G) Table 3 Point 9	NO	The STBs/APP should be addressable over the air to facilitate OTA software upgrade	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

53	(G) Table 3 Point 10	NO	The STBs/APP with facilities for recording the programs shall have international standard copy protection system	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
54	(G) Table 3 Point 11	NO	The STB/APP should have a provision that fingerprinting is never disabled.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

55	(G) Table 3 Point 14	NO	DRM deployed should be able to geo tag STB/APP deployed in the network for security	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
56	(G) Table 3 Point 15	NO	STB/APP should take all commands directly from DRM not from any intermediate servers.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.

57	(G) Table 3 Point 16	NO	STB should not have feature to download (direct or side download) any 3rd party App/APK (Including on Hybrid STB's if any) and should not have access to any browser. Need to be removed	With all these conetent protection and anti piracy system which are requested by TRAI and broadcaster can be meet out by the DPOs DRM,SMS and STBS/APP.There is no compromise in security.According to growth of technology End customers are looking more than a liner tv service.Where OTT is providing the customer required technology without any Schedule III ,X regulation from TRAI.DPOs are ready to provide such kind of technology with all respective TRAIs security regualations.So TRAI should not restrict internet and OTT usage in DPOs STB.Then ther will be no advantage in DVB STB and IPTV.And already DPOs deployed Hybrid STB with internet and OTT access (Example:TATA PLAY) with CAS.Which is already running with customers.So restricting internet and OTT for anti piracy is baseless.

58	(G) Table 3 Point 18	NO	STB should not have any play store to download 3rd party App. Need to be removed	With all these conetent protection and anti piracy system which are requested by TRAI and broadcaster can be meet out by the DPOs DRM,SMS and STBS/APP.There is no compromise in security.According to growth of technology End customers are looking more than a liner tv service.Where OTT is providing the customer required technology without any Schedule III ,X regulation from TRAI.DPOs are ready to provide such kind of technology with all respective TRAIs security regualations.So TRAI should not restrict internet and OTT usage in DPOs STB.Then ther will be no advantage in DVB STB and IPTV.And already DPOs deployed Hybrid STB with internet and OTT access (Example:TATA PLAY) with CAS.Which is already running with customers.So restricting internet and OTT for anti piracy is baseless.
59	(G) Table 3 Point 19	NO	STB should have copy protection – HDCP with version 2 and above, DHCP, CGMS & macrovision with version 7 and above	Schedule III regulations can be followed.Its more than enough for content security.

60	(G) Table 3 Point 20	NO	DPO system should have capability to maintain un-editable logs of all activity and configurations including download of any App at STB end	With all these conetent protection and anti piracy system which are requested by TRAI and broadcaster can be meet out by the DPOs DRM,SMS and STBS/APP.There is no compromise in security.According to growth of technology End customers are looking more than a liner tv service.Where OTT is providing the customer required technology without any Schedule III ,X regulation from TRAI.DPOs are ready to provide such kind of technology with all respective TRAIs security regualations.So TRAI should not restrict internet and OTT usage in DPOs STB.Then ther will be no advantage in DVB STB and IPTV.And already DPOs deployed Hybrid STB with internet and OTT access (Example:TATA PLAY) with CAS.Which is already running with customers.So restricting internet and OTT for anti piracy is baseless.

61	(G) Table 3 Point 21	NO	The DRM should not allow delivering linear TV channels on HLS, Smooth Streaming, Dash & HTTP/TCP.	IPTV transmission via multicast will not prevent from content theft and piracy.As multicast data flows without any feedback or hand sake.So if a multicast with encrypted is hacked it will be hard to find and hard to stop that particular hacking point.So going multicast with encryption will prevent piracy and data theft is baseless.And the global technology growth mentioning "IPTV transmission has to be in multicast mode only just like cable TV transmission" is not acceptable.So even DPO have a technology to provide more than a linear TV ,TRAI should not restrict them with regulation on seek of security.With TCP HTTP even a better security can be provided and Quality of service can be improved as it has feedback for every single session of customer.And even in case of hacking it can be easily identified with feedback from session.And the particular person or a particular point can be blocked.And these OTT vendors are already going with pure HTTP TCP protocol.But the DPOs has to go with multicast is baseless.

62	(G) Table 3 Point 22	NO	The STB/APP should have forced messaging capability including forced finger printing display.	IPTV Can be provided as a Application based with all security required under TRAI regulation.In technology development pepole are watching content (OTT) via app based so to ensure the level play DPO's to be allowed to provide IPTV APP based.Even in APP based it can be run in closed network.Which will reduce the new device purchase and Now all the TV/STB equipments in INDIA is with BIS.So providing as APP based solution will reduce E-waste.With APP based also, all this procedures can be followed.
63	Page 26 Point 7	NO		Committee of Stakeholders should add atleast one MSO assosication from each state.So TRAI can understand the exact requirements need to be done in regulations on MSO side also on customer side.

TABLE 2: Format for stakeholders' response on issues related to 'System Requirement for Digital Right Management (DRM)' on issues other than those proposed in this CP - Tamilnadu Digital Cable TV Operators Association

S no	NewClause number proposed in the Draft Regulations 2022	Suggested Amendment (additional clause)	Reasons/ full justification for the proposed amendment
1	(E) Table 2 Point 1	All the mandatory requirements of DRM shall be suit for STBs/Hybrid STBs/Application (APP)	In growing technology DPO can provide IPTV in app based with all security needs and without violating any security norms of TRAI.So there will be no compromise in security.But for update in technology DPO need to provide IPTV in app based solution to fulfill customer requirements.
2	(E) Table 2 Point 37	IPTV system can do server side recording and the recorded content need to stored in encrypted way.And the content will be accessable and decrypted only with the DPOs STBs/Hybrid STBs/Application (APP)	apart from linear tv, customer needs more services like DVR and catch up and already they are getting this service with OTT.So DPOs need to provide such kind of service without any security compromise.So DPOs need server side recoding function. IPTV must be an upgrade version of CABLE TV so this is required.