



REGULATORY DIGEST

JANUARY - MARCH, 2024

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Message from Chairperson, TRAI

अनिल कुमार लाहोटी
Anil Kumar Lahoti



सत्यमेव जयते

अध्यक्ष
भारतीय दूरसंचार विनियामक प्राधिकरण

Chairman

TELECOM REGULATORY AUTHORITY OF INDIA

Message



Warm Greeting to the Readers!

I am delighted to connect with all the members of the FOIR through the January-March (2024-25) edition of the FOIR Quarterly e-Newsletter. This platform is a vital conduit for sharing updates, fostering connections, and celebrating our collective achievements.

I extend my heartfelt gratitude to FOIR for its steadfast representation of shared regulatory interests and invaluable contributions to nurturing a conducive regulatory environment. FOIR's initiative ensures that our members stay updated on recent advancements and optimal methodologies. The FOIR Centre at IICA has been instrumental in fostering communication and cooperation within the regulatory ecosystem through webinars, the KYR series, capacity-building programs etc.

Undoubtedly, technology has been the biggest driving force of positive transformations in the modern world. Aided by continuous advancements such as 5G/6G, mobile communication technology is empowering societies globally. In India, TRAI has been actively engaged in addressing regulatory challenges, collaborating with stakeholders, and conducting in-depth consultations on critical issues within the telecom sector. A few recent initiatives by TRAI, include release of several important Recommendations like "Introduction of Calling Name Presentation (CNAP) Service in Indian Telecommunication Network", "Usage of Embedded SIM for Machine-to-Machine (M2M) Communications", "Encouraging Innovative Technologies, Services, Use Cases, and Business Models through Regulatory Sandbox in Digital Communication Sector", and "Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing".

TRAI has been very actively participating in various collaborative activities on the FOIR platform. At TRAI's initiative, a Working Group of the FOIR was constituted on "Cross Sector Collaborative Regulation between Telecom Regulators and Electricity Regulators" and gave its recommendations for effective cross-sector partnership between Telecom and Power sector. Another working Group "to study the opportunities and challenges associated with adoption of 5G and related technologies" has been constituted with members from different regulatory bodies of FOIR.

The collaborative endeavors between FOIR and IICA underscore the importance of synergy among regulators, as reflected in its dissemination activities and events.

I eagerly anticipate the continued collaboration and the strides we will make together.

(Anil Kumar Lahoti)

From the Editor's Desk



Dear readers,

As the 54th World Economic Forum (WEF) Annual Meeting unfolds with the theme of "**Building Trust**," India emerges prominently, aligning its vision with global priorities such as growth, carbon neutrality, and sustainability. India's pivotal role in the global energy dialogue was underscored during the recent **India Energy Week 2024**, where discussions revolved around energy security, innovation, and sustainability amidst rising demand. With projections from the International Monetary Fund forecasting India's ascent to the **3rd Largest Economy**, our focus remains on the evolving regulatory landscape that underpins this growth trajectory.

At FOIR, we recognize the significance of good governance, inclusivity, and sustainability in India's development narrative. Through extensive industry consultations and a commitment to predictable policies, India aims to realize its vision for growth and innovation. In this edition, we present a curated selection of regulatory news and events, tailored to cater to the diverse interests of our esteemed readers.

The FOIR members' updates include the release of Approach Paper on Terms and Conditions of Tariff Regulations by CERC, organisation of the IBC International Conclave 2024 by IBBI and INSOL, launch of National Piped Natural Gas (PNG) Drive by PNGRB, conduct of 6th European Union (EU)-India Competition Week, TRAI participation in Global System for Mobile Communications (GSMA) Mobile World Congress (MWC) 2024 etc.

Internationally, this edition includes the European Commission (EC) instructions for investigation on Germany's Natural Gas Levy, Global Regulators' initiative to Strengthen Markets under pressure, the Asian Government's plan for Alignment in Artificial Intelligence (AI) Governance Frameworks, Asia's Ammonia Co-Firing Power Plant Trials etc.

During this quarter, the FOIR Centre at IICA successfully completed **IICA Batch VI of the 4-Month Certificate Course on Regulatory Governance** with a **two-day campus immersion program** at IICA and organized a webinar on the theme "**Navigating Changes: Comparative Analysis of the Telecommunication Act, 2023**" with **Dr P D Vaghela** (*Former Chairperson, Telecom Regulatory Authority of India*) as an expert speaker.

Join us in shaping a greener, sustainable India as it ascends to become the world's third-largest economy.

Prof Naveen Sirohi

Prof (Dr) Naveen Sirohi
Director, FOIR Centre and
Founding Head, School of Finance
Indian Institute of Corporate Affairs

Regulatory News & Trends - FOIR Members

Central Electricity Regulatory Commission (CERC) released Approach Paper on Terms and Conditions of Tariff Regulations

The discussion paper proposed a normative approach for determining tariff components for generating companies (coal, gas, and large hydro) and transmission licensees, in alignment with India's revised Intended Nationally Determined Contributions (INDCs) and the goal of becoming a net-zero country by 2070. This approach aims to streamline the regulatory burden of tariff filings while facilitating the approval of major capital expenditures, such as enhancements to coal handling systems in thermal generating stations, community development expenses linked to large hydro projects, and incentivizing or disincentivizing developers based on project execution timelines.

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Inauguration of the Country's 1st Healthy & Hygienic Food Street, 'PRASADAM,' at Mahakal Lok, Madhya Pradesh

The nation's first Healthy & Hygienic Food Street, 'PRASADAM,' was inaugurated by **Dr Mansukh Mandaviya** (*Hon'ble Union Minister for Health & Family Welfare*) at Mahakal Lok, Ujjain, Madhya Pradesh. Dr Mandaviya was accompanied by **Dr Mohan Yadav** (*Chief Minister, Madhya Pradesh*), **Shri Rajendra Shukla** (*Deputy Chief Minister, Madhya Pradesh*), **Shri Narendra Shivaji Patel** (*Minister of State for Public Health and Family Welfare*) and **Shri Anil Firojiya** (*Member of Lok Sabha*).

Dr Mandaviya emphasized that PRASADAM aims to connect common citizens across the country with pure and safe local and traditional food, promoting healthy eating habits among both locals and tourists. He stressed that in addition to robust health infrastructure, access to healthy and hygienic food is essential for overall well-being. He also highlighted plans to establish similar food streets in every city across the nation in the near future.

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Insolvency and Bankruptcy Board of India (IBBI) in association with International Association of Restructuring Insolvency and Bankruptcy Professionals (INSOL) India organised the International Conclave 2024

The IBBI in collaboration with INSOL India, hosted the International Conclave 2024 on January 20, 2024, focusing on the theme 'The Insolvency and Bankruptcy Code, 2016 – Looking Ahead'. The event aimed to review the journey of reforms in the insolvency resolution process and chart a path for the future.

Hon'ble Justice Ashok Bhushan (*Chairperson, National Company Law Appellate Tribunal, NCLAT*) graced the occasion as the Chief Guest. During his keynote address, he emphasized how the evolution of the IBC from its inception to its current implementation reflects India's commitment to establishing a robust, transparent, and effective insolvency framework. Other distinguished guests included **Hon'ble Chief Justice (Retd.) Shri Ramalingam Sudhakar** (*President, NCLT*), **Dr Manoj Govil** (*Secretary, Ministry of Corporate Affairs*), **Shri Ravi Mital** (*Chairperson, IBBI*) and **Shri Dinkar Venkatasubramanian** (*President, INSOL India*) who also shared their thoughts.

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Launch of National Piped Natural Gas (PNG) Drive

The Petroleum and Natural Gas Regulatory Board (PNGRB), in collaboration with City Gas Distribution (CGD) entities, launched the National PNG Drive from January 26 to March 31, 2024. The campaign aims to encourage households to adopt PNG and to broaden the consumer base for natural gas. This campaign focuses on areas where gas pipeline networks are either already established or planned for the near future. CGD entities will actively engage in this national initiative, conducting various promotional activities to raise awareness about the benefits of using PNG, a clean, environmentally friendly, safe, and reliable fuel source. Throughout the campaign period, CGD entities will introduce promotional schemes and organize events such as door-to-door campaigns and roadshows to encourage and facilitate the conversion of customers to PNG.

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Central Electricity Regulatory Commission (CERC) introduced India's Renewable Energy Tariff Regulations

Under the authority of the Electricity Act of 2003, the CERC has introduced new regulations for tariff determination from renewable energy sources. Effective from April 1, 2024, to March 31, 2027, these regulations apply to grid-connected generating stations using renewable energy. Its eligibility criteria cover various sources like wind power, solar photovoltaic (PV), biomass, etc. As per the regulation, projects must meet specific conditions outlined for each category to qualify. Tariffs set during this Control Period will remain valid until its end, ensuring transparency and fairness in pricing. Procedures for determining project-specific tariffs are outlined, including the submission of petitions with prescribed fees.

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6th European Union (EU)-India Competition Week organised Virtually

The 6th EU-India Competition Week was organised virtually, where **Smt Ravneet Kaur** (*Chairperson, Competition Commission of India, CCI*) and **Mr Seppo Nurmi** (*Deputy Head, EU Delegation to India & Bhutan*) inaugurated the event on January 29, 2024. Smt Kaur emphasized the longstanding collaboration between CCI and the EU Directorate General for Competition, highlighting the value of capacity-building initiatives since the signing of the Memorandum of Understanding (MoU) in 2013. The agenda for this edition focused on transaction-value mergers and competition in the renewable energy sector, aiming to enhance the expertise of CCI officials with practical insights from EU experts. Mr Nurmi reiterated the importance of trade relations between India and the EU. He noted that subjects like experiences in applying antitrust laws to renewable energy and sustainable development are highly relevant in the EU. The EU aims to sustain collaboration through bilateral and multilateral platforms.

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Central Electricity Regulatory Commission (CERC) initiated Pilot Study on Power Market Coupling

As directed by the CERC, India's power exchange market has entered an experimental phase with the introduction of a shadow pilot study on market coupling. This initiative aims to enhance market efficiency and optimize transmission infrastructure. The study aims to couple the Real-Time Market (RTM), RTM with Security Constrained Economic Dispatch (SCED) and Day-Ahead Market (DAM) regulation of power exchanges. The Commission has instructed Grid-India to develop the necessary software for sharing operational experiences through monthly reports and explore coupling DAM with Security Constrained Unit Commitment (SCUC) for further optimization. The study will run for four months and will closely monitor impacts on price discovery, volume movement, and system reliability, with monthly reports provided on operational experiences gained.

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1st International Conference of Petroleum and Natural Gas Regulatory Board (PNGRB) at India Energy Week 2024

The PNGRB successfully organized the inaugural edition of their International Conference with knowledge partner Standard & Poor's (S&P) Global Commodity Insights from February 5 -8, 2024 during the India Energy Week (IEW) 2024, Goa. The conference encompassed regulatory authorities from six South and Southeast Asian countries including India, Bangladesh, Indonesia, Malaysia, Thailand, and Sri Lanka, and industry leaders, policymakers, thought leaders etc from eight different countries.

Under the overarching theme of “**Navigating Pathways for Natural Gas Development**” the conference fostered in-depth dialogues regarding the role of natural gas in future energy mix for ensuring both energy security and environmental sustainability in South & Southeast Asia. **Dr Anil Kumar Jain** (*Chairperson, PNGRB*) underscored the significance of regional collaboration among South and Southeast Asian nations to share knowledge and formulate effective regulatory frameworks for natural gas development. International regulators echoed the sentiment that cooperation across governments, regulators, consumers, and industry is imperative to propel the growth of the natural gas sector.

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Telecom Regulatory Authority of India (TRAI) participated in the Global System for Mobile Communications (GSMA) Mobile World Congress (MWC) 2024

TRAI delegation led by **Mr Anil Kumar Lahoti** (*Chairman, TRAI*) participated in the GSMA Mobile World Congress (MWC-24) in Barcelona, Spain. Mr Lahoti participated in the Panel discussion titled "**Unlocking Opportunity through Digital Inclusion**", which was part of a prestigious ministerial stage program. He shared his views on the importance of digital inclusion for the nation's overall socio-economic growth and the initiatives taken in India for digital inclusion. The delegation discussed key topics such as 5G expansion, artificial intelligence, digital inclusion, and climate action to foster the growth of digital economies. An important highlight of this visit was the signing of a bilateral agreement in the form of a Letter of Intent (LoI) with the Independent Communications Authority of South Africa (ICASA) on February 27, 2024 to strengthen cooperation in various areas including telecommunications regulation, consumer protection, and innovation.

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Ministry of Corporate Affairs (MCA) unveiled the Draft Digital Competition Bill, 2024

The MCA recently unveiled the draft Digital Competition Bill, 2024, inviting public feedback. Similar to the European Union's Digital Markets Act, this bill targets large digital platforms, known as Systemically Significant Digital Enterprises, and imposes obligations to curb anti-competitive behaviour. The proposed bill prohibits actions like self-preferencing, restricting third-party apps, imposing anti-steering policies, misusing business user data, and bundling products and services. It stems from recommendations by the Committee on Digital Competition Law (CDCL), formed in February 2023 to assess the necessity for competition regulations in digital markets. The draft bill reflects a shift towards ex-ante regulations, aiming to prevent anti-competitive behavior before it occurs, unlike the current ex-post framework governed by the Competition Act, 2002, where intervention by the Competition Commission of India (CCI) happens after such conduct has taken place.

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Pioneering Food Safety in Jails, the Food Safety and Standards Authority of India (FSSAI) certified nearly 100 Prisons as Eat Right Campuses

Nearly 100 jails nationwide have been certified as 'Eat Right Campus' by the FSSAI, marking a significant milestone in promoting safe and healthy eating habits. This initiative, under FSSAI's Eat Right India movement, aims to ensure safe, healthy, and sustainable food within various workplaces, including correctional facilities. Prominent jails such as Tihar Prison (Delhi), Central Jail Gaya (Bihar), and Modern Central Jail (Punjab) are among those certified. Uttar Pradesh leads with the highest number of certified jails, followed by Punjab, Bihar, and Madhya Pradesh. The certification process involves comprehensive audits to ensure compliance with hygiene criteria and the provision of healthy food, as well as awareness efforts on local and seasonal food. Campuses undergo self-assessment or third-party audits to identify areas for improvement, followed by training for food handlers through FSSAI's Food Safety Training and Certification (FoSTaC) Programme.

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Telecom Regulatory Authority of India (TRAI) International Training Programme for Association of Southeast Asian Nations (ASEAN)

Telecom Regulatory Authority of India (TRAI) organized a 5-day International training programme on **"Capacity Building and Sharing of Best Practices in Policy, Regulation and Development"** from March 4 to 8, 2024 in New Delhi. Delegates from ASEAN member countries Brunei, Cambodia, Indonesia, Lao People's Democratic Republic, Myanmar, Malaysia, Philippines, and Thailand attended the programme. The event was inaugurated on March 4, 2024, by **Mr Anil Kumar Lahoti** (*Chairman, TRAI*) in the presence of **Dr Neeraj Mittal** (*Chairman, Digital Communications Commission & Secretary, Department of Telecommunication*), **Ms Meenakshi Gupta** (*Member, TRAI*), **Ms Paramita Tripathi** (*Joint Secretary, Ministry of External Affairs*). This capacity-building program was organised as part of the ASEAN-India Digital Work Plan 2023 under India- ASEAN Digital Dialogue. The sessions covered important topics such as the Current Regulatory Regime in Telecom Sector, Futuristic Digital Communication Policies and Regulations, Cross-Sectoral Regulatory Challenges, Regulatory Impact Analysis and Neutrality Issues & Challenges etc. The sessions were delivered by experts from government, regulators, industry and academia.

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Regulatory News & Trends - International

The European Commission (EC) probes Germany's Natural Gas Levy

The EC has instructed the Agency for the Cooperation of Energy Regulators (ACER), the EU's energy regulator, to investigate whether the recently imposed tariff by Germany on its natural gas exports is causing distortions in the single market, possibly infringing upon competition regulations. This tariff stems from the European energy crisis of 2022, triggered by disruptions in gas supplies due to geopolitical events and infrastructure failures. In response to significant financial losses incurred during this crisis, Germany introduced a gas "neutrality charge" to recover funds from other European Union (EU) countries purchasing its gas. The Commission's energy department is actively engaged with relevant national authorities and ACER on this matter.

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Global Regulators Outline Plan to Strengthen Markets under Pressure

Global securities and banking regulators have proposed a blueprint on “**Transparency and responsiveness of initial margin in centrally cleared markets - review and policy proposals**” to strengthen the market's resilience during extreme stresses like COVID lockdowns and geopolitical tensions. The Basel Committee, which draws up bank capital rules; the International Organization of Securities Commissions (IOSCO), a global umbrella group for securities watchdogs; and the allied Committee on Payments and Market Infrastructures (CPMI) have set 10 policy proposals. The proposals focus on ensuring adequate margin, transparency in margin calculations, and improved responsiveness to margin changes. Clearing houses are urged to offer simulation tools for margin changes, enhance transparency, and develop better analytical frameworks. Public consultation is open until mid-April 2024, aiming to incorporate feedback before finalizing the rules, which member countries are committed to implementing.

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The European Union (EU) Regulators target Digital Ecosystems in Big Tech Antitrust Inspections

EU antitrust regulators, led by **Ms Margrethe Vestager** (*Executive Vice President, European Commission*), are expanding their scope to include Big Tech's digital ecosystems and the impact of their free products or services in their investigations. This update aims to address criticisms that current laws aren't keeping pace with tech advancements. Regulators will now consider multisided platforms, digital ecosystems, and free offerings when assessing a company's market power. The market definition will be more nuanced, incorporating factors like sales, capacity, active users, and website visits. Emphasis will also be placed on innovation and non-price elements such as product quality. Additionally, the impact of imports on EU businesses will now be part of the assessment. Ms Vestager stressed on the importance of maintaining market competitiveness for consumer benefit.

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China to develop Hydro and Gas, enhance Coal Fleet for Increased Power System Flexibility

China's state planner, the National Development and Reform Commission (NDRC), has outlined a strategy to enhance the electric power system's ability to manage surges in demand amid the country's significant expansion of renewable energy capacity. By 2027, China aims to have 80 gigawatts of pumped hydro energy storage and plans to modernize its coal fleet for rapid response to demand fluctuations. Additionally, NDRC intends to build new gas power plants in regions with stable and affordable natural gas supplies. The commission also aims to establish a regulatory framework by 2027 to facilitate the market-oriented development of new energy storage, primarily battery storage. Furthermore, NDRC will explore the potential of nuclear and solar power as peaking power sources, alongside the more traditional options of hydropower and gas plants known for their ability to adjust output quickly.

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Asian Governments pursue Alignment in Artificial Intelligence (AI) Governance Frameworks

The regulatory landscape for AI, including generative AI, is rapidly evolving worldwide, with governments and regulators addressing challenges and opportunities presented by this transformative technology. In the Asia Pacific region, approaches remain fragmented, leading to uncertainty. While comprehensive AI regulations are not yet formalized, some efforts are underway, including ASEAN's recent publication of a guide on AI governance and ethics. Endorsed at the 4th ASEAN Digital Ministers' meeting, the guide aims to align and facilitate interoperability of AI frameworks across ASEAN jurisdictions. It offers practical guidance for organizations in designing, developing, and deploying AI technologies for commercial use, emphasizing responsible AI system deployment. Developed collaboratively, the guide is based on seven guiding principles and outlines key components of an AI framework, including internal governance structures, human involvement in decision-making, operations management, and stakeholder interaction.

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Global Energy - Carbon dioxide (CO2) Emissions hit High Record in 2023

According to the International Energy Agency (IEA), global energy-related CO2 emissions reached a high record last year due to increased fossil fuel use in drought-affected regions. Scientists have stressed urgent cuts to meet Paris Agreement climate targets. In 2023, emissions rose by 410 million tonnes to 37.4 billion tonnes. Although a global expansion in clean technology such as wind, solar and electric vehicles helped to curb emissions growth, which was 1.3% in 2022. But a reopening of China's economy, increased fossil fuel use in countries with low hydropower output and a recovery in the aviation sector led to an overall rise, the IEA stated in its report. Notably, the U.S. saw a 4.1% reduction, while the EU decreased emissions by nearly 9%, driven by renewable energy adoption. In contrast, China's emissions increased by 5.2%, yet it led global deployment of renewables and electric vehicles, with EVs representing one-fifth of new car sales in 2023.

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European Union (EU) set to allow possible Retroactive Tariffs for Chinese Electric Vehicle (EVs)

The EU has decided to initiate customs registration for Chinese EV imports, potentially subjecting them to tariffs pending the outcome of the EU's trade investigation into alleged unfair subsidies. This investigation, focusing on Chinese battery EVs, aims to determine whether tariffs should be imposed to safeguard EU producers. Expected to conclude by November 2024, provisional duties could be enforced as early as July 2024. According to a document released on March 5, 2024, by EU, the Commission has gathered substantial evidence suggesting that Chinese EVs are receiving subsidies, with imports showing a 14% year-on-year increase since the investigation's launch in October 2023. The Commission expressed concerns about potential harm to EU producers if this influx of Chinese imports continues unabated until the investigation's conclusion. In response, the China Chamber of Commerce to the EU expressed disappointment, attributing the surge in imports to growing demand for electric vehicles in Europe.

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Asia's Ammonia Co-Firing Power Plant Trials

Japan's leading power generator, JERA, is embarking on a groundbreaking trial at its Hekinan thermal power station. This trial aims to co-fire 20% ammonia with coal, marking the world's first major commercial plant endeavour of its kind. While some view this as a strategy to prolong the use of coal-fired plants, companies argue that burning ammonia alongside fossil fuels can effectively reduce emissions.

Partnering with heavy machinery maker Ishikawajima Harima Heavy Industries (IHI), JERA's trial at the Hekinan plant will run from March 26 to June 19, 2024. The company plans to implement ammonia co-firing commercially at the Hekinan No.4 unit by 2027 and conduct further trials, such as replacing 50% of coal with ammonia at the No.5 unit around 2028. Kyushu Electric Power Ltd has also conducted trials involving ammonia co-firing, while Japanese oil refiner Idemitsu Kosan Co. Ltd successfully demonstrated switching over 20% of existing fossil fuel to ammonia at its Tokuyama complex. These trials signify progress towards incorporating ammonia combustion as a viable energy solution.

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Article - Resource Adequacy: A Future Landscape of Power Procurement/Management Planning for the Electricity of the Nation



Mr Shivam Pandey
Assistant Director (Tariff)
Chhattisgarh State Electricity Regulatory Commission (CSERC)

The Ministry of Power (MoP) in consultation with Central Electricity Authority has notified ‘Guidelines for Resource Adequacy (RA) Planning Framework for India’ on 28th June, 2023 through the Clause 16.4 of the Electricity (Amendment) Rules, 2022 exercising power conferred under Section 176 of the Electricity Act, 2003. These guidelines are to be followed by the institutions and stakeholders such as Central Electricity Authority (CEA), State Electricity Regulatory Commission (SERCs)/ Joint Electricity Regulatory Commission (JERCs), National Load Despatch Centre (NLDC), Regional Load Despatch Centre (RLDCs), State Load Despatch Centre (SLDCs), Distribution Company (DISCOMs) etc. to ensure sufficient availability of required generation mix capacity to meet RA requirements during various time horizons spread over days/seasons. Indian Electricity Grid Code 2023, notified by the Central Electricity Regulatory Commission, Clause 5 also facilitates Integrated resources planning of power sector indicating importance of RA planning.

Resource adequacy defining in other words

Resource adequacy is a concept that describes the ability to meet demand with sufficient supply and demand- side resources; North American Electric Reliability Corporation (NERC) definition of adequacy is more elaborate and precise, and clarifies that resource adequacy is one component of reliability (the other being operating reliability). “The ability of the electricity system to supply the aggregate electric power and energy requirements of the electricity consumers at all times, taking into account scheduled and expected unscheduled outages of system components”.

As per National Renewable Energy Laboratory (NREL) in the documentation of its Probabilistic Resource Adequacy Suite (PRAS) model, “An electrical power system is considered resource adequate if it has procured sufficient resources (including supply, transmission, and responsive demand) such that it runs a sufficiently low risk of invoking emergency measures (such as involuntary load shedding) due to resource unavailability or deliverability constraints”.

Need for Resource Planning:

- To ensure sufficient electricity to strengthen the growing economy of the country.
- Generation/Transmission capacity is to be added timely at a pace matching the growth in demand and in fact slightly ahead of the demand; so that the shortage of electricity does not slow down economic growth of country.
- Optimal capacity mix to meet the projected demand at minimum cost.
- Optimization of power procurement planning across the States as per requirement of electricity based on local, regional and country as a whole.

Important Terminology in RA framework -

(a) Planning Reserve Margin (PRM): Reserve generation capacity in excess of peak load forecast as a percentage of peak load forecast.

(b) Loss of Load Probability (LoLP): Measure of probability that a system's load will exceed the generation and firm power contracts available to meet that load in a year.

(c) Expected Energy Not Served (EENS): Expected amount of load (MWh) that may not be served for each year within the planning period.

(d) Net Energy Not Served (NENS): Total expected load shed due to supply shortages (MWh) as a percent (%) of the total system energy.

(e) Firm Capacity: Amount of power a generator can reliably provide.

(f) Capacity Credit: Firm capacity expressed as a percentage of nameplate capacity.

Therefore, Resource Adequacy means there are sufficient resources, both available generation capacity and demand response, specifically to meet peak demand and demand during rest hours of the day throughout the year in a given region, factoring possible real-time constraints on deliverability. Peak demand usually occurs in the late afternoon during extreme summer months, it may vary as per location/time/season across the country. An important parameter for computation process of RA is Planning Reserve Margin (PRM) which is the difference between available capacity and normal peak demand and is usually expressed as a percentage of normal peak demand. It is declared by CEA on annual basis. Capacity credits shall be computed for entire generation mix including both Renewable Energy and Non- Renewable Energy resources.

Post notification of RA guidelines, prevailing Regulations in the State such State Grid Code, Multi Year Tariff Regulation, Business Plan Regulation (BPR) and Power Procurement Planning, Forecasting, Scheduling Regulation as must be aligned with the provisions of RA guidelines, so that these do not contradict with RA emerging guidelines.

Types of Resource Adequacy Plan as per framework –

There will be four types of plans which will be implemented under the framework given in the following table:

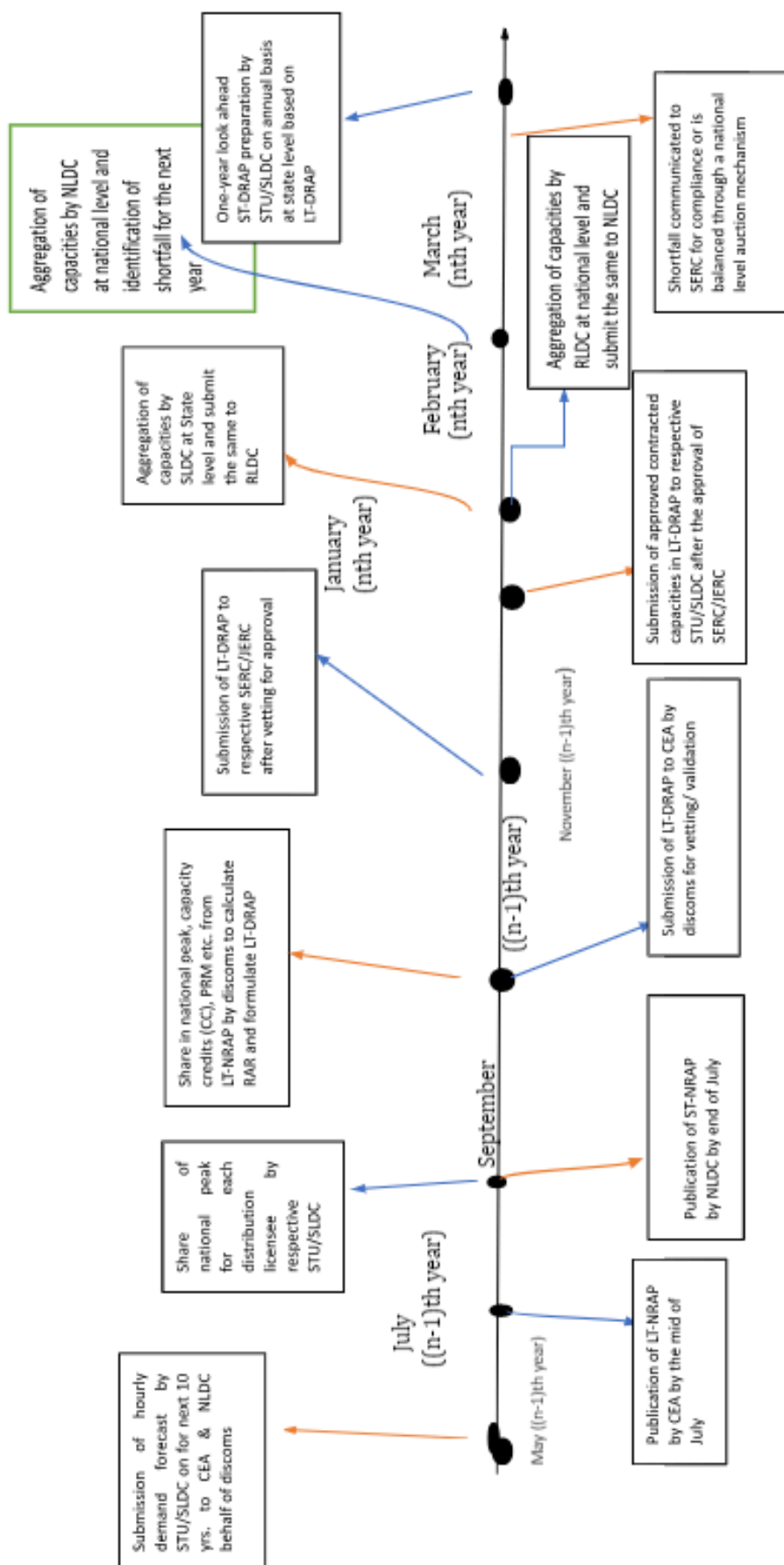
	Long-term National RA Plan (LT-NRAP)	Short-term National RA Plan (ST-NRAP)	Long-term Distribution Licensee RA Plan (LT-DRAP)	Short-term Distribution Licensee RA Plan (ST-DRAP)
Agency	Published by CEA	Published by NLDC	Published by DISCOM	Published by SLDCs
Time Horizon	10 years, to be updated annually	Annually, on one-year look ahead basis	10-year horizon on annual rolling	Annually, on one-year look ahead basis based on LR-DRAP result
Features	Deceleration of National-level PRM	Forecasting Demand	Is a sub-set of LT-NRAP	Shall be reviewed by SLDC on a daily, monthly or quarterly basis based on actual availability of generation resources
	Fixing of optimal generation mix for next 10 years	Resource availability computation based on under construction status of new projects	Shall meet their own peak load, regional peak national peak load and load based on its share in national peak demand	Excludes power procurement through Exchange in short-term (Day-Ahead Market)
	Computation of Capacity credits of different power generation resources on a regional basis. Computation of State/UT's contribution towards national peak	Planning maintenance schedules of existing stations Maintaining records of station-wise historic forced outage rates and its Decommissioning plans	LT-DRAP prepared by respective DISCOMs shall be vetted/ verified by the CEA and approved by SERC/JERC provided that at least 75% of capacity be met through long-term & 10-20% through medium term-contracts	

Procedure for RA Requirement (RAR) -

1. The demand side RAR will be matched with the resources available supply side (the overall sum of product of generation capacities and their respective capacity credits for all type of generation portfolios) to get the sufficient capacity for that particular area of supply of the licensee. **RA Requirement (RAR) = Contribution to forecasted national peak demand in GW * (1 + PRM)**
2. DISCOMs shall also demonstrate their plans to contract existing capacities and plans to build or contract future capacity for the planning horizon.
3. DISCOMs are free to consider higher PRM, subject to approval from the SERC/JERC. The approval process by the SERC/JERC will be followed by the submission of details of contracted capacities by DISCOMs to the respective STU/SLDC. The capacities will be aggregated at State level by STU/SLDC and will be shared to the respective RLDC and aggregated at regional level by RLDC and will be shared to the NLDC.
4. NLDC shall aggregate the capacities at the national level and will compare the same with ST-NRAP to identify shortfall for the next year.
5. The shortfall will be communicated by NLDC to SERC/JERC for compliance or facilitate a national- level auction for the balance capacity with participation from distribution licensees for capacity shortfall.

Methodology for Resource Adequacy Planning and Compliance Monitoring –

1. The distribution licensee shall determine the energy forecast for a consumer category by adopting any of the following and/or combination of following methodologies:
 - I. Trend Analysis i.e., Year on Year /compounded annual growth rate (CAGR) for past period and time series analysis;
 - II. End Use or Partial End Use method;
 - III. Auto-regressive integrated moving average; AI including machine learning,
 - IV. Artificial Neural Network techniques; and
 - V. Econometric Modelling (specifying the parameters used, algorithm, and source of data).
2. The distribution licensee may use Electric Power Survey (EPS) projections as base and/or any methodology other than the above-mentioned methodologies after providing detailed justification for the methodology adopted for demand forecasting. DISCOMs shall use best fit of various methodologies for the purpose of demand forecast after taking into consideration various scenarios (such as most probable, business as usual, aggressive).
3. As per clause 3.12, in terms of Section 86(1)(b) of the Electricity Act, 2003, the Appropriate Commission may ensure compliance monitoring. The Appropriate Commission may also specify the non-compliance charges. Appropriate Commission may give justifiable relaxation time in case of “non-compliance” in initial period of evolving RA framework, so that DISCOMs/Utility get substantial time for preparedness and to create in-house dedicated cell and required ecosystem for efficient rollout of RA framework in their respective States.



Disclaimer: Views expressed in this article are personal just for information, general nature and do not reflect those of FOIR or CSERC.

FOIR Events

Successful Completion of Batch VI of Regulatory Governance Course with 2-day Campus Immersion Program

The Forum of Indian Regulators (FOIR) Centre at the Indian Institute of Corporate Affairs (IICA) successfully completed Batch-VI of the 4-Month (Hybrid) Certificate Course on Regulatory Governance. To impart an interactive learning experience and nurture a collaborative spirit amongst regulatory officials, a 2-day campus immersion program was conducted at the IICA campus from February 24-25, 2024.

Shri Arun Goyal (*Member, Central Electricity Regulatory Commission, CERC*), graced the inaugural session as the chief guest. His address focussed on the core principles underlying regulation and the hallmarks of good regulatory governance. Invited sector experts, **Shri P K Pujari** (*Former, Chairperson Central Electricity Regulatory Commission*) and **Dr P D Vaghela** (*Former Chairperson, Telecom Regulatory Authority of India, TRAI*) shared their views during the inaugural session, emphasising the need for cross-sectoral collaborative efforts and evolving in tune with technological advancements, respectively.

The campus immersion featured 6 sector-specific sessions on the Electricity, Telecom, Roads & Highways, Petroleum & Natural Gas, Insolvency & Bankruptcy, and Capital Markets sectors, delivered by **Shri P K Pujari** (*Former, Chairperson CERC*), **Dr P D Vaghela** (*Former Chairperson, TRAI*), **Shri Raghav Chandra** (*Former Chairperson, National Highways Authority of India*), **Shri Anjani Kumar Tiwari** (*Member, Petroleum & Natural Gas Regulatory Board*), **Shri Sanjeev Pandey** (*Retired Deputy General Manager & Head, National Company Law Tribunal Division, State Bank of India*), and **Dr Sarat Kumar Malik** (*Former Chief General Manager, Securities and Exchange Board of India*). Additionally, 2 sessions on contemporary issues of Cartels (in the context of Indian Competition Law & Policy) and International Trade & Game Theory were taken by **Dr Tilottama Raychaudhuri** (*Associate Professor, West Bengal National University of Juridical Sciences, NUJS Kolkata*) and **Prof Siddhartha K Rastogi** (*Associate Professor, Indian Institute of Management Indore*), respectively.

In the valedictory session, **Prof (Dr) Naveen Sirohi** (*Director, FOIR Centre, IICA*) expressed his gratitude to the guest speakers and participants for the success of the course. He highlighted the pivotal role of campus immersion in enhancing regulatory governance and fostering synergies among participants. The certificate course received tremendous feedback and participants greatly appreciated its role in providing an invaluable opportunity to engage in meaningful discussions with distinguished speakers & experts.



FOIR - Webinar on “Navigating Changes: Comparative Analysis of the Telecommunication Act, 2023”

The Forum of Indian Regulators (FOIR) Centre at the Indian Institute of Corporate Affairs (IICA) conducted a webinar on “**Navigating Changes: Comparative Analysis of the Telecommunication Act, 2023**” on February 16, 2024. The expert speaker for the webinar, **Dr P D Vaghela** (*Former Chairperson, Telecom Regulatory Authority of India*), shared his thoughts and insights about the recently enacted Telecommunications Act 2023, emphasising the much-needed consolidation and modernisation of communication laws brought about by the new Act. The webinar was moderated by **Prof (Dr) Naveen Sirohi** (*Director, FOIR Centre, IICA*).

A total of 58 participants joined the webinar, comprising Chairpersons, Members & senior officials representing Central Electricity Regulatory Commission (CERC), Competition Commission of India (CCI), Telecom Regulatory Authority of India (TRAI), Tariff Authority For Major Ports (TAMP), Food Safety and Standards Authority of India (FSSAI), and several State Electricity Regulatory Commission (SERCs), academicians, etc.

The event was an excellent platform for the participants to gain understanding into the structure and provisions of the Telecommunications Act, 2023, as well as its implications for the Telecom sector. Dr Vaghela discussed in detail various important provisions of the Telecommunications Act, 2023, including right of way, spectrum allocation, net neutrality, user protection, regulatory sandbox, etc. Thereafter, he responded to several pertinent questions raised by participants during the Question and Answer round, making the session highly interactive and enriching.



WEBINAR



"NAVIGATING CHANGES: COMPARATIVE ANALYSIS OF THE TELECOMMUNICATION ACT, 2023"

FRIDAY, FEBRUARY 16TH, 2024 | 03:00 PM IST



Prof (Dr) Naveen Sirohi, Director, FOIR Centre



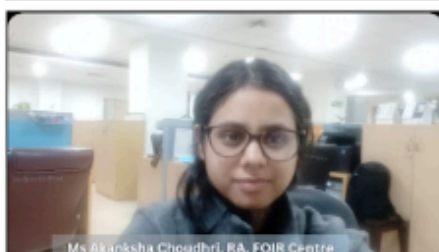
Dr P D Vaghela, Former Chairperson, TRAI



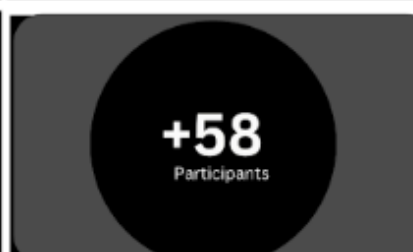
Ms Ankita Tiwari, Fellow, FOIR Centre



Mr Avnish Ranjan, Consultant, FOIR Centre



Ms Aniksha Choudhri, RA, FOIR Centre



+58
Participants

About FOIR & Member Organisations

The Forum of Indian Regulators was formally registered as a Society under the Societies Registration Act, with the Registrar of Societies in the National Capital Territory of Delhi on February 4, 2000. Schedule-I provides the Memorandum of Association, while Schedule-II provides the Rules and Regulations.

The Orissa Electricity Regulatory Commission (OERC) was the first Regulatory Commission constituted in the electric power sector on November 28, 1996. This was followed by the Central Electricity Regulatory Commission (CERC) which was constituted in August 1998 and the Haryana Electricity Regulatory Commission (HERC) on March 10, 1998. Ten more followed to it thereafter. A need was felt by these regulators for a common platform to discuss emerging issues in regulatory procedures and practices, to evolve common strategies to meet the challenges before regulators in India and to share information and experiences. A meeting was convened of the CERC, OERC and HERC in February, 1999 at New Delhi to discuss the modalities for constituting a suitable forum. The idea quickly found acceptance and as more Regulatory Commissions were constituted, either under State specific Acts, or the Electricity Regulatory Commissions Act, 1998, they started participating in the activities of the Forum of Indian Regulators. The constitution of the Forum does not restrict it only to the electricity sector.

Member Organisations

Presently, Forum of Indian Regulators has 38 regulatory authorities as its members.

[Click for List of Members](#)

Governing Body

The Forum has a Governing Body. Any Fellow Member of the Forum is eligible for appointment to the Governing Body. All members work in an honorary capacity.

[Click for Governing Body Details](#)

Contact

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About FOIR Centre, IICA

Forum of Indian Regulator (FOIR), with its aim to promote transparency in working of Regulators and to safeguard the consumer interest, signed MoU with Indian Institute of Corporate Affairs (IICA), a think tank under the Ministry of Corporate Affairs to establish its centre at IICA with the objective to promote cooperation and coordination among regulatory members of FOIR.

The FOIR Centre at IICA provides capacity building, education, research and advocacy support to FOIR Secretariat for academic upgradation and intellectual development for members and officials of FOIR member organisations. The centre also provides administrative support to FOIR including preparation of annual reports, statutory compliances etc.

Few notable contributions of FOIR Centre, IICA include:

- Flagship Certificate Course on Regulatory Governance
- Know Your Regulator (KYR) / Webinar Series
- Colloquium for Central Sector Chairpersons and Members
- Online / In-person Capacity Building Programs on Contemporary Issues
- Research on Contemporary Issues

TEAM



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Director
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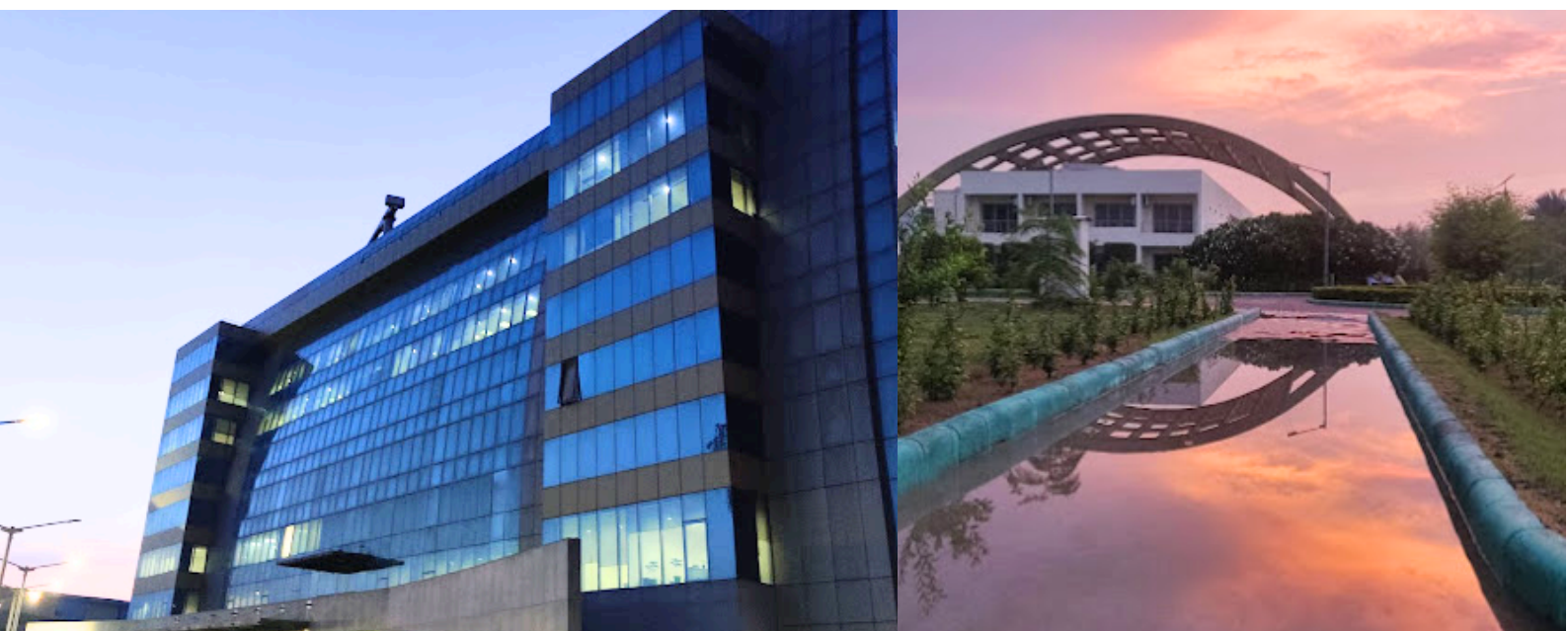
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