



16 September, 2023

## Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Fifth Amendment) Regulations, 2023

**Context:** Today, the Telecom Regulatory Authority of India (TRAI) has released the Fifth Amendment to the Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) Regulations for 2023.

### ➤ Introduction of New Schedule X: DRM System Requirements

- DRM requirements for subscriber management systems (SMS) for IPTV services.
- DRM requirements for conditional access by subscribers and encryption for IPTV services.
- DRM requirements for fingerprinting in IPTV services.
- DRM requirements for STBs and unique consumer subscriptions.

### ➤ Enabling, Technology-Neutral Regulatory Regime

- Promotes growth and technological advancements.
- Ensures protection of consumer interests.

### ➤ Background and Consultation Process

- The process began with the issuance of the Telecommunication (Broadcasting & Cable) Services Interconnection (Addressable System) Regulation, 2017, on 03.03.2017.
- Consultations and feedback from stakeholders led to the drafting of the Telecommunication (Broadcasting and Cable) Services Digital Addressable Systems Audit Manual.
- Draft Telecommunication (Broadcasting and Cable) Services Interconnection (Addressable Systems) (Amendment) Regulations, 2019, were issued on 27.08.2019, addressing issues related to Digital Rights Management Systems (DRM).

### ➤ Schedule III Enhancements

- Schedule III of the Interconnection Regulations initially lacked DRM specifications.
- Feedback from stakeholders, especially regarding IPTV-based DPOs transitioning to DRM technology, prompted the inclusion of DRM specifications in Schedule III.

### ➤ Formation of a Committee

- TRAI constituted a committee comprising industry stakeholders to develop and submit draft 'System Requirements for Digital Right Management (DRM)' for inclusion in Schedule III.

### ➤ Analysis and Notification of Amendments

- TRAI analyzed stakeholder comments and took steps to protect the interests of service providers and consumers.
- Consequently, TRAI has notified amendments to the Interconnection Regulations to address DRM-related issues and facilitate the growth of the industry while safeguarding consumer interests.

### Telecom Regulatory Authority of India (TRAI)

- TRAI established on Feb 20, 1997, under the Telecom Regulatory Authority of India Act, 1997.
- **Mission:** Foster telecom growth, regulate services, set tariffs.
- Headquarters in New Delhi.
- **Composition:** Chairperson, 2 full-time members, 2 part-time members appointed by the Government of India.
- **Term:** Three years or until age 65.
- Chairperson leads TRAI, Vice-Chairperson appointed by Central Government as a backup.

## Monoclonal Antibodies

**Context:** India is acquiring 20 more doses of monoclonal antibody for Nipah virus treatment from Australia, according to the Indian Council of Medical Research (ICMR) on Friday.

- India has already procured 20 doses of monoclonal antibody for Nipah virus treatment from Australia in 2018.
- These doses are available for only 10 patients in India, with no reported usage to date.
- Decisions regarding treatment administration are subject to state government, medical professionals, and families.
- Globally, monoclonal antibodies have successfully treated 14 Nipah virus patients outside India.
- The current focus remains on containing the Nipah virus outbreak in Kerala, where cases have been linked to one index patient.

### What are Monoclonal Antibodies?

- Monoclonal antibodies (MAbs) are artificial versions of B cells, mimicking the body's immune system.
- Their goal is to produce very specific proteins called antigens in response to foreign substances.

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- They earn the name "monoclonal" because they originate from a single B cell clone, enabling exact replicas of the same protein to be created many times (Mab).
- While our bodies produce various types of antibodies in response to infections, externally produced MABs must be specific.
- MABs are utilized to combat a variety of illnesses, not just infections.

#### Methods of Preparation

- **Murine Monoclonal Antibodies:**
  - Composed of mouse proteins.
  - Identified by the -omab suffix.
- **Human Monoclonal Antibodies:**
  - Derived exclusively from human sources.
  - Identified by the -umab suffix.
- **Humanised Monoclonal Antibodies:**
  - Combine portions of mouse proteins with human proteins.
  - Identified by the -zumab suffix.
- **Chimeric Monoclonal Antibodies:**
  - Also comprise a blend of mouse and human components.
  - Identified by the -umab suffix.

#### A few FDA approved MABs

- ❖ Inflectra (Remicade)
- ❖ Certolizumab pegol (Cimzia)
- ❖ Alefacept (Amevive)
- ❖ Bezlotoxumab (Zinplava)
- ❖ Belimumab (Benlysta)
- ❖ Golimumab (Simponi, Simponi Aria)
- ❖ Natalizumab (Tysabri)
- ❖ Omalizumab (Xolair)
- ❖ Rituximab (Rituxan)
- ❖ Ustekinumab (Stelara)

#### Possible Side Effects

- Fever
- Chills
- Weakness
- Headache
- Nausea
- Vomiting
- Diarrhoea
- Low blood pressure
- Rashes

#### Application in various medical treatments

- ❖ Cancer
- ❖ Cardiovascular disease
- ❖ Crohn's disease
- ❖ Multiple sclerosis
- ❖ Psoriasis
- ❖ Rheumatoid arthritis
- ❖ Systemic lupus erythematosus
- ❖ Transplant rejection
- ❖ Ulcerative colitis

## Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023

**Context:** Next week's special parliamentary session will address a bill regulating the appointment and terms of the Chief Election Commissioner (CEC) and other Election Commissioners.

- The Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Bill, 2023, passed in the Rajya Sabha on August 10.
- It has now reached the Lok Sabha for final approval.
- The Bill aims to amend constitutional provisions equating Election Commissioners (ECs) with Supreme Court judges.
- It also intends to reverse a recent Supreme Court ruling in the case of 'Anoop Baranwal vs. Union of India'.

#### Proposed Changes to Constitutional Provisions

- The Bill aims to amend constitutional provisions that previously equated Election Commissioners (ECs) with Supreme Court judges.
- Under the Election Commission Act of 1991, ECs had been at par with Supreme Court judges in terms of salary and allowances.

#### Alignment with Cabinet Secretary's Conditions

- The proposed changes would align the salary, allowances, and service conditions of ECs with those of a Cabinet Secretary.
- This would result in repealing the 1991 Act, which established the equivalence between ECs and Supreme Court judges.

#### Potential Implications on ECs' Authority and Independence

- The shift to align ECs' conditions with the bureaucracy could compromise the authority and independence of Election Commissioners.
- Presently, commissioners conduct meetings with government officials and issue orders with the perceived authority of a Supreme Court Judge.

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## Preservation of EC Independence under Article 324(5)

- Article 324(5) of the Constitution currently allows the removal of the Chief Election Commissioner only through a process similar to that of a Supreme Court judge, ensuring their independence.

## Formation of a New Committee for EC Appointments

- The Bill also aims to establish a committee comprising the Prime Minister, Leader of the Opposition in the Lok Sabha, and a Cabinet Minister nominated by the Prime Minister to select Election Commission members.
- Notably, the Chief Justice of India is excluded from this committee, contrary to a Supreme Court suggestion from March this year.

## Background of the Supreme Court Ruling

- In March, the Supreme Court ruled that a committee composed of the Prime Minister, Leader of the Opposition in Lok Sabha, and the Chief Justice of India should appoint the CEC and ECs, aiming to reduce executive influence.
- The ruling stemmed from a PIL filed by Anoop Baranwal in 2015, challenging the prevailing system of the President appointing ECI members on the PM's advice as unconstitutional.

## Constitutional Provisions and Supreme Court Intervention

- Article 324(2) of the Constitution grants the President the power to appoint the Chief Election Commissioner and other Election Commissioners, with their salaries equivalent to that of a Supreme Court Judge.
- Since no law was enacted by Parliament to implement this provision, the Supreme Court intervened.

## Repeal of the 1991 Act and New Salary Conditions

- The new Bill seeks to repeal the 1991 Act, specifically Section 3, which equated ECs' salaries with those of Supreme Court judges.
- Instead, the Bill's Section 10 proposes aligning the salary, allowances, and service conditions of ECs with those of the Cabinet Secretary.

## A Study on Lead Exposure

**Context:** In 2019, lead exposure contributed to around 5.5 million cardiovascular disease deaths globally, as per a study in The Lancet Planetary Health journal.

### Lead Exposure's Global Impact

- A recent study suggests that lead exposure had health and economic consequences comparable to fine particulate matter 2.5 (PM2.5) air pollution on a global scale.
- The study revealed that lead exposure disproportionately affected lower-income countries, despite the phase-out of leaded petrol.
- Approximately 95% of the health impacts were observed in individuals residing in low- and middle-income countries (LMICs).
- Deaths from cardiovascular disease in LMICs were six times higher.

### Health Impacts

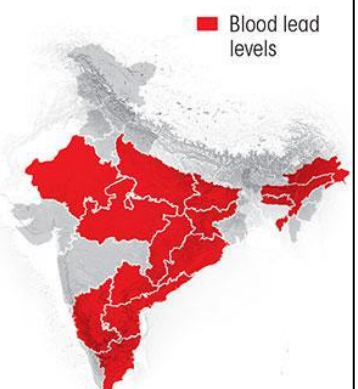
- The average blood lead level in LMICs was 4.6 micrograms per deciliter (µg/dL), significantly higher than the 1.3 µg/dL in high-income countries.
- Lead exposure resulted in the loss of 765 million intelligence quotient (IQ) points in children under the age of five.
- In LMICs, IQ loss due to lead exposure was nearly 80% higher than previous estimates, with children losing an average of 5.9 IQ points.
- In 2019, cardiovascular disease accounted for 94% of lead exposure-related mortality.

### Economic Costs of Lead Exposure

- The study assessed economic costs alongside health impacts, including IQ loss in children and cardiovascular disease deaths linked to lead exposure.
- In 2019, lead exposure led to global economic losses of \$6 trillion, equivalent to seven percent of the global gross domestic product (GDP).
- LMICs bore a more substantial burden, with losses reaching up to 10% of their GDP.
- Besides cardiovascular disease, lead exposure can also lead to chronic kidney disease and idiopathic developmental intellectual disability, causing brain damage and impairing brain development.

### Widespread problem

Some 23\* states exceed the permissible blood lead level of 5 µg/dL



Note:\* Although there are 23 states with high blood lead levels, the names of only the top 15 are publicly available and have been highlighted in the given map. Levels in the remaining 13 states and Union Territories cannot be determined as there is a lack of research and screening mechanisms to collect data  
Source: "Assessment of Lead Impact of Human and India's Response", NITI Aayog and Council of Scientific Research

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#### Global Concern and Hotspot Countries

- Lead exposure is a significant global concern, with approximately one in three children worldwide recording blood lead levels exceeding the World Health Organization's tolerable limit of five µg/dL.
- Hotspot countries with the highest burden of lead exposure include Iran, Afghanistan, Yemen, Peru, Vietnam, the Philippines, and parts of Central Africa.

#### Everyday risks

There is potential for lead exposure in several common occupations and products that are used in nearly every household

OCCUPATIONAL SOURCES	Non-Occupational Sources
Battery work	Traditional medicine
Mining	Vehicular exhaust
Glass manufacturing	Contaminated cosmetics and sindoor
Automobile repair	Household storage batteries
Ceramic work	Household paints
Painting	Contaminated spices
Pottery	Effluent from lead-based industries
Smelting	Contaminated soil, dust and water near lead-based industries
Printing work	Food grown in lead contaminated areas
Plumbing	Retained bullets
Soldering	Food stored or cooked in lead-coated vessels
Making lead pipes and plastic	Painted toys

Source: "Assessment of Lead Impact of Human and India's Response" Niti Aayog and Council of Scientific Research

### NEWS IN BETWEEN THE LINES

#### Red Admiral Butterfly



#### About the Red Admiral Butterfly:

#### Red Admiral Butterfly (Scientific Name: Vanessa Atalanta)

- The Red Admiral is a distinctive butterfly known for its striking appearance. It has black wings with bold red-orange bands and white spots on its forewings.
- It is found in gardens, woodlands and parks, known for adaptability.
- It is commonly seen in the UK but usually resides in the Mediterranean and North Africa.
- It migrates to the UK from warmer regions during summer due to climate conditions.
- Its population trends reflect environmental health.
- The Red Admiral is a valuable component of the UK's biodiversity, and its presence contributes to the overall ecological balance.

#### Cardiovascular Disease (CVD)



#### What is Cardiovascular Disease?

Cardiovascular disease refers to a class of diseases that involve the heart or blood vessels, including conditions such as coronary artery disease, heart failure, stroke and hypertension (high blood pressure).

**Global Burden:** CVD is the leading cause of death globally, responsible for a significant portion of the world's mortality.

**Risk Factors:** Common risk factors for CVD include smoking, high blood pressure, high cholesterol, obesity, diabetes and a sedentary lifestyle.

#### Types of CVD:

- **Coronary Artery Disease (CAD):** Narrowing or blockage of coronary arteries leading to reduced blood flow to the heart.
- **Stroke:** A sudden interruption of blood flow to the brain, often caused by a clot or bleeding.
- **Heart Failure:** Inability of the heart to pump blood effectively, leading to fluid buildup in the lungs and other tissues.
- **Hypertension:** Persistently elevated blood pressure, a significant risk factor for CVD.

**Prevention:** Lifestyle modifications, such as a healthy diet, regular exercise and avoiding tobacco use, can significantly reduce the risk of CVD.

#### Sangeet Natak Akademi Amrit Awards



Today, the Vice-President of India (Jagdeep Dhankhar) presented the Sangeet Natak Akademi Amrit Awards at Vigyan Bhawan in New Delhi. The awards are part of the Azadi Ka Amrit Mahotsav celebration.

#### About Sangeet Natak Akademi Amrit Awards:

- The Sangeet Natak Akademi Amrit Awards are one-time national honors presented to recognize and celebrate excellence in the performing arts, including music, dance, theatre and related fields.
- These awards are conferred on artists, teachers and scholars who have made outstanding contributions to the performing arts. In this case, 84 artists above the age of 75 are being honored.
- The Sangeet Natak Akademi Amrit Awards are national honors recognizing excellence in the performing arts.
- Nominees are proposed by the Government of India, State Governments and Union Territories.
- The award includes a cash prize of Rs. 1,00,000, a Tamrapatra (copper plaque) and Angavastram (a traditional stole).

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### Su-30 MKI



#### About Su-30 MKI:

- Su-30MKI is a Russian-designed fighter aircraft built under license by India's Hindustan Aeronautics Limited (HAL) for the Indian Air Force (IAF).
- Su-30MKI is a customized variant of the Sukhoi Su-30 aircraft, designed for air superiority, ground attack, and electronic warfare.
- India has obtained 272 Su-30MKIs from Russia, with many assembled by HAL so far.
- The first Russian-made Su-30MKI variant was accepted into the Indian Air Force in 2002, while the first Su-30MKI assembled in India entered service in November 2004.
- The IAF operates 12 Su-30 squadrons, making it a significant part of its airpower.

**Operational History:** Inducted into IAF since 1998, actively used in various missions.

**Recent Procurement:** Proposal to buy 12 Su-30 MKI aircraft to replace lost ones and maintain fleet strength.

### UPAg Portal



The UPAg (Unified Portal for Agricultural Statistics) was officially launched by Professor Ramesh Chand, a member of NITI Aayog, to address governance challenges in India's agriculture sector.

#### About UPAg Portal:

- UPAg, developed by the Ministry of Agriculture, is a groundbreaking platform for agricultural data management.
- UPAg aims to streamline data management and provide real-time, standardized, and verified data on agricultural commodities.
- UPAg is as a public good, reducing search costs, providing credible data, and eliminating frictions.
- UPAg addresses challenges like lack of standardized and verified data, offering a holistic view of agricultural statistics.
- UPAg aligns with e-governance principles, promoting transparency and agility in India's agriculture sector.

### Place in News

### Ireland

Recently, Ireland has faced an unusual financial challenges.

#### Location:

Ireland is located in the North Atlantic Ocean. It is situated to the northwest of continental Europe.

#### Island Size:

- Ireland is the third-largest island in Europe.
- It covers an area of approximately 84,421 square kilometers (32,595 square miles).

#### Political Borders:

- The island of Ireland is politically divided into two entities:
- Republic of Ireland (also known simply as Ireland)
- Northern Ireland (part of the United Kingdom)

#### Capital Cities:

- Dublin is the capital and largest city of the Republic of Ireland.
- Belfast is the capital and largest city of Northern Ireland.

#### Mountain Ranges:

- Ireland features several mountain ranges, including the Wicklow Mountains, the MacGillycuddy's Reeks, and the Mourne Mountains.

#### Major Rivers:

- River Shannon is the longest river in Ireland, flowing from north to south.
- River Liffey flows through Dublin.
- River Foyle forms part of the border between Northern Ireland and the Republic of Ireland.



## POINTS TO PONDER

- ❖ Who has been appointed as the in-charge Director of the Enforcement Directorate (ED)? - IRS officer Rahul Navin
- ❖ Who has been unanimously elected as the Chairman of the Audit Bureau of Circulations (ABC) for 2023-2024? - Srinivasan K. Swamy
- ❖ Which bank had recently introduced IB SAATHI? - Indian Bank
- ❖ Which international organization is responsible for managing issues related to legal metrology? - OILM (International Organization of Legal Metrology)
- ❖ Which international navigation system is known as the Chinese equivalent of GPS? - Beidou

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