



**VIL Comments to the TRAI Consultation Paper on
“Regulatory Framework for Promoting Data Economy through
Establishment of Data Centres, Content Delivery Networks, and
Interconnect Exchanges in India”**

At the outset, we are thankful to TRAI for giving us this opportunity to provide our comments to the TRAI Consultation Paper on “Regulatory Framework for Promoting Data Economy through Establishment of Data Centres, Content Delivery Networks, and Interconnect Exchanges in India” dated 16th December 2021.

In this regard, we would like to submit our detailed question-wise comments as follows, for Authority’s kind consideration:

Question-wise Comments

Q.1: What are the growth prospects for Data Centres in India? What are the economic/financial/infrastructure/other challenges being faced for setting up a Data Centre business in the country?

VIL comments to Q. No. 1

There is huge growth expected for data center in India considering upcoming 5G deployment, Digital India initiatives, untapped rural & urban are data market & opportunities for new enterprises solutions, IoT, innovations like artificial intelligence, big data, and 3D printing etc, etc.

Apart from Hyper scale data center, edge data center requirement will leads to roll out in TIER 2 & 3 cities. Online work possibilities are demonstrated during Covid-19 pandemic phase & now data became very essential services for all fields.

Key Challenges:

1. Limited infrastructure Facilities with respect to Power, Transport, Water supply, Fiber connectivity etc at TIER 2 & 3 Cities.
2. High Capital requirements & high real estate cost to develop new data center.
3. Variation in Inter-state Government Policies, permissions & compliance fulfillment.
4. Complex RoW processes for fiber NW development



5. High operational cost.
6. Multiple authorities issue guidelines on Data Center Infrastructure i.e. DG set operations e.g. State Pollution Control Board, Central Pollution Control Board & National Green Tribunal.
 - a. Due to ambiguity in these orders issued by different authorities, operators are facing difficulty to finalize solutions and to meet compliance requirement accordingly.
 - b. For example - There is ambiguity in DPCC order dated 2nd July 2021 vide reference no. (AIR/LAB/2021/199-209). In the same letter, 2 paragraphs are described differently on suggested solution and hence, require clarity. “Retrofitting existing DG set for partial GAS usage” clause is missing in second paragraph. In DPCC circular, DG set mentioned as 125 KVA & above whereas HPCB is asking for 500KVA & above DG rating for compliance. We are not sure as to which rating to be considered for compliance.
 - c. Therefore, there should be uniform guidelines, issued post consultation with all stakeholders.

Q.2: What measures are required for accelerating growth of Data Centres in India?

VIL comments to Q. No. 2

1. State Government can develop special industrial areas / SEZ in TIER 2, 3 and 4 cities to facilitates Data centre as well as other industrial developments and growth.
2. Central Government should establish common policy & guidelines for data centre development & operations. This will help TSPs & standalone data centre players to explore various options across India and across TIER 2 & 3 cities.
3. Specific technical courses on data centre operations to be designed & introduced in engineering institutes to train the manpower to operate Data centres under Central Government’s skill India development program.
4. Cable landing stations should be increased in India to boost global internet connectivity at all times.
5. Rationalization of energy tariffs for Data Centre & Telecom Service Provider.
6. Ready infrastructure facilities - Power, Transport, Water supply, Fiber connectivity etc. at TIER 2 & 3 Cities.



Q.3: How Data Centre operators and global players can be incentivized for attracting potential investments in India?

VIL comments to Q. No.3

In our view, Governments can incentivize global players for data centres in following ways:

1. The real estate (land) should be offered for data centres at low costs
2. The approval framework (required from Central or State Government) should be made more transparent and simplified.
3. Creating policies for power DISCOMs to ensure adequate and uninterrupted power infrastructure to support Data Center operations.
4. Regulating commercial space acquisition pricing / rates and providing incentives thereto.
5. Providing concessions in terms of all Taxes e.g. Customs/Import duty, Road TAX, GST benefits for Supply and Services across all states.
6. Establishing uniform policy across PAN India. This will encourage private players in the field of Data Center.

Q.4: What initiatives, as compared to that of other Asia Pacific countries, are required to be undertaken in India for facilitating ease of doing business (EoDB) and promoting Data Centres?

VIL comments to Q. No.4

1. In-house production of Data Centre equipment's should be promoted like Li-Ion, Containerize Data Center, High-Tension Capacity Genset, Make in India SMPS, UPS components.
2. There should be Central Policy framework across all states, with transparent and single window approval framework.
3. Digitization of all approvals from Government (Central and State Governments).
4. Process for Custom clearance on imported products to be further improved.



5. Open access power trading policy should be standardized and implemented across all states for getting financial benefits on electricity usage. This standardization will definitely benefit Data Centre Operators and enable ease of doing business.
6. Online and time-bound provisioning of new power connections for new Data Center.

Q.5: What specific incentive measures should be implemented by the Central and/or the State Governments to expand the Data Centre market to meet the growth demand of Tier-2 and Tier-3 cities and least focused regions? Is there a need of special incentives for establishment of Data Centres and disaster recovery sites in Tier-2 and Tier-3 cities in India? Do justify your answer with detailed comments.

VIL comments to Q. No.5

1. Incase Service Providers are building disaster recovery sites to ensure reliable services, GOVT should put efforts to provide more concessions in terms of GOVT TAXEs e.g. Customs, Road TAX, Import duty, GST benefits for Supply and Services across all states.
2. SEZ development in TIER 2 & 3 cities to motivate data centre players.
3. Rationalization of electricity tariffs across all states.
4. Ready infrastructure facilities - Power, Transport, Water supply, Fiber connectivity etc at TIER 2 & 3 Cities.

Q.6: Will creation of Data Centre Parks/Data Centre Special Economic Zones provide the necessary ecosystem for promoting setting up of more Data Centres in India? What challenges are anticipated/observed in setting up of new Data Parks/zones? What facilities/additional incentives should be provided at these parks/zones? Do give justification.

VIL comments to Q. No.6

Yes, creation of more data centre park/data centre special economic zones in India especially in TIER 2 & 3 cities, will definitely boost data centre growth. In this regard, we feel following could be some of the challenges:

1. Limited industrial real estate for space acquisitions to develop data centre parks.
2. Limited availability of Road infrastructure, Power infrastructure, Water supply & fiber connectivity.



Further, following would be facilities & additional incentives which should be provided at these parks/zones:

1. Space availability with 99 year leasing options in SEZ for data centre players & TSPs, with minimal rentals.
2. Data centres being mission critical facility which supports enterprise business, online education, retail and logistics etc., should be considered as Essential Services across India.
3. State Electricity Board/Discom should build Express power infrastructure to provide uninterrupted grid power or otherwise there should be relaxation on diesel storage regulation in Petroleum Act for data centers, such that 48 hours of power back up can be maintained across data center facilities (current limitation for diesel storage is 2500 litres per premise).

Q.7: What should be the draft broad guidelines to be issued for Data Centre buildings, so as to facilitate specialized construction and safety approvals?

VIL comments to Q. No.7

Please consider below high level building construction guidelines.

1. Data centre building construction design as per seismic zone 4 & 5 avoid disaster.
2. Floor loading design with minimum 800Kg per sq meter for equipment room.
3. Floor loading design with 2000Kg per sq meter for Utility room.
4. Clear Floor height 3500mm below beam which will give proper access flooring height (800mm), rack height (2200), access above rack (500mm) & Ceiling access (500mm).
5. Basement should be avoided to safeguard during flood situation.
6. 2 hour fire rated materials to be used for building partition construction.
7. Sufficient set back should be keep for fire tender vehicle movement.
8. There should be Minimum 2 entries for building premises. (1 -Entry & 1 -Exit).
9. There should be Minimum 2 entries for OFC connectivity.
10. Fire hydrant facility for utility areas.



11. Dedicated area for HT Substation, Fuel storage, DG set, Earthing, OFC chamber.

Q.8: Is there a need to develop India-specific building standards for construction of Data Centres operating in India? If yes, which body should be entrusted with the task? Do provide detailed justification in this regard.

and

Q.9: Till India-specific standards are announced, what standards should be followed as an interim measure?

VIL comments to Q. No. 8 and 9

1. As of now there is no single Indian standard which specifically covers all related guidelines for data centre design, build and operations.
2. As an interim, we are referring to standards from below mentioned bodies:
 - a. Telecommunications Industry Association - TIA 942,
 - b. National Building Code - NBC,
 - c. Petroleum and Explosives Safety Organization (PESO),
 - d. Bureau of Indian Standards (BIS),
 - e. National Fire Protection Association (NFPA) and
 - f. American society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) etc.

There is a need to develop India-specific building standards which should cover all specifications and operational aspects w.r.t entire lifecycle of a Data Center. Since, NBC covers maximum data center related guidelines, so it is recommended to form a single regulation body under NBC, which should develop India-specific building standards for construction of data centers operating in India.

Q.10: Should there be a standard-based certification framework for the Data Centres? If yes, what body should be entrusted with the task?

VIL comments to Q. No.10

1. Currently there is no Indian standard-based certification framework specific to Data Centers. Hence, it is difficult for us to suggest as to which body should be entrusted with this task.



2. However reference can be taken from below listed standards of International bodies, which are being followed presently. They provide Standard-based certification framework for Data Centers.
 - a. TIA –942: This standard provides guidelines for data center life cycle in terms of design, Tier Ratings, construction & operational aspects like availability, redundancy etc.
 - b. ISO 27K1: This standard looks into the security aspects of the data center e.g. Physical security, network security, data privacy & security, Disaster recovery provisions, Business continuity planning etc. There are external Audits being done by approved agencies, to ensure compliances are in place.
 - c. ISO 20K: This standard provides guidelines on Data Center process framework, Standard operating procedure. There are external Audits being done by approved agencies, to ensure compliances are in place.

Q.11: Should incentives to Data Centres be linked to the certification framework?

VIL comments to Q. No.11

Yes. There is lot of investment to meet these certification framework therefore, incentives should be provided once certified. For example rebates in energy billing, providing concessions in terms of all taxes e.g. Customs/import duty, road tax, GST benefits for Supply and Services across all states.

Q.12: Are there any specific aspects of the disaster recovery standard in respect of Data Centres that needs to be addressed? If so, then provide complete details with justification.

VIL comments to Q. No.12

We are following ISO standards for disaster recovery. Data centre are designed and build with TIER 3 & 4 guidelines to have redundancy & resiliency. There are no further aspects that need to be addressed.

Q.13: Whether trusted source procurement should be mandated for Data Centre equipment? Whether Data Centres should be mandated to have security certifications based on third-party Audits? Which body should be entrusted with the task? Should security certifications be linked to incentives? If so, please give details with justifications.



VIL comments to Q. No.13

There is no such requirement for passive infrastructure equipment's sourcing. As majorly indigenous products are being used and almost all passive infrastructure OEMs are trusted partners for example Cummins, Kirloskar, Vertiv, Delta, L&T, Flakt, Socomec, Voltamp etc.

W.r.t. Security certifications, third party audits and linked incentives, we have shared our comments to Question no 10 and 11 above, which can be referred to.

Q.14: What regulatory or other limitations are the Data Centre companies facing with regards to the availability of captive fiber optic cable connectivity, and how is it impacting the Data Centre deployment in the hinterland? How can the rolling out of captive high-quality fiber networks be incentivized, specifically for providing connectivity to the upcoming Data Centres/data parks? Do justify.

And

Q.15: What are the necessary measures required for providing alternative fiber access (like dark fiber) to the Data Centre operators? Whether captive use of dark fiber for DCs should be allowed? If so, please justify.

VIL comments to Q. No.14 and 15

No captive use of dark fibre should be allowed for DCs or to any other segment of society. Deployment of fibre comes under the Indian Telegraph Act and thus, its subsequent licensing being done by Government of India and should continue to be provided by entities suitably licensed by Department of Telecommunication.

Q.16: What are the challenges faced while accessing international connectivity through cable landing stations? What measures, including incentive provisions, be taken for improving the reliable connectivity to CLS?

VIL comments to Q. No.16

In this regard, we have given our detailed comments in consultation paper on Ease of Doing Business. Same is again enclosed at Annexure-A.

Q.17: Is the extant situation of power supply sufficient to meet the present and futuristic requirements for Data Centres in India? What are the major challenges faced by Data Centre Industry in establishment of Data Centres in naturally cooled regions of India? What are the impediments in and suggested non-conventional measures for ensuring continuous



availability of power to companies interested in establishing Data Centres in the country? What incentivization policy measures can be offered to meet electricity requirements for Data Centres?

VIL comments to Q. No.17

Sufficient power supplies are available to run present data centre at TIER 1 cities but, power infrastructure need to be further strengthened for reliable & uninterrupted power supply at TIER 2 & 3 cities.

Following are the challenges at naturally cooled regions:

1. Low voltage supply, difficulty in site accessibility, high initial capex cost, etc.
2. Limited infrastructure Facilities with respect to Power, Transport, Water supply, Fiber connectivity etc at TIER 2 & 3 Cities.
3. Variation in Inter-state Government Policies, permissions & compliance fulfillment
4. Complex RoW processes for fiber NW development
5. High operational cost.

Further, following are suggestions to improve power infrastructure availability in cooled region:

1. State Government(s) can develop special industrial areas/SEZ in naturally cooled regions to facilitate Data centre as well as other industrial developments & growth.
2. Central Government should establish common policy and guidelines for data centre development & operations. This will help data centre players, be it TSP(s) or standalone players.
3. Rationalization of energy tariffs for Data Centre & Telecom Service Provider.
4. Ready infrastructure facilities - Power, Transport, Water supply, Fiber connectivity etc at cooled regions.

Q.18: Should certification for green Data Centres be introduced in India? What should be the requirement, and which body may look after the work of deciding norms and issuing certificates?

VIL comments to Q. No.18



1. Yes, in fact Indian Green Building Council (IGBC) is Indian standard body which provides Leadership in Energy and Environmental Design (LEED) certification for buildings. So we recommend IGBC may look after the work of deciding norms and issuing certificates w.r.t Green Data centers initiatives.
2. However there are few practical challenges which should be considered while evaluating certification frameworks for Green Data Centers e.g. implementation of Green Data Centre incurs huge capex & Space. Green solution (like solar panels) to meet MW power load is very difficult to implement in limited space.
3. Necessary provisions and Infrastructure should be available at affordable cost to promote Green initiatives for data centers.

Q.19: Are there any challenges/restrictions imposed by the States/DISCOMs to buy renewable energy? Please elaborate. Please suggest measures to incentivize green Data Centres in India?

VIL comments to Q. No.19

No such major challenges observed. We are using open power access trading at MSC locations. Green data centre incentivisation should be standardized across all states.

Q.20: What supportive mechanisms can be provided to Data Centre backup power generators?

VIL comments to Q. No.20

1. Power infrastructure availability to be improved at TIER 2 & 3 cities.
2. Express power connectivity with dual feed (RMU) should be provided by DISCOM.
3. To ensure higher reliability of data centers, Diesel storage regulation should be revised in Petroleum Act. (2500 Liters per premise is current norms and need to be revisited and increased).

Q.21: Availability of Water is essential for cooling of Data Centres, how the requirement can be met for continuous availability of water to the Data Centres? Are there any alternate solutions? Please elaborate.



VIL comments to Q. No.21

1. Yes. Water is one of the critical and essential element of data center cooling parameter.
2. Pure water supply to be arrange by local authority for cooling system in Data centre.
3. The Data centers, implemented with water harvesting & water treatment solution to get benefit on reduction of OPEX cost.

Q.22: Whether the existing capacity building framework for vocational or other forms of training sufficient to upskill the young and skilled workforce in India for sustenance of Data Centre operations? What dovetailing measures for academia and industry are suggested to improve the existing capacity building framework, and align it with the emerging technologies to upskill the workforce in India?

VIL comments to Q. No.22

1. Existing merging technologies are sufficient to upskill the young and skilled workforce in India to fulfill Data Centre operations but at very higher cost.
2. There should be policy framework created by Government to lower down cost incurred on technical education / Vocational Trainings pertaining to Data Centres Industry.
3. Education, certification and employment for data center professionals, should be encouraged by Government.

Q.23: Is non-uniformity in state policies affecting the pan-India growth and promotion of Data Centre industry? Is there a need for promulgation of a unified Data Centre policy in India, which acts as an overarching framework for setting Data Centres across India? What institutional mechanisms can be put in place to ensure smooth coordination between Centre and States for facilitating DC business? Do support your answers with detailed justification.

and

Q.24: What practical issues merit consideration under Centre-State coordination to implement measures for pan-India single-window clearance for Data Centres?

VIL comments to Q. No.23 and 24

Yes, non-uniformity in state policies affects the pan-India growth and promotion of Data Centre industry, owing to delays in permissions & compliance fulfillment, for acquiring real



estate. Further, there is additional financial burden due to non-uniformity in Government policies.

To support Central Policy framework across all states, with transparent and single window approval framework, there is a need to upgrade from Manual to Digitization of Government approvals. Further, power DISCOMS services should be regulated under central body to standardized energy pricing and rebate benefit for Data Centre Operators.

Q.25: Is there a need for Data Centre Infrastructure Management System (DCIM) for Data Centres in India? What policy measures can be put in place to incentivize Data Centre players to adopt the futuristic technologies? Elaborate with justification.

VIL comments to Q. No.25

1. DCIM is a good solution for real time monitoring of data centre infrastructure operation, improve data center infrastructure planning and design.
2. DCIM software can bridge information across organizational domains – Data Center Ops, Facilities, and IT to maximize utilization of the data center.
 - a. Containerized Data Centers for Cloud Colocation.
 - b. Colocation and Infrastructure Sharing.

Q.26: What institutional mechanism needs to be put in place to ensure digitization of hard document within a defined timeframe?

and

Q.27: Would there be any security/privacy issues associated with data monetization? What further measures can be taken to boost data monetization in the country?

VIL comments to Q. No. 26 and 27

No comments.

Q.28: What long term policy measures are required to facilitate growth of CDN industry in India?

VIL comments to Q. No.28

1. The global Content Delivery Network (CDN) market size is expected to grow from USD 14.4 billion in 2020 to USD 27.9 billion in 2025, at a Compound Annual Growth Rate



(CAGR) of 14.1% during the forecast period. India is the second-largest user base and continuously growing internet users, the service providers are compelled to build and install content servers in their networks.

2. The change in consumer behavior has led to more business-to-business data transactions in the field of finance, advertising, healthcare, and agriculture in the country, compelling the need for CDNs to boost Indian businesses and digital efficiencies. Many industry verticals, including the advertising industry, media and entertainment, gaming, education and healthcare, online music retailers and consumer electronics, etc., are adopting content networks.
3. The COVID-19 pandemic has created significant disruption across every line of businesses, including enterprises, industrial, and government sectors. However, in recent times, with lockdown restrictions getting relaxed in almost every region across the world, businesses in various industry verticals are resuming their operations. Numerous organizations, including tech companies and other companies in various sectors, have provided their employees with work from home facilities, which is increasing the network traffic at an alarming rate. Due to this factor, multiple organizations are adopting the CDNs, to reduce content load time. Moreover, during the pandemic, the use of media and entertainment platforms such as Over-the-Top (OTT) platforms requiring high-quality video content is surging the demand for CDN solutions. Increased online shopping penetration, eLearning, and online gaming have increased the demand for CDNs to reduce server load and provide uninterrupted content delivery.
4. Furthermore, organizations are currently focusing on business continuity and sustainability with a larger focus to regain minimum Return on Investment (RoI). CDN providers are way ahead in helping these organizations during the COVID-19 crisis to ensure continued connectivity for the functioning of critical business applications.
5. There should be a clear legal and regulatory regime for CDN industry through light touch licensing regime.

Q.29: Whether the absence of regulatory framework for CDNs is affecting the growth of CDN in India and creating a non-level-playing field between CDN players and telecom service providers?

VIL comments to Q. No.29

1. Yes, the absence of regulatory framework for CDNs is affecting the growth of CDN in India and also, creating non-level playing field between CDN players and telecom service providers.



2. TSPs have invested CAPEX and OPEX for their existing services. Looking at the CDN model and investment percentage by TSPs/ISPs and CDN players, there is unequitable revenue distribution between TSPs/ISPs and CDN players, in favor of CDN players.
3. The standalone CDN players are not subjected to telecom licensing and regulatory framework and compliances, whereas TSPs providing CDN services has to fulfill stringent licensing and regulatory framework and also cost to meet the compliances. This creates non-level playing field between TSPs providing CDN services and standalone CDN players.

Q.30: If answer to either of the above question is yes, is there a need to regulate the CDN industry? What type of Governance structure should be prescribed? Do elucidate your views with justification.
and

Q.31: In case a registration/licensing framework is to be prescribed, what should be the terms and conditions for such framework?

VIL comments to Q. No. 30 and 31

1. Looking at the massive growth expected in CDN industry in coming years and multiple new entrants in this business, it has become imperative to put a licensing and regulatory framework for CDN industry, as is applicable on TSPs for providing CDN services.
2. To create level playing field for both TSPs providing CDN services and standalone CDN players, standalone CDN players should either be subjected to same licensing and regulatory framework else, there should be a mandatory revenue share between standalone CDN players and TSPs providing data services.
3. The licensing and regulatory framework should capture the license fees structure, license tenure, Services scope, security guidelines, content hosting scope, tariff guidelines for end customer billing etc., equally applicable for standalone CDN players and TSPs providing CDN services.
4. The governance should start right from providing the license to security audits from time to time. Along with type of content, CDN provider should share the different verticals like education, finance, web, media etc. they are going to serve or planning to serve. Security requirements like lawful interception etc. should be mandatory to implement before the services are to be launched for end customers by CDN provider.
5. If we look global trends, many countries are treating CDN services as license based services and they fall under same regulatory authorities as for telecom.



Q.32: What are the challenges in terms of cost for growth of CDN? What are the suggestions for offsetting such costs to CDN providers?

VIL comments to Q. No.32

1. Looking at the geography of India and different licensed telecom service areas, there is need of CDN deployment availability near to users. In such cases multiple CDN POPs need to be deployed by different operators. This will not only reduce the bandwidth cost for operators but also improve user experience.
2. The cost for such growth can be categorized in following buckets:
 - a. Availability of space and power – The Space/location should be provided by Government on competitive rates and also power grid.
 - b. Availability of skilled resources – Skilled resources are only available in metro cities or in class A cities.
 - c. Technology Provider at competitive rates – Made in India equipment and technical solutions should be encouraged under Atma Nirbhar Bharat policy initiatives, for CDN industry as well.

Q.33: Do you think CDN growth is impacted due to location constraints? What are the relevant measures required to be taken to mitigate these constraints and facilitate expansion of ecosystem of Digital communication infrastructure and services comprising various stakeholders, including CDN service providers, Data Centre operators, and Interconnect Exchange providers expansion in various Tier-2 cities?

VIL comments to Q. No.33

1. Yes, availability of location/space at affordable rates, would be a key factor influencing the growth of CDN services.
2. Government should provide space and power at competitive rates which will help to boost the CDN business in tier-2 cities.
3. Long term lease option, fixed period fixed price, Build and Manage options can be provided to CDN providers.
4. For setting up CDN POPs in tier-2 cities, Tax rebate schemes should be looked into by Government.



Q.34: What measures can be taken for improving infrastructure for connectivity between CDNs and ISPs, especially those operating on a regional basis?

VIL comments to Q. No.34

We don't foresee any challenge on connectivity infrastructure between CDNs and ISPs.

Q.35: Is there a need to incentivize the CDN industry to redirect private investments into the sector? What incentives are suggested to promote the development of the CDN industry in India?

and

Q.36: How can TSPs/ISPs be incentivized to provide CDN services? Please elucidate your views.

VIL comments to Q. No.35 and 36

Presently, there is a substantial commercial model available for CDN players as well as the major share of revenues is with CDN players as compared to TSPs/ISPs as such, we don't envisage any need of incentivizing CDN industry for promoting its development. Some steps to mitigate constraints have been given in our comments to Q. No. 33, which could help further growth of CDN industry. Also, there is a need of fair and equitable distribution of revenues in between CDN players and TSPs/ISPs, for which light touch legal and regulatory framework for CDN players is the starting point.

Q.37: Are there any other issues that are hampering the development of CDN Industry in India? If there are suggestions for the growth of CDNs in India, the same may be brought out with complete details.

VIL comments to Q. No.37

1. The technology partner and cost for such technology is currently very high.
2. Made in India equipment and technical solutions for CDN should be encouraged and be brought under Atma Nirbhar Bharat scheme.

Q.38: Do you think that presently there is lack of clear regulatory framework/guidelines for establishing / operating Interconnect Exchanges in India?



VIL comments to Q. No.38

1. At present, there is no clear legal and regulatory regime governing IXPs in India. There is no license where scope explicitly allows such exchanges. Further, the traffic handled by these IXPs is internet/data traffic, which would fall under the ambit of telegraph and thus, telecommunication traffic.
2. Further, as the traffic being handled is not only unidirectional, it would involve bi-directional communication from end-users as well. Thus, there are linked aspects of security of said traffic and lawful interception, which is required to be looked into from national security point of view else it can become a door for entry into critical infrastructure.
3. Further, there is significant dependency on these IXPs presently, which would only increase going forward hence, there is a need to have a clear and light licensing and regulatory framework, to provide robust, trusted, resilient and secured exchanges.

Q.39: What policy measures are required to promote setting up of more Internet Exchange Points (IXPs) in India? What measures are suggested to encourage competition in the IXP market?

VIL comments to Q. No.39

1. In India, private players including Telco's must be promoted to set up local IXP's. This will mean effective utilization of resources & simple routing. This will also be very helpful to small data centers & ISP service providers and many entrepreneurs starting new businesses.
2. The most important policy measure would be to provide a clear legal and regulatory regime through light touch licensing for setting up IXPs.

Q.40: Whether there is a need for separate light-touch licensing framework for operating IXPs in India? If yes, what should be the terms and conditions of suggested framework? Do justify your answer.

VIL comments to Q. No. 40

1. Yes, there is an absolute need of a light touch licensing framework for operating IXPs in India.



2. The terms and conditions should include but, not limited to, security requirements and license fee payments, as is applicable to other Unified License holders.

Q.41: What business models are suitable for IXPs in India? Please elaborate and provide detailed justifications for your answer.

VIL comments to Q. No.41

Business model should be determined by market forces and commercial principles, from a long term perspective.

Q.42: Whether TSPs/ISPs should be mandated to interconnect at IXPs that exist in an LSA? Do justify your response.

VIL comments to Q. No.42

1. Interconnect choice should be given to TSPs/ISPs. While doing so TSPs/ISPs will have flexibility to select IXP of their choice based on traffic volumes, technical and commercial factors as well as enhancing consumer experience.
2. The cost of encouraging IXPs at state level, should not be counter subsidized through TSPs, by mandating interconnection at LSA level as it will bring in inherent inefficiencies into the ecosystem.
3. Instead of mandating interconnect with IXPs existing in an LSA, there should be a prudent commercial business model and cost/technical benefits emanating from such interconnection, which will take care for market requirements.
4. Therefore, we request that there should not be any mandate for TSPs to interconnect with IXPs that exists in an LSA.

Q.43: Is there a need for setting up IXP in every state in India? What support Govt. can provide to encourage setting up new IXPs in the states/Tier-2 locations where no IXPs exist presently?

VIL comments to Q. No.43

Yes, there is a need of geographically distributed ecosystem of IXPs. The most important support to be extended is to provide a clear legal and regulatory regime through light touch licensing for setting up IXPs.



Q.44: Whether leased line costs to connect an existing or new IXP is a barrier for ISPs? If yes, what is the suggested way out? What are other limitations for ISPs to connect to IXPs? What are the suggestions to overcome them?

VIL comments to Q. No.44

1. Leased line costs are not a barrier for any segment or sector of businesses. Lease line charges are already regulated by TRAI and ceilings have been prescribed.
2. There should not be any further changes to the leased line costs, which otherwise would mean cross-subsidizing the cost for connecting to IXPs, through revenues of TSPs/ISPs.

Q.45: Is the high cost of AS number allocation an impediment for small ISPs to connect to IX? If yes, what is the suggested way out?

VIL comments to Q. No.45

The cost of AS number allocation, although is bit on the higher side but, it is not an impediment for smaller ISPs to connect to IXPs. However, there is need to have ease of registration and quick allocations, as Indian AS Number and IP Address assignment is being handled by IRINN which ultimately falls under APNIC.

Q.46: What other policy measures are suggested to encourage investment for establishing more number of IXPs? Any other issue relevant with IXP growth may be mentioned.

VIL comments to Q. No.46

Kindly refer to our comments at Q. No. 43.

Q.47: How can the TSPs empower their subscribers with enhanced control over their data and ensure secure portability of trusted data between TSPs and other institutions? Provide comments along with detailed justification.

VIL comments to Q. No.47

We would like provide our views as follows:



1. TSPs are bound by telecom licence terms to ensure confidentiality & privacy of subscriber data and to take explicit consent from subscribers for use of their personal data for any activity other than rendering of telecom services. This is already adhered to by the TSPs.
2. Under the PDP bill (Dec 2019), there are various obligations placed on the data fiduciary w.r.t processing, collection limitation, use limitation of personal data, retention and transfer of personal data, ensuring notice and consent w.r.t personal data all of which are geared towards ensuring enhanced control of personal data by data fiduciaries.
3. Under this bill, data principal will have a right to obtain his/her personal data from the data fiduciary, a summary of activities for which the data fiduciary processes the data principal's personal information and entities with whom such personal data has been shared by the data fiduciary (Rule 17) – the data principal can also seek his/her personal information from data fiduciary for correction or completion or erasure of his/her personal data (Rule 18).
4. Further, under the same bill, the data portability as a right of data principal is enshrined thereby allowing a user not only to receive his/her personal data as held by the data fiduciary but also have such personal data transferred to any other data fiduciary (Rule 19).
5. The standards and means by which such personal data can be transferred will be issued or approved as 'Code of Practice' by the Data Protection Authority (DPA) to ensure that personal data is securely transferred (Rule 50).

Q.48: What is the degree of feasibility of implementing DEPA based consent framework structure amongst TSPs for sharing of KYC data between TSPs based on subscriber's consent?

VIL comments to Q. No.48

In our view, as the PDP Bill is expected to cover the consent framework structure, there is no need to have separate consent based framework exclusively for telecom sector.

Q.49: Are there any other issues related to data ethics that require policy/regulatory intervention apart from the issues that have already been dealt with, in TRAI's recommendations on the issue of 'Privacy, Security and ownership of the Data in the Telecom Sector' dated 16th July 2018 and the draft PDP Bill? Provide full details.

VIL comments to Q. No.49



No comments.

Q.50: Stakeholders may also provide comments with detailed justifications on other relevant issues, if any.

VIL comments to Q. No.50

No comments.

x----- End of Document -----x

Annexure-A

Sl. No.	PERMIT	AUTHORITY	EXISTING PRACTICES/ PROCEDURE	RECOMMENDATION
1	MOHA (Ministry of Home Affairs)- Clearance for the Foreign national crew members	<ul style="list-style-type: none"> MHA (Ministry of Home Affairs) applications routed through DOT , Ministry of Communication, Delhi) 	<p>Submission to DOT for MOHA through on line URL link. DOT has given the User ID & Password to Telecommunication companies to upload the foreign national's details in the MHA portal for their MOHA clearances</p> <p>Documents required -</p> <ol style="list-style-type: none"> Photographs of foreign national crew members in JPG format under 2MB Colour Passport copy of the foreign national crew members Personal-Passport Details Advance Information Sheet <p>DOT issues MOHA clearances upon receipt of MHA/IB clearances from Ministry,</p> <p>Timeline – Minimum 3-4 Months</p>	<ol style="list-style-type: none"> Time taken is too long. No visibility of progress of application process No access to Agents. Only landing party/ Telecom agencies can apply to DOT. No visits allowed for checking with DOT. If one crew application is having issues from Embassy, whole application gets held up. The 'On line' process should give access to verify progress / status. Utilization of Technical / project crew, once cleared by MOHA, should be permitted to be used in other projects also.
2.	MOD (Ministry of Defence) clearance for vessels deployed in Indian waters for project	<ul style="list-style-type: none"> MOD (Ministry of Defence)/ Navy Applications routed through DOT 	<ul style="list-style-type: none"> Application through 'on line' portal of DOT DOT has provided User ID & Password to Telecom companies <p>Documents required to upload in DOT SCP Online Portal</p> <ul style="list-style-type: none"> Vessels statutory certificates including H&M Insurance certificate copy Letter to DOT from landing parties for MOD clearance for vessel. The RSEE Form and related documents should sign & stamp by the respective landing parties 	<ul style="list-style-type: none"> Time taken is too long. No access to Agents. Only landing party/ Telecom agencies can apply to DOT. The landing parties agents should be able to approach directly to DOT. DOT does not provide any access to know progress of clearances. Needs to be considered.

			<ul style="list-style-type: none"> • Project related documents • Contract copy • Map & coordinates of project/ laying/ repair area <p>On scrutiny the MOD/ Navy issues confirmation to DOT</p> <p>DOT issues MOD clearance on their letterhead</p> <p>Timeline – Approx. 2-3 Months</p>	<ul style="list-style-type: none"> • On – Line status should be available for applications in Portal.
3	SPL (Specified Period License) for Vessels	Directorate General of Shipping (DG Shipping)	<p>SPL necessary as per section 407 of MS Act 1958 for any Foreign Flag Vessel to do Coastal engagement.</p> <p>INSA NOC is presently waived off view no Indian Flag Cable Ship available with Indian Vessel Owners.</p> <p>Documents required with SPL letter duly signed & stamped by the landing party or vessel owner :-</p> <ol style="list-style-type: none"> 1. Statutory certificates 2. Copy of Valid P&I Insurance 3. Copy of Hull & Machinery Insurance 4. Complete contracts copy between landing party and Vessel 5. Copy of Crew list 6. Form “E” -duly filed and signed with seal by Applicant 7. DG Shipping administrative fee to be paid <p>Vessel owner or Indian landing party operator needs to deploy the Indian crew and trainee cadets as per DGS guidelines.</p> <p>SPL application submitted prior minimum three working days from the date of laycan. The late submission causes Late Fee.</p>	<ul style="list-style-type: none"> • No need to INSA NOC – The competitive edge needs to be ‘quality based’ and on availability of best resources worldwide. • Applications being submitted by E mail at present. Needs e- governance module and should be ‘on – line’ submission with all documents. • Human Interface should be minimized. • Vessel owners need to ensure that all Vessel certificates are valid for the project duration and there is no need of extensions. Application has to be once for all. • Need of employment of Indian Crew/ trainees on cable project ships should be waived off. The crew & Technicians on these ships are highly technical and are employed accordingly.

			Timeline – Minimum 4 to 5 Working Days.	
4	NED (Non-Employee Duty Pass) clearance from ONGC for the onboard crew of Vessels	ONGC / ILD (Indian Landing Party)	<p>All onboard crew to have the NED Passes</p> <p>Documents required :-</p> <ol style="list-style-type: none"> 1. NED application form 2. Crew's details 3. Copies Seaman book <p>Clearance time: 02 -3working days.</p>	<p>Requirement should be waived off for Cable Ships employments as the crew / technicians are not being employed on ONGC or other oil exploration installations.</p> <p>The crew are employed exclusively for particular Cable project and do not engage in ONGC platforms.</p> <p>This is only requirement of ODAG for NSC inspections and requirement should be reconsidered.</p>
5	<p>Navigational Warning (NAVAREA) clearance for the Vessels working in Indian Waters</p> <p>(Provided for navigational warnings to Ships in Indian waters)</p> <p>NAVAREA issued by National Hydrographic</p>	<p>Indian Navy / HQ ODAG And Directorate General of Shipping (DG Shipping) (Incase of Safety Fairways)</p>	<p>Application submitted to Navy by letter providing details as follows :-</p> <ol style="list-style-type: none"> 1. Block coordinates with cable fault coordinates 2. Details of other coordinates which vessel operating during subsea cable route survey or repairs. <p>If the area coordinate do not come under Safety Fairways, HQ ODAG/Navy forwards to NHO (National Hydrographic Office) at Dehradun for issuance of navigational warning message. Clearance Time: 05 to 07 working days.</p> <p>If the coordinates come under Safety Fairways (TSS) then Navarea has to be routed through DG Shipping for their NOC first. Thereafter it goes to Navy / ODAG and then NHO Dehradun for issuance of warning messages. Clearance Time: 10 to 15 working days.</p>	<p>The NAVAREA warning and NSC can be merged requirement and once NSC is done, NAVAREA should follow. It can be joint application.</p>

	Office, Govt. of India			
6	Naval Security Clearance (NSC)	HQ ODAG/Navy	<p>Carried out by Navy team once MOD clearance signal is received. Application needs to be submitted to ODAG with following documents :-</p> <ul style="list-style-type: none"> i. Naval Inspection and Clearance application letter from ILD ii. MOD clearance letter copy for vessel from DOT iii. MOHA Clearance copy for vessel from DOT. iv. SPL clearance letter from DGS v. NOC from ONGC (only for Western Region) vi. NED passes vii. Copy of Hull & Machinery Insurance viii. Contract copy ix. Copy of Crew list x. Compliance of V-SAT System Compliance certification. <ul style="list-style-type: none"> • NSC application (file) to be submitted one week prior planned inspection date. • NSC teams (ODAG) board the vessel at Port of c <p>Clearance Time: 02 working days.</p>	<ol style="list-style-type: none"> 1. NED Passes requirement needs to be waived off. 2. Combined application can be made for NAVAREA 3. Statutory clearance requirement only should be checked.
7	ONGC NOC (No Objection Certificate) – applicable only for West Coast of India	ONGC	<p>Applied to ONGC once MOD clearance is obtained with project details. Primarily to verify no project clashes of pipe lines occur in area.</p> <p>Documents required to be submitted by Landing Party</p> <ul style="list-style-type: none"> • Request letter from Indian landing party with Appendix (indicating Route Position List, Straight Line Diagram, Work Area Chart /Area Coordinate diagram / Map, Work Area Coordinates & Duration of Repair Work/Plan of Work) • Methodology of Submarine Fiber Optic Cable Repair Operation 	<p>Time taken is too long and should be considered for application and approval by e – mail</p>

			<ul style="list-style-type: none">• Certificate of Class• Anchorage pattern• MOD clearance letter of DOT <p>Clearance Time: 15 to 20 working days</p>	
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8	Customs - Vessel Importation	Indian Customs / CBEC (Ministry of Finance, Government of India)	<p>In compliance with Section 46 of Custom Act 1962 an Importer needs to present Bill of Entry for goods for home consumption. In addition as per Customs Notification No. 34 / 2019 dtd 30 Sep 2019 the Custom duty & IGST on the cable laying/ repair ops vessels are NIL subject to Condition 105 submitting bond by the Importer reg. requirement of Importation of Cable Ship work in Indian Customs waters.</p> <p>Documents required :-</p> <ol style="list-style-type: none"> 1. IEC (Import Export Code) – of Importer 2. GST Registration certificate of Importer 3. AD (Bank Authorization dealer code) from Importer Bank – from ILD 4. PAN (Permanent Account Number) of Importer – from ILD/ importer 5. Import Invoice Cum Packing List – from vessel owner 6. Vessel Invoice along with Appendix giving Specification of Vessel & onboard equipment, spares, and consumables etc. 7. Invoice for onboard Bunker/Fuels and consumables/ Oil, Thinners Assorted, Grease & Chemicals, onboard Provision etc. 8. Invoice for onboard Marine Gas Oil (MGO) 9. Bill of Lading - 10. Technical Write-up/ Catalogue etc 11. Contract Copy – from ILD 12. Chartered Engineer Certificate <p>The importer needs to submit bond to Customs for condition 105 of the notification.</p> <p>Procedure :</p> <ul style="list-style-type: none"> • Bill of Entry submission with documents in Customs EDI system 	<ul style="list-style-type: none"> • Process is too long & vessel is held up at port for Import/ Export formalities. • Varying process at various ports. On East coast Conversion / Reversion are done prior Import/ Export. • Faceless assessment takes longer and many times outstation assessing officers do not fully understand vessel's role and avoidable queries are raised, which pertain to general 'goods'. This causes delay in getting assessments. <p>Proposal :-</p> <ul style="list-style-type: none"> • Need for adopt uniform process at all Indian ports • May consider waiving off 'Faceless assessment' for cable ships, in view of technical nature of work done by the vessels • Else if Faceless assessment is mandatory requirement, it should be done at any other station dealing with vessels and not general goods. • Need to combine process of Import + conversion or Re- Export + Reversion together in order to cut time of vessel long stay at ports. • At Many ports only Conversion or Reversion activities are done as the vessel call is for project period only. Import / Re-Export process can be cut to minimum.
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			<ul style="list-style-type: none">• Bill of Entry scrutiny• Faceless assessment• Duty finalization• Duty payment• Examination & approval• Out of Charges <p>Clearance Time: 05 to 10 working days.</p>	<ul style="list-style-type: none">• Process needs to be simplified with aim to provide opportunity to trade towards 'ease of doing business'.• May consider process of Vessel's Conversion and Bill of Entry on basis of Self – declaration from the vessel and Bill of Entry can be filed prior vessel's arrival in port for Custom Examination• Vessel may be permitted make self-declaration(same may be accepted by Customs) on completion of cable laying / repair work. On basis of declaration of consumable goods onboard, the Shipping Bill may be processed. This may reduce vessel's stay in port and the vessel may come only for one day for Customs Examination.• Notification 34/2019 dtd 30 Sep2019 indicates applicability in Indian Customs Waters which may be considered only for Territorial waters , as definition of India, as per Customs Act 1962, includes only Territorial Waters.
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9.	Customs – Vessel Conversion	Indian Customs / CBEC (Ministry of Finance, Government of India)	<p>All vessels deployed in Indian waters are also required to be converted to coastal run after importation. On the West Coast this exercise is carried out. Conversion is completed only after the Importation process is completed and Out of Charge Bill of Entry is obtained.</p> <p>The documents required :-</p> <ul style="list-style-type: none"> • Complete Inventory of the vessel (6 copies) • Valid SPL Copy • Import Bill of Entry – Duty Paid and Out of Charge <p>Procedure :-</p> <ul style="list-style-type: none"> • Conversion permission from DC(PG) • Processing Bill of Entry for consumables/ goods • Custom Boarding & Examination • Conversion approval & Certificate Issue <p>Clearance Time: 02 -3 working days.</p>	
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<p><u>10</u></p>	<p>Customs – Vessel re-Export & Reversion to Foreign going status</p>	<p>Indian Customs / CBEC (Ministry of Finance, Government of India)</p>	<p>Vessel needs to come back to Port for Re-Export and Reversion Process</p> <p>Re- Export Processed at Export dept. in Customs. Reversion process done at DC(PG)</p> <p>The documents required :-</p> <ul style="list-style-type: none"> • Re- export Invoices • GR Waiver from Bank • Import Bill of Entry – Duty Paid Challan <p>Procedure :-</p> <ul style="list-style-type: none"> • Processing of Shipping Bill through Customs EDI system • Shipping Bill no. generated in System • Re- export permission from DC(Export) • Custom Boarding & Examination • Issue of Let Export Order. • Reversion process Scrutiny at DC(PG) once LEO issued. • Certificate Issue <p>Clearance Time: 01 -2 working days.</p>	
<p><u>11</u></p>	<p>Port Clearance</p>	<p>Indian Customs</p>	<p>Issued by Customs Export dept. after vessel’s Re- export / Reversion process once vessel is ready for departure</p>	<p>Needs to be available 24x7 basis. At times PC are delayed due non – availability of Custom Officials.</p>