



7<sup>th</sup> February 2011

Mr. Lav Gupta,  
Principal Advisor (TD)  
Telecom Regulatory Authority of India  
Mahanagar Doorsanchar Bhawan  
Jawahar Lal Nehru Marg (Old Minto road)  
New Delhi-110002

**Subject:** Consultation Paper on Issues related to Telecommunications Infrastructure policy dated 14<sup>th</sup> January, 2011

Dear Sir,

With reference to your Consultation Paper dated 14<sup>th</sup> January 2011 on 'Telecommunications Infrastructure Policy' seeking comments of the stakeholders, please find attached herewith the comments of Tata Teleservices Limited and Tata Teleservices (Maharashtra) Limited (together referred as TTL) .

Thanking you,

Yours sincerely,

A handwritten signature in black ink, appearing to read 'AD'.

Anand Dalal  
Vice President – Corporate Regulatory Affairs  
Tata Teleservices Limited  
And  
Authorized Signatory  
Tata Teleservices (Maharashtra) limited

Enclosure: As above

**TATA TELESERVICES LIMITED**

2-A, Old Ishwar Nagar, Main Mathura Road, New Delhi 110065  
Tel.: 91-11-66558555, 66558666 Fax : 91-11-66558908, 66558909  
[www.tataleservices.com](http://www.tataleservices.com)

Registered Office : 10th Floor, Tower 1, Jeevan Bharati, 124 Connaught Circus, New Delhi-110001



**Tata Teleservices Response to TRAI Consultation Paper Related to Telecommunications Infrastructure Policy dated 14<sup>th</sup> January 2011**

### **Overview of Telecom Infrastructure**

**Q1.** Do you agree with the classification of infrastructure elements described in this chapter? Please indicate additions/modifications, if any, particularly where you feel that policy interventions are required.

**A1.** There are elements of the infrastructure, like towers and associated auxiliary equipment that can be shared by more than one service provider. We propose the active components in the active infrastructure sharing (such as BTS,BSC,RF,SWITCHES AND CABLES,ACCESS ANTENNAE ETC.) may also be permitted to minimize number of towers such as sharing of spectrum and core network to avoid duplication of system and controlling the capital cost. IP-I category Towers providers should be encouraged to evolve the designing of towers to meet the aesthetics appearance in metropolis and densely populate areas. These measures would surely increase the tenancy ratio to the optimal and meeting the national target in telecom growth and broadband penetration in rural areas.

Further Govt. can extend incentives to encourage sharing of active and passive Infrastructure utilizing USOF. National Telecom Infrastructure policy needs to be evolved to meet these aspirations for the future growth in telecom sector.

**Q2.** What measures can be taken to encourage more ILDOs and ISPs to set up cable landing stations? Internet Exchange Point

By allowing ILDOs to set up and open its bandwidth capacity across the country by making provisioning of more landing stations for add and drop facilities for distribution of its spare fibers capacity on a subsidized rate to encourage penetration of mobile/broadband services in and around rural and far flung areas remotely located for bridging the digital divide. These measures would surely accelerate the telecom growth in rural and uncovered areas.

**Q3** Do you perceive the need for effective Internet exchange point(s) in the country to efficiently route domestic IP traffic?

**A3.** It is imperative to encourage nascent / small ISPs to subscribe to NIXI pipe for national internet traffic instead of leasing bandwidth from ILDOs in international arena thereby making cost effective business case. This would make effective and efficient use of National Internet Backbone and would be a viable solution to address the ever increasing demand for bandwidth for bandwidth guzzling applications in the offing. Usage of NIXI platform would facilitate to optimal utilization of spare fiber capacity across the country.



**Q4.** If your answer to issue in Q3 is in affirmative, please comment on the licensing framework of the entities for setting up Internet Exchange Points in India.

**A4.** Regulatory and licensing norms should commensurate on the concept of UASL regime.

**Q5** Will it be desirable to permit those Unified licencees to setup IP exchange points in the country who have no vested interest in routing of the IP traffic?

**A5.** There need not be any barrier to permit UAS licensees to set up and provide for bandwidth capacity for routing of IP traffic within the country.

### **Mobile Virtual Network Operator**

**Q6** Please give your comments on the changes proposed in para 3.5 of Section C of Chapter 3.

**A6.** For healthy competition, enhancing tele-density, increasing affordability and choice, TTL feels it is quite appropriate for the introduction of MVNOs in the Indian Telecom Market. Looking at the vast territory of each license area, and various VAS, it becomes difficult for a MNO to serve niche and far away customers in a satisfying manner. Further, to arrest the falling ARPU, it is necessary to have a larger share of Value Added Services contribution in the total revenue. This is only possible if specialized entities like MVNOs are introduced in the market. However, interest of existing operators be taken care of.

There are some issues that would be decided in commercial negotiations. The final shape of MVNO would depend on the arrangement between MNO and MVNO. Therefore the technical conditions in the licensing should be broad and allow negotiation on extent of cooperation between MNO and MVNO.

We do not support regulatory intervention for MVNO. We strongly support that a MVNOs may be allowed on commercially negotiated terms. The regulatory intervention is considered only when markets have failed and there is not enough competition. Since Indian mobile market is highly competitive, there is no need of any significant regulatory step requiring mandatory access to MVNO. It is expected that the HH Index which is already the lowest in the world will significantly fall further once new operators start services. In the competitive market, there should not be any need of regulatory intervention even if commercial negotiations fail between MVNO and MNO. We should follow the example of European Union, where there is no directive that obliges MNOs to grant access to MVNOs.

### **In- Building Solutions**

**Q7.** What methods would you propose for reduction of the number of towers?



- A7. A large number of players are resorting to infrastructure sharing to accommodate the overall growth in subscribers in the urban and rural areas. Several models of infrastructure and resource sharing can be resorted to like Site based sharing, RN controlled sharing and CN controlled sharing.

The current business scenario, where the rise in cost of primary and uninterrupted power supply has amplified enormously telecom companies must tie their hands together to share their infrastructure to minimize the expenses.

Integrated cell tower structures can be efficiently deployed consisting of antenna array mounted on top of electricity pylon. The idea of **distributed antenna system** can be explored for better defined coverage and fewer coverage holes. Although the concept of distributed antenna systems has been known about for many years, it is with the increased deployment of wireless systems within buildings and other difficult coverage areas that the idea of distributed antenna systems has come to the fore.

Unique antenna solutions can be looked at to overcome network expansion & consolidation barriers, which maximise utilisation of wireless infrastructure assets. Radio Access Network consolidation delivers cost saving; reducing number of sites/sharing site costs.

- Q8. In what ways do you think that IBS can be encouraged for better in building coverage, better QoS and reduction in level of radiated power from Macro cell sites?**

- A8. Shared In-Building Solutions (IBS) is the perfect solution to address the challenges posed by ever growing traffic inside the buildings as well as optimizing the use of spectrum. In the low ARPU high growth markets, where customer churn is high, there has to be a strategy to address the requirements of high ARPU customers who will be high data users in closed office environments in future.

Also, in light of the 3G and Wi-Max services to be launched shortly, IBS is the best tool to address these challenges, while providing immense benefits to the operators.

- Q9. How can sharing of IBS among service providers be encouraged? Does TRAI need to issue any guidelines in this regard?**

- A9. Site sharing should be encouraged as it reduces the total cost of ownership, since both the investment cost and the maintenance expenses are shared among several operators. The building owner is also likely to be more satisfied, with only one set of antennae and a faster roll-out process as a result. In-building solutions for installation should be included in the building laws.



## Distributed Antennae Systems

**Q10.** Do you agree that innovative technologies such as 'Distributed Antenna System' (DAS) can be effectively utilised to reduce number of towers and migrate towards tower-less cities?

**A10.** Yes, the concept of a Distributed Antenna System (DAS) has many advantages in some applications. DAS is used in scenarios where alternate technologies are infeasible due to terrain, zoning challenges for cell towers, infeasible cell tower placements, etc.

The total area covered could be extended for a given limit of effective radiated power, which may be important to ensure compliance with safety limits on radiation into the human body.

**Q11.** What are the impediments in adoption of new technologies such as DAS and how can these be removed?

**A11.** There are several regulatory challenges that arise out of DAS deployments. Regulatory challenges arise at the central, state and municipal levels.

Higher cost as a result of additional infrastructure required can pose some restraint. Possible greater visual impact in some applications as a result of greater number of antennas might not be in the aesthetic interest.

## Standardization of Tower Design

**Q12.** Would you agree that the design of towers can and should be standardized?

**Q13.** If yes, how many different types of towers need to be standardized?

**Q14.** What are the important specifications that need to be included in these standards?

**A12, A13 & A14.**

There is a variety of standard as well as custom telecom towers. There are 3 legs or 4 leg towers, which are available as tubular, monopole or angular models as well as monopoles and guyed towers. Depending on the height of the tower, the location and environment of installation, and the amount of weight the tower will carry are criteria for selecting from the various types of towers. Talking with a telecom tower provider and discussing your tower needs is the best method for selecting from the different types of tower types.

a) Angular or Tubular Telecom Towers



The square angular telecom tower is four legged, self supporting tower that is made of square angular elements. What makes this design unique is the tower is designed on a square base pattern. This telecom tower design is especially ideal for medium or heavy loads. It is also suitable for primary cellular sites, MW backbone sites, or central communication hubs. It comes with a variety of accessories which can be used to customize specific design modifications. This model of telecom tower is the most popular and versatile design used worldwide.

There are triangular angular towers (type E) and Towers made of tubular legs and angular braces (Type (N/K).

b) The Tubular Telecom Tower:

The difference between the angular tower and the tubular telecom tower is the tubular construction of the tower members. These tubular footing members and bracing members are designed for especially heavy loads or for telecom towers in areas with strong, even hurricane level winds. The Tubular tower is designed for heights of 20 to 80m, and can be easily shipped in a standard 40' ISO container. The modular design of triangular tubular also allows for in the field modifications. The modules can also be easily interchanged according to the specific site design.

c) Monopole Telecom Towers

A popular telecom tower model is the Flange Monopole Tower; this tower is an 18 sided monopole that reaches heights of up to 60m. The flange monopole tower is made of 7.5m tapered hollow steel sections. These individual sections are bolted together with circular flanges, and are able to efficiently handle medium to heavy loads. This model of telecom tower is generally suitable for standard single or multi operator cellular sites. The monopole telecom tower is designed for heights of 15 to 60m and can be shipped in an OT 40' ISO container.

Another monopole telecom tower that is very popular is the slip-joint monopole design. The slip-joint monopole is made of 7.5m tapered hollow steel sections which are connected in the slip joint method. This telecom tower design is ideal for light to medium loads and heights up to 40m. It is equipped with a number of accessories including lights, lighting protection kits, and antenna mounts. This telecom tower can be customized to fit specific installation specifications.

Cell on Wheels (COW) Mobile Towers have been designed to provide quick, convenient communication systems offering cost-effective construction solutions which can be rapidly deployed at a mobile site in under two hours.



Rapid Deployment Sites (Fast Site) installation is highly beneficial due to its rapid erection, potential to be moved/removed, lower costs/investment relative to a regular site and also its positive environmental impact.

- d) There are many other niche tower designs proposed by different vendors with specific features like energy efficiency, aesthetic appearance etc, however standardization of general design which is vendor agnostic is more appropriate.

We are proposing standardization of designs for general purpose telecom towers similar to in the power transmission space while allowing for incorporation of innovative and special purpose designs. This will ensure safety, uniform aesthetics, better inventory management, better up-gradation management, accountability on part of vendors and service providers.

The Telecom Towers are of a very sensitive and critical nature which provide connectivity and communication to everyone with the rest of the world, it also provides critical connectivity in case of disasters. Hence, it deserves priority treatment and should be declared as an essential service. While according to essential service categorization, the sector shall be provided with benefits of fast track and single window approval/permission for deployment, priority grid power feeders, and better grid power availability in line with similar essential services.

**Q15. Which is the best Agency to standardize the tower design?**

- A15. Department of Telecommunication's engineering bodies can be mandated to work towards standardizing the tower construction e.g. Structural Engineering Research Center (SERC), Chennai, or Tower division of Central Power Research Institute (CPRI).

**Reducing Visual Impact of Towers**

**Q16. What is the likely cost of camouflaging the towers?**

- A16. Many people view bare cell phone towers as ugly and an intrusion into their neighborhoods. Even though people increasingly depend upon cellular communications, they are opposed to the bare towers spoiling otherwise scenic views.

There are many providers that offer these services as part of the normal tower installation and maintenance service. These are generally called "stealth towers" or "stealth installations". The cost depends on the level of camouflaging; cost estimates are not available with us.



Q17. Can camouflaging be made mandatory? If so, can this be made part of the design standards of the towers?

A17. There is often local opposition to new masts on the grounds of safety and appearance. The towers/masts are sometimes disguised as something else, such as a street lamp or a tree. Emphasizing aesthetics the masking of telecom towers may be opted for by the telecom service providers but also the same need not be mandated as the load bearing capacity and option of mounting antennas are limited on such towers any stipulation of camouflaging the towers will considerably increase the number of towers.

#### **Clearances From Local Authorities**

Q18. Do you consider that the existing framework of different civic authorities to grant permission for telecom towers is adequate and supportive for growth of telecom infrastructure?

A18.

- a) There is no uniform approval process across the States, for the tower construction in different states/local bodies in India and hence different agencies follow different approval procedures. A recent study by the Indian Council for Research on International Economic Relations (ICRIER) reveals that Indian states with higher mobile penetration are expected to grow faster, with the growth rate being 1.2% points higher for every 10% increase in mobile penetration.
- b) The Telecom Infrastructure service provider needs to apply to the local Municipality/Panchayat bodies for tower construction permission. But the lack of guidelines or standard procedures is resulting in enormous delays and cost implications. With ISO standard design and structural safety in design will reduce the need of the local body approval process for tower construction. Self certification based on the approved standards for safety and design should be mandatory requirement for Infrastructure Company. With this it may not be necessary that for a separate certificate for safety of design and structural stability of the building/place on which tower is constructed may be required .local body approval procedure should be transparent and time bound.
- c) On the lines similar to National Telecom Policy 1994 and New Telecom Policy 1999, government should announce National Telecom Infrastructure Policy (NTIP) elaborating uniform procedures for land/site acquisition, uniform taxation regime, extending applicable/suitable subsidies and other packages for creating conducive environment to boost national telecom infrastructure building and thereby ensure increased participation of all the stakeholders.



d) Various Taxes/Levies/rules applied by different states/ local municipalities are given at Annexure 2. There is a need to standardize these charges and rules in all States. The charges/ levies by the state level local bodies needs to withdrawn as this is unwarranted rent seeking approach of the local bodies. Telecom service providers are already burdened with heavy service tax and other taxes. The practice of state level local bodies levying fees needs to be addressed by the authority and suitable recommendation should be forthcoming from the Authority.

**Q19.** Is there a need to set-up a single agency for approval and certification of towers? Is there an existing agency that can do this work? If a new agency is proposed, what should be its composition and framework?

**Q20.** Is it feasible to have a uniform framework of guidelines including registration charges, time frame, single window clearance etc for granting permission for installation of telecom towers and laying of optical fibre cables? If so, can it be prescribed by the Licensor or the Regulator?

A19 & A20.

a) Mobile Towers fall under the definition of "telegraph" under the provisions of Indian Telegraph Act which is absolutely different and distinct from the concept and meaning of the expression "Building" as used in the various State Acts. The exclusive authority to give permission for installation and regulate the erection & operation of such telegraphs is vested exclusively with the Central Govt. under Section 4 of the Indian Telegraph Act. These telegraphs are required to be erected in accordance with the National Telecom Policy devised and implemented by the Central Government and licenses granted by the Central Government under the aforesaid provision of the Indian Telegraph Act. These are not matter of local self Government or Municipal Departments, but are matters liable to be governed by the Central Govt. and/or Regulatory Authority constituted by it in accordance with the National Telecom Policy of the Govt. of India. These are not matters to be determined by Municipal Authorities under the provisions of the respective Municipal Corporation Acts at all and as such the policies of the local Municipal or Developmental Authorities in this respect are beyond their lawful jurisdiction and authority.

b) Local Municipal or Developmental Authorities do not have due legislative authority to issue such directions or frame guidelines or impose such permission charges per cell site/Tower Antenna, in as much as, that the Mobile Towers in question fall under the definition of "Telegraph" as used in Entry 31 of List I of 7th Schedule (Union List) whereby the Central Government has the exclusive legislative competence to deal with any matter relating to the same. The said Entry 31 covers the entire field in relation to "Telegraphs" including



erection/installation, maintenance and operation thereof and read with Entry 96 of the same List it covers all and any fee payable in respect thereof. These are governed by the provisions of the Indian Telegraph Act and the Telecom Regulatory Authority of India Act.

- c) Under the provisions of the Indian Telegraph Act, compensation can be claimed by a local authority only if a Telegraph was to be established upon land vested in it and not upon private land and buildings vested in private individuals.
- d) The permission fees and the restrictive conditions sought to be imposed by the present Office Orders/ Policy of various states are illegal as the charges are unreasonable and arbitrary. The restrictions are absolutely unnecessary and contrary to the license and directions given by the central government as well as the national telecom policy. The permission charges which are beyond the legal authority and competence of local Municipal or Developmental Authorities as well as the provisions of the Local Acts even otherwise do not have any co-relationship or nexus with any benefit conferred on the Telecom Operators / IP in return and is as such also illegal and invalid. There is a need to standardize these under the purview of a National Telecom Infrastructure Policy (NTIP).
- e) Currently some infrastructure companies use the services of inspection agencies like Tata Projects, IMI Soft, SGS for design compliance, material compliance, installation standards verification, quality check etc. The current arrangement is sufficient and same can be uniformly adopted by all companies. This need not be mandated, self certification will suffice.
- f) A single umbrella body constituted by the Central Government having a single window clearance system is proposed. If this is not feasible then it should be ensured that local body has created a single window approach for receipt and approval wherever such approval is necessary under law. Permissions would be obtained from such single body instead of several bodies. It is also necessary that we move in the direction of a system that will remove delays and malpractices to have required is an Automatic Approval System (AAS) when certain norms as laid down are conformed / met. Unlike in the case of Railways, the concept of Right of Way is to be differently understood in the case of Telecom Infrastructure Provider companies.

- Q21. What can be an appropriate time frame for grant of permission for erection of towers?**
- Q22. How can a level playing field be ensured for telecom service provider's vis-à-vis other utility service providers especially in reference to tower erection?**



A21 & A 22.

Government support to the private players is required in the form of subsidy for deployment of fibre in the rural areas. As part of the infrastructure policy push is required with state government for grid power supply at industrial rate and site acquisition for mobile towers.

RoW permission should be granted expeditiously and any denial to RoW should only occur in exceptional circumstances. Local authority should only levy restoration charges. The cable laying process should be made an integral part of the Jawaharlal Nehru Urban Renewal Mission and other road infrastructure / NHAI projects. For infrastructure development, the policy should encourage PPP model for investment and execution.

It is proposed to have a single window clearance in all states, thereby reducing the time frame for acquiring permission for installation. Further, maximum period of 30 days would be sufficient to extend permission for tower erection.

The application format has to be standard and once application is made as prescribed format then the approval from the local body should be issued with fortnight and if it is not issued it should be deemed approval after all the required particulars are furnished in the standard format for approval.

Telecom services are also in the nature of utility services. As RoW is issued for other such utilities, e.g. water or sewerage authorities in time bound manner the same should apply to telecom Service providers to ensure level playing.

Tower erection permit shall be granted within 10 days of application or otherwise deemed acceptance shall be considered. As mentioned earlier, telecom service provides the vital link between people establish should give utmost importance its development/expansion. A time bound action plan from all stake holders is required.

- Q23. Which agency is best suited to inspect the buildings and certify the structural strength of the buildings in case of roof based towers?**
- A23.** The installation of towers should be carried out only on the regularized buildings. This is a condition for the building occupants and the responsibility should not be shifted to telecom service providers. The Municipal body should be concerned about the structural safety of the building as well as the tower which is to be installed and the operators always fulfill the said condition. Local accredited civil/structural consultants are sufficient for approval.



## Infrastructure sharing

### Q24 Should sharing of mobile towers be mandated?

A24.

- a) The capital costs for creating new infrastructures are formidable. It is estimated that 60% roll-out cost of a mobile service is towards setting up of passive infrastructure and the balance contributes towards active infrastructure / electronics. Therefore, passive infrastructure sharing among mobile service providers assumes crucial importance, as it allows more than one service provider to leverage and ride on common infrastructure.
- b) Sensitive installations such as defense, ports, railway and regulatory authorities do not permit construction of towers. Shared towers are the only option for such areas. However, with the union ministry's aim to reach the mobile penetration to the rural areas and the roll out obligations mandated by the license, operators will have to share towers. It will also give them a competitive edge.
- c) Infrastructure sharing is equally relevant to the urban areas also, it noted. Here, the presence of 10 to 14 service providers and a fast exploding mobile subscriber base is resulting with increase in more cell-sites being put up by each service provider to cater to the growing traffic telecom requirements. This affects the landscape of the environment around due to large number of towers which seem to be affecting the aesthetic look of the city.
- d) The growing mobile subscriber base is putting immense pressure on the scarce resources of spectrum, infrastructure and interconnection. Infrastructure sharing can also promote greater service-based competition and reduce infrastructure duplication. Infrastructure sharing can also promote greater service-based competition, reduce infrastructure duplication and reduce the capital costs.

### Q25. Should sharing of active infrastructure, created by themselves or infrastructure providers, be allowed?

- A25. Existing TRAI regulations allow only passive infrastructure sharing. Telecom companies are not allowed to share active infrastructure such as optic and feeder fibre cables, radio links, network elements, backhaul, antennae and transmission equipment. TTL feels that infrastructure sharing can achieve its desired goals only once sharing of active infrastructure is permitted.

Currently, telecom infrastructure sharing takes place on an ad-hoc basis as it takes place only voluntarily. Though most stakeholders encourage infrastructure sharing, making the same mandatory was strongly opposed except for in sensitive areas like Cantonment areas, Central Government and State Government office buildings, Designated Forest or



Green Belt areas and Government Residential colonies, etc., where installation of cell sites by individual operators is either difficult or is not permissible due to lack of policy, security or aesthetic concerns.

### **Use of USO for rural areas**

**Q26. Please comment on the issues raised in paragraph 5.6 of Section A of Chapter 5.**

A26. The main thrust on rural coverage using USO fund should be on last mile access where laying of fibers to Home would not be feasible, keeping in view the targets set out for National Broad band /rural telephony coverage in remote and far flung areas. Therefore adoption of wireless technologies would be a suggested approach which could be implemented in a short span of time and with lesser capital cost in comparison to laying of fiber to home (FTTH) concept thereby, resulting in accelerated growth in rural connectivity using the USOF.

TTL therefore, strongly recommend deployment of wireless media for rural penetration for maximum coverage as a short term measure and laying of Fiber to DHQ and Block HQ on a long term basis.

The USOF should be utilized for developing integrated “plug and play” infrastructure & network in rural areas, that enables easy entry to any competing player or technology, laying down fibre and microwave up to the tower and initiatives that aim to increase broadband penetration in rural areas. The distribution of funds should be through competitive bidding, with the lowest bidder being the winner. DoT should also consider lowering the contribution as a percentage of AGR towards the fund. There is a need to develop broadband infrastructure – to extend optic fiber communication (OFC), high capacity microwave, and satellite connectivity to rural, remote and inaccessible areas. There is a need to create content and applications in regional languages to promote rural broadband.

Apart from the above we would like to put forward one of the major impediments in rural network deployment, which is grid power reach, availability and quality of the available grid power. In view of slow progress of power generation capacity and expansion of grid power distribution network, USO funding shall be used for making the power at a economical and environmental friendly manner.

### **IPv6**

**Q27. What measures are required to encourage the deployment and adoption of IPv6 in the country?**

A27.

a) Suitable policy framework by Govt for smooth transition.



- b) The more delay happens, the more expensive it will become.
- c) Specific deadlines for transition like other countries (proposed Sept-2011).
- d) Creation of IPv6 Task Force and working groups.
- e) Promoting Pilot projects in “Greenfield Applications” with USO support in specific cases (e.g. Rural Emergency Health care).
- f) More Training and awareness activities.
- g) Guidance to small and medium service providers and organizations on implementing IPv6.
- h) Asian countries Specially India should not follow the western countries example.
- i) Govt. There should be mandate the transition from IPv4 to IPv6 in a time bound manner seeing the projected timelines for IPv4 exhaustion.
- j) A separate “Transition Pipe” for facilitating the connection of isolated IPv6 networks.
- k) Govt. departments should take IP-based services from only IPv6 ready Internet service providers after a certain period of time (Leading by Example).

**Q28. In your opinion, what should be the timeframe for migration to IPv6 in the country?**

A28. TTL believes that the Roadmap and formation of IPv6 Task Force by the Govt. will together show the path for transition from IPv4 to IPv6 for all Service Providers including Central and State Government departments and organizations will be able to implement IPv6 services by March 2012.

#### **IPTV**

**Q29. What measures do you suggest to enhance provision of IPTV services by various service providers?**

**Q30. Should there be any restriction on ISPs for providing IPTV services?**

A29 & A30.

Due to the advantages that IP offers, more and more telecom service Providers' are adopting IPTV technology. The service provisioning by Telecom service providers is done in accordance with the licensing Conditions of the various licenses. Since this service entails large bandwidth & more spectrums, hence capacity building could be one of the many challenges faced by nascent Service Providers.

The eligibility criteria for the provisioning of IPTV by Service Providers need to be adhered to, such as net worth of the organization and other licensing norms to provide this service.

#### **General**

**Q31. Please give your comments on any related matter not covered above.**



A31.

**Utility Power Connection-Priority and Tariff thereof:**

- a) Currently the Tariff category for the power connection to Telecom towers is treated as a “commercial establishment” and thus highest Tariff is applied to Telecom site infrastructure. The Telecom services should be treated as a “Public Utility Service” and the Tariff structure of industrial category shall be made applicable” to all the telecom towers across all states. The state electricity boards shall be advised to process the utility connection applications from Telecom Infrastructure service provider on priority and treat the connection as Industrial connection. Authority should advise DoT to take up this issue with the MoP for issuing suitable instructions/ directions to make suitable correction in supply code by the utilities and approval from respective state regulatory bodies. It is an issue of major concern with TSPs and needs to be addressed by the authority by ensuring that, the electricity connection priority and Industrial Tariff for Rural areas should be enforced through immediate intervention of DoT with Ministry of Power and Regulating Body (CERC). In addition to the above Tower sites shall be provided with priority feeders with consistent power availability.

**Fuel subsidy:**

- a) One of the major problems faced in the rural areas is the non availability of reliable grid power. In the absence of reliable grid power, Telecom Infrastructure service providers are forced to extend the power to the sites through Diesel Generator Sets for most of the time. The operational costs of these sites are about 200% more than the normal ones where grid power availability is normal; which translates in to @ Rs. 5 lacs additional cost per site per year, which is a waste of precious foreign exchange in terms of import of fuel. Covering such rural areas is not feasible for the Telecom operators due to exorbitant fuel cost associated with DG set operation. Hence it is requested to introduce fuel subsidies (through USO funds or any other alternative mechanism as may be deemed appropriate e.g. differential tax structure/tax relief etc) to the Telecom Infrastructure service provider to provide Telecom services to such areas, till the Electricity Board connections become available at Industrial Tariffs.

**Non conventional energy/ Alternate Energy Sources subsidy:**

- a) The mobile industry in India is going to continue its expansion plans and it is the need of the hour that this growth needs to factor in the need for reducing its carbon footprint. Indian mobile operators and equipment vendors are working on a number of initiatives to develop energy efficient networks by designing and deploying low energy BTS's that are powered by renewable energy. Cell sites account for most of the energy consumed by our mobile networks, however,



these are dependent on diesel generators power for sustained operations. Current situation in India as a country:

- Approx. 2 billion litres diesel per year for cell sites
  - All sites (rural + urban) require autonomous power (i.e., a diesel generator)
  - “118,000 renewable energy base stations could save up to major portion 2 billion litres of diesel a year and cut annual carbon emissions by up to 6.3 million tons.”
- b) The Industry has taken number of initiatives to address the environmental concerns. Alternative sources of energy are being deployed wherever found feasible. Feasibility is also being studied for deployment of bio fuels. Service providers are using green shelters or deploring outdoor BTS wherever found feasible to reduce the power consumption. Currently operators are experimenting with use of Non-Conventional sources of energy (solar, wind, fuel cells) wherever feasible for meeting the energy requirements. We have already deployed fuel cells based BTS's and these have the potential to reduce the carbon footprint significantly, and increase energy efficiency of new network equipment and optimize network technology to increase energy efficiency. While we are confident of the technical feasibility, it is evident that financial viability for solar/ solar-wind/ fuel cell hybrid renewable energy systems in shared mobile infrastructure sites in rural/remote areas will need to be supported by government incentives. The State Electricity Regulatory Bodies have an important responsibility to promote access for clean energy source being harnessed through the network of base telecom towers. The state governments may also issue direction to the SERCs for encouraging the use of alternate energy sources by telecom companies through appropriate pricing and subsidies as may be required in the larger public interest of mitigating climate changes.
- c) The service providers are aware and recognize the importance of reducing carbon footprint and improving energy efficiency. The initiatives of the Indian mobile industry to reduce its direct emissions rely on the development of an enabling regulatory and subsidy framework and the creation of tax and subsidy incentives to support the business case.
- d) As has been explained earlier, the high usage of number of Diesel Generator Sets are causing very high carbon emission and high usage of Diesel in addition to exorbitant cost of operation of the sites. With more and more sites getting added to the network it is imperative to start using non conventional energy sources (such as fuel cells, hybrid fuels, bio-diesel, solar etc) for Telecom sites. However the present cost of using such technologies based on Solar, Wind and fuel cell etc is prohibitively expensive and the payback period for such investment is ranging from 6 to 10 years. Hence we request the Regulator/ DoT



to approach the Ministry of New & Renewable Sources of Energy (MNRE) to subsidize the Capital expenditure of such investments to minimize the payback period to 2 years, similar to the promotions being done by MNRE.

**Wind energy usage for Low Tension utility connection:**

- a) At present as per the energy policy for captive usage of energy generated through Wind mills, wheeling of power from source to the consumption point is allowed only for High tension consumers. We request the Telecom Ministry to take up the matter with Ministry of New & Renewable Sources of Energy to make suitable amendment to the policy so that Low Tension connections of Telecom Infrastructure service provider are also covered under the wheeling arrangement which would also facilitate the use of wind energy.

**Reduction of various taxes and duties for the infrastructure material:**

- a) It is suggested and desired that the taxes / duties for the various materials which is essential for construction of the infrastructure such as Steel, shelter material, power plants, batteries and compressors for the air conditioners to be substantially reduced so that the cost of infrastructure build out can be reduced considerably.
- b) Request for benefit Under Section 80-IA of the Income Tax Act, 1961
  - i) The objective of introducing Section 80-IA was providing incentives to the infrastructure companies as infrastructure projects involve large capital investments and have a long gestation period. The government recognizing this fact provided a time frame of 15 years within which the infrastructure companies could claim exemption for a period of 10 years. The infrastructure companies are the backbone of the economy and by introducing the proposed amendment, the government is causing undue hardships to various companies which are in the consolidation phase.
  - ii) The Telecom Industry is one of the beneficiaries of Section 80-IA and because of the huge capital investment and accumulated depreciation along with the rapidly reducing Tariffs have put tremendous pressure on the profitability of the Telecom Companies. Hence, most of the investments in the Telecom Industry which have happened in the last five years presuming the 80-IA benefit, would elect the option of deducting Profits under Section 80-IA from the 6th year(last possible year) or higher to obtain the benefits of deduction in respect of Profit and Gains available under this section.

**Property taxes:**

- a) Generally Telecom operator hires the rooftop on the land site on leave and license agreement for 10 to 15 years period from landlords. Different Municipal and Panchayat local bodies impose different rates of property taxes, tower taxes etc which is not uniform across different states, districts, municipalities and Panchayat. We ask for waiver since this is a central subject and beyond the scope the State Government. Further we would trigger them to levy a fee etc which would be against the interest of the tower companies. A standard rate may be agreed upon provided for the consideration paid, we also get in return benefit. (Entry 31 of List 1)

**Service Tax Exemption:**

- a) Currently infrastructure Providers charge Infrastructure provisioning fee (IP fee) for the providing passive telecom infrastructure ( e.g. space and power) to the Telecom Operator and charge Power & Fuel Charges from different Operators sharing the sites as reimbursement of the actual Power and Fuel expenses. There is a Service Tax that is being levied on Power & Fuel Charges being reimbursed. By nature, Power & Fuel Charges spent in a site are proportioned to all operators sharing the site and are Pass through in nature. We request the Telecom Ministry/TRAI to take up with finance Ministry to exempt this tax on Pass through Power & Fuel charges Billed.

**Reduction in the customs duties for the imported equipment:**

- a) Currently uniform custom duties are applied for all the imported equipment which is essential for providing the Telecommunication services across the Telecom circles and it is suggested and desired that the same may be reduced substantially for the equipment proposed for deployment in the rural areas.

**Additional Points**

- a) A new clause for Telecommunication infrastructure companies be introduced under Sec.80IA for extending the benefits to the companies rolling out infrastructure services.
- b) Tax benefit under section 80-IA should become available to companies undergoing amalgamation or demerger after 31.3.2007.
- c) Tax holiday benefits in case of mergers/ amalgamations should be continued.
- d) The position, as was, prior to the announcement of Union Budget 2007 – 08 should be maintained.



- e) The provisions on accelerated depreciation should be further extended to New Plant & Machinery Capitalized by assesses engaged in providing Infrastructure Services and either setting up a new undertaking on or after 1 April 2002 or undertaking existing prior to 1 April 2002 and achieving substantial expansion during any year.
- f) Since Telecom Infrastructure Industry is highly Capital Intensive and requires huge amount of Capitalization, providing additional depreciation would provide a boost to the Telecom sector.
- g) Moreover, this would accelerate network rollouts to rural areas.
- h) Exemption be given to Telecommunication expenditure incurred by various Indian Companies from the purview of FBT, similar to the exemptions given for Advertising expenditure, so that the burden to the industry can be reduced.
- j) Apart from all the above issue another major road block in mobile tower deployment is the sustained media campaign on unsubstantiated reports of radiation hazard from mobile tower. The cellular industry need government support in propagating correct facts and positive message on mobile industry