



U.S.-India ICT Working Group
U.S. Telecommunications Subcommittee
Policy Agenda
December 10, 2010

Introduction.

The U.S. Telecommunications Subcommittee supports the collaborative nature of the U.S.-India ICT Working Group and the progress that has been made on telecommunications policy issues since the initiation of the Working Group in 2005.

As India has experienced, communications and new technologies not only spark growth in that sector of the economy, they also enable businesses and governments to increase efficiencies and provide opportunities to improve the quality of people's lives through new services.

Despite the global economic slowdown, India continues to be one of the world's fastest growing ICT markets. Between August 2006 and August 2010, India's total wireline and wireless telephone subscribers increased from approximately 164 million to over 706 million, representing almost 330% growth in four years. In March 2010, India reached a new high, adding over 20 million new mobile phone subscribers in that month alone. Broadband (\geq 256 kbps) has grown almost 500% since August 2006 to over 10 million subscribers, yet numbers of connections remain low relative to the population.

Government initiatives to liberalize the market have played a significant role in India's extraordinary growth. The Subcommittee recognizes and applauds important past government decisions to eliminate Access Deficit Charges (ADC) on the provision of international long distance services, the decision to liberalize access to cable landing stations, and the Indian government's decision to increase the level of FDI in the telecommunications sector to 74% in 2007. In order to further maximize the investment potential in the telecommunications sector, the Subcommittee recommends India eliminate the FDI limit and permit 100% foreign direct investment, as is reportedly being considered for the defense sector. This will provide a significant increase in foreign investment inflow to expand infrastructure deployment.

In order for Indians to continue to reap the benefits of ICT's in the future, it is important that regulatory changes be made through a clear and systematic consultative process with all stakeholders, which is consistent with India's democratic tradition and international best practices. In this spirit, we applaud the commitment of President Obama and Prime Minister Singh to create a U.S.-India Dialogue on Open Government aimed at enhancing citizens' ability to access information about their government.

We encourage further liberalization of the market to speed the development and adoption of new technologies, introduce new competition and promote multilateral collaboration. Below we present unresolved issues for discussion during the December 2010 meeting of the U.S.-India ICT Working Group in New Delhi, India. The recommendations made in this paper offer solutions that could create multiplier effects in the economy by increasing investment opportunities to build out infrastructure through changes in important telecommunications regulatory policies.

(1) Telecommunications Network Security.

Since the license amendments introduction in December 2009, the global telecommunications industry has been increasingly alarmed by successive regulatory measures implemented by the DoT to improve the security of India's telecommunications network infrastructure. While the telecommunications industry recognizes, respects, and shares the security concerns of the Government of India, it also strongly believes that any efforts to improve security must be based on the international best practices of public private partnership and international standards, and through a proper consultation with all the stakeholders in the telecommunications sector. The Indian government's establishment of onerous measures such as the forcing of the transfer of technology, escrowing of source code, and dictating the terms of private contracts has created obstacles to commercial transactions related to telecommunications equipment and software.

The existing license amendments also pose significant challenges for global telecommunications operators. While sharing many of the same concerns as equipment vendors, global network operators also are concerned about specific measures that affect, including, but not limited to, 1) the requirement to establish a test lab and test bed on an service providers premises, 2) the terms for engaging of international accredited network audit and certification agencies, and 3) the restrictions on the country of origin of the supplier and network security audit/certification agency.

Global network operators must monitor and manage intrusions and threats to their networks on a global basis, and not treat each country in isolation. Indeed network security is enhanced by the ability to identify, correlate and predict threats on a global basis, before they impact specific countries. The requirement for the establishment of a test lab in every licensee's premises will not lead to better security and could potentially balkanize the global operator's network by creating a walled garden around its India network.

Before requiring the engagement of international accredited network audit and certification agencies India must first base this requirement on accepted global standards, such as, but not limited to, ISO 15408 or 27001. This will negate the need to have multiple audit agencies working on their respective standards and create some predictability for network operators.

Prohibiting network security audit/certification agencies from performing their services on products from the same country creates significant challenges for global network

operators that procure equipment from multiple different countries. Global Operators facing network security certifications/audits should be able to use a certification agency from any country as long as it is accredited by India, in accordance with international practices in this area.

What has been learned through the experiences of the United States, Europe, and Japan when approaching issues of network security is that the establishment of ongoing public private partnerships that enable sharing of best practices to prepare for eventual attacks and coordination of flexible and pragmatic approaches to ever evolving threats is the best mechanism to secure telecommunications infrastructure. Those countries have found that a static, top-down approach to network/cyber security rather than a dynamic, flexible, and adaptive model leaves infrastructure and consumers less secure. It is widely held industry view, and an international best practice, that multiple approaches to ensuring security are preferable since it makes it more difficult for those seeking to attack or compromise a network or devices on a network.

We are encouraged that beginning in August 2010, DoT and the Ministry of Home Affairs began reviewing the regulations in an attempt to identify international best practices that might serve as alternatives to the regulations that are currently in place. While there has been some piecemeal consultation with industry, we strongly urge India to establish permanent public-private committees composed of government and all stakeholders to enable the design and implementation of flexible and adaptive approaches to security based on international best practices that address both the security needs of the government and the commercial needs of industry stakeholders.

Attached as an annex to this document is a joint TIA and U.S.-India Business Council paper, submitted to the Indian government in September 2010, which provides a framework of international best practices in this area. We strongly believe that an approach based on public-private partnership is essential so that industry and the government can work collaboratively to identify and mitigate risks. In an attempt to “operationalize” our framework document, we have drafted a Circular to establish the Telecom Security Council of India, a public private partnership to develop solutions to security challenges facing telecommunications networks that is based on international best practices. We have also drafted a license amendment that requires telecommunications licensees to use international best practices and international standards to secure their networks which would supersede the existing license amendments issued with the aim of security dating back to December 2009. By way of background, also Attached are two papers describing the approach to (1) critical infrastructure protection in the United States and (2) an overview of the law enforcement intercept laws in the United States.

(2) Advanced Wireless Telecom Services and Spectrum

We were very encouraged by India’s decision to move forward with its spectrum auctions in April 2010, and industry looks forward to the results and participating in ensuring that Indian consumers benefit from this important event.

Future Spectrum. The Subcommittee congratulates India on holding its long anticipated auction for 3G and Wireless Broadband radio spectrum. We are confident that the new technologies and would like to congratulate the Government of India for the successful completion of the auctions. We look forward to the auction of the additional block of 2.5 GHz spectrum that is still pending from the BWA auction.

Looking to the future, the Subcommittee continues to strongly encourage the DoT and the TRAI to focus on spectrum allocations in harmonized spectrum bands. There are current standardization activities for future generations of technologies, and there should be consideration of those technologies going forward. India today utilizes 800 MHz, 900 MHz, 1800 MHz and 2100 MHz (which has been auctioned in the 3G auction) for mobile devices. India is considering 700 MHz, 800 MHz 2.3 GHz and 2.5 GHz and in the future 3.4 GHz. Having affordable devices and services are key to reducing the digital divide. India should allocate sufficient spectrum to enable the deployment of affordable broadband services in India. Existing wireless carriers, as well as potentially new entrants, should be able to deploy mobile broadband technologies in a cost effective manner by using technologies that enable economies of scale, combined with the availability of large-enough blocks of spectrum in bands to maximize the use of the widest variety of terminals. India should allocate spectrum in internationally harmonized bands to enable it to take advantage of economies of scale.

We commend DoT for establishing a Joint Task Group to examine the use of future spectrum in the 700MHz band. We understand an initial meeting was held in July 2009, and many companies and organizations have submitted proposals. We further understand that the group was supposed to report to the Government by the end of December 2009 on the results of its deliberations. The subcommittee would welcome a status update on this report from DoT so that we could contribute as appropriate.

(3) Licensing and Regulatory Efficiency

Global companies operating overseas are strongly committed to the rule of law and respecting host country laws and regulations. Companies prefer investment opportunities where the rules of the game are clear and easily understood. India will be successful in attracting greater foreign investment as it continues efforts to establish a clearly defined structure of laws and regulations.

Simplification of Existing Licensing Regime. The Indian telecom sector has come a long way in terms of growth in subscribers, teledensity, service offerings, and technology. The regulatory and licensing regime, however, has not kept pace with the technological developments taking place world over. This is understandable as, unlike technology, changes in fundamental frameworks need consultation and detailed analysis before a change is accepted and incorporated in the licensing regime.

The present day licensing and regulatory framework should recognize the need for technology and service neutrality. With technology comes the issue of spectrum which is significant to any wireless network. The present classification of service specific bands should be moved to a regime wherein any service can be provided under any of the bands

so long as this is technically feasible. Operators should be permitted to determine the technology to be deployed for the services they plan to offer.

Telecom operators are trying to become global operators by expanding their operations across countries and continents. While it is imperative for a country to maintain its sovereignty by applying all security measures, it should promote and support global telecom operators expanding their operations into its territory. India should expand regulatory policies to encourage and support global telecom networks within India.

In addition, India should refrain from retroactive rule making (applying new rules to past arrangements) which creates market uncertainty and complicates existing contractual arrangements.

ILD and NLD Licensing. The Subcommittee notes that as of 2009, AT&T, BT, Cable and Wireless, Verizon, and France Telecom have received licenses to provide international (ILD) and national long distance (NLD) services in India. We note, however, that the licenses have not been modified to appropriately reflect policy considerations for the next generation of services (e.g. enterprise data services) and service providers, and that certain aspects of India's ILD and NLD licensing processes and procedures continue to impose barriers that impede carriers' ability to fully operationalize these licenses. As presently written, many of the regulations cover policy concerns solely appropriate for mass market consumer voice telephony and have not been updated to reflect enterprise data and IP services, or the considerations of business enterprise customers.

In addition, the scope of resale authority by licensed facilities-based operators is still unclear – as are the processes, timelines and criteria for processing of clearance and approvals under both the ILD and NLD licensing regimes. This lack of clarity stands to undermine the competitive reforms made thus far by both TRAI and DoT. While some of these issues have already been taken up by the Association of Competitive Telecom Operators (ACTO), the Subcommittee supports the request by ACTO and commends DoT and TRAI for forming a senior level committee to examine these issues and looks forward to its recommendations. We would like the issues presented by ACTO to be reconsidered preferably through a consultation process initiated by Telecom Regulatory Authority of India (TRAI), since it relates to license reforms (Section 11 (a) (ii) of the TRAI Act 1997). ACTO submitted a request to TRAI with suggested clause-by-clause changes to the existing ILD licensing language on August 27, 2010.

Legal Intercept. In the critical area of legal intercept and monitoring for non-voice, VPN/MPLS related Internet Protocol (IP) services, telecommunications carriers are keen to comply with Indian regulations concerning legal intercepts. However, in order to install IP/data related state-of-the-art legal intercept equipment, telecommunications carriers require clarity with respect to the technical specifications of the equipment and compliance requirements. Despite the DoT's recognition of the importance of telecommunications carriers' IP and VPN services to India's BPO sector, regulations for legal intercept compliance have not kept pace. We urge the Department of Telecommunications to update its legal intercept and monitoring specifications for

telecommunications carriers holding ILD and NLD licenses providing VPN/MPLS-related IP services as current regulations continue to be applicable to traditional voice traffic.

The Subcommittee understands that the Government of India soon plans to implement the Centralized Telecom Network Management System (CNMS). In this regard, C-DoT has been identified as the agency to study the networks of all the operators and implement the CNMS. We request that the government of India share the details of the proposed CNMS plan to enable private sector input into the CNMS implementation process.

Remote Access. Global enterprise service providers continue to be concerned over the Indian government's shifting position on remote access of networks by imposing additional restrictions. This has the potential to adversely affect all global service providers offering international connectivity in India. Global service providers serving multi-national corporations (MNCs) and Indian multi-site office locations require the ability to conduct remote access (RA) management of networks in India from centralized Global Network Operations Centers (GNOCs) outside India (e.g., in the U.S.). The issue was raised in 2006, and 18 months later resolved with a new set of restrictions on RA after a senior Indian government delegation visited NOC sites of global service providers in the U.S. and Europe. Based on their report, in April 2007 new FDI guidelines (Press Note 3 of 2007) replaced the earlier Press Note 5 of 2005 relating to 74% FDI in telecom.

Since April 2009, DoT has reversed the interpretation in two areas - disallowing 24-hours/7 days-a-week access and customer provisioning for global accounts using RA. This impacted various RA approvals for ISPs and also new RA approvals under the ILD / NLD licenses. In order to obtain regulatory clarity and operational stability, service providers requested from DoT remote access approval for National Long Distance, International Long Distance and Internet Service Provider license holders to be able to provision network services for Indian companies and global MNCs operating in India. During the discussions, senior-most officers in DoT and concerned officers of security agencies reached an agreement to issue a clarification in this regard.

ACTO made presentations and held discussions with DoT to explain the global nature of operations that global operators provide and how Remote Access is vital for the effective functioning of their networks. Through this engagement, the Carrier Services Cell (NLD and ILD licenses) has steadfastly followed the existing policy and given ready clearances for RA approvals, including 24x7 usage and RA applications for customer / network provisioning, including a clarification permitting use of RA on 24x7 basis. However, the Data Services Cell (DS) – which looks after the ISP licenses – has refused to give approval on the customer / network provisioning aspect of RA so far, in spite of the fact that the security and FDI conditions relating to RA are exactly the same in all three licenses – NLD, ILD and ISP – and have been incorporated word by word from the FDI guidelines, Press Note 3 of 2007.

So in essence, not only is a clarification regarding RA applications for customer/network provisioning pending, there is also a differential treatment of the same issue by two different licensing authorities (ISP vs. NLD and ILD) within the DoT office. As per the

existing policy and in absence of any explicit prohibition, the current NLD, ILD and ISP licenses have to be treated equally where activities related to RA are concerned. Any distinction made on an arbitrary basis between the licensing cells of DoT leads to further confusion and lack of confidence. It is requested that while the government is considering the language on the clarification to be issued – pending approvals with the DS Cell should be released, consistent with those released by the Carrier Services Cell – relating to NLD and ILD licenses. Lack of regulatory certainty enabling RA for customer/network provisioning will harm the operations of Indian and multinational companies operating in India. We further respectfully request that DoT resolve this issue to allow international telecom providers to manage their networks in a manner consistent with global best practices.

Encryption Standards. Companies support the freedom of business and consumers in India to use strong encryption to protect their corporate and personal information. Strong encryption uses robust encryption algorithms. The freedom to use strong encryption is a global standard for securing information online, such as confidential business information, financial information, online transactions and internal government communications, from intrusion by hackers, thieves, competitors and other wrongdoers. The Subcommittee understands that the government is considering upgrading encryption levels which at present are restricted up to 40 bit under the NLD/ILD/ISP License. This opportunity for change has been granted by way of an amendment in the Information Technology Act 2008, under the provisions of Section 84-A, which empowers the central government to prescribe modes and methods of encryption for secure e-commerce transactions. We request the Government of India to liberalize the present encryption policy as strong encryption also enables India's rapidly growing IT and BPO industries, which rely on strong encryption to secure their global clients' confidential information. U.S. companies urge India to adopt policies that protect the freedom to use strong encryption online and, consistent with global practice; do not set limits on the type of encryption technologies employable by the private sector. The Subcommittee supports and cooperates in the efforts of the U.S. IT Subcommittee led by the U.S.-India Business Council in working to enhance understanding of this issue.

We understand that the Department of Telecommunications has also constituted a committee comprising of representatives from industry to find out possible solution for the interception and monitoring of encrypted communications. We request that the DoT include customer and vendor organizations (who have the requirement of utilizing higher encryption limits) in the committee as this will be useful in getting important technical insights. USIBC and TIA on behalf of its members have been working with the Department of Information Technology (DIT) for the last two years and have contributed meaningfully by sharing not only international best practices but also international experts on encryption for face-to-face meetings with the Government of India

Service Disruption. India is experiencing a sharp increase in telecommunications service disruptions owing to damaged high-capacity fiber-optic cable facilities. This is caused by frequent cable cuts by agencies/organizations that lay underground infrastructure or are constructing roads and other types of infrastructure. These disruptions have begun to impact the business of global carriers operating in India both from a quality and

economics perspective. In order to provide end-to-end, always-on connectivity, global carriers rely on leased circuits procured from access providers in India. This service provisioning is backed by strict Service Level Agreement (SLA) norms due to the need for high quality and resilient connectivity. However, frequent stoppages due to cable cuts experienced in the access providers' networks cause serious losses to both customers and global carriers – who pay significant penalties on account of non-conformity to SLA norms. The Subcommittee urges the government of India to coordinate the work of relevant agencies at the national, state and local level to improve protection of telecommunications infrastructure from inadvertent damage caused by construction related cable cuts. With a rapidly expanding economy leading to both more construction activity, and the proliferation of high capacity fiber optic facilities, improved governmental and industry coordination is needed. All industry sectors would benefit from establishing such cooperation based on global best practices.

Open Skies. To sustain communications services and applications, companies and end-users rely on robust infrastructure and the ability to select the technology and provider based on cost, effectiveness and availability. This ability to source the best-suited infrastructure for a given application or service enhances the resulting service and may advance its service launch or reduce consumer costs. For satellite infrastructure, the U.S. and many WTO members have adopted policies that permit users of satellite services the flexibility to work directly with any satellite operator that has the ability to serve them, without constraint by government preferences. U.S. industry encourages India to adopt such an “open skies” satellite policy to allow consumers the flexibility to select the satellite capacity provider that best suits their business requirements.

Licensing Requirements and Fees. As in the past, we urge India to reevaluate the basis for license application fees, capitalization requirements, and bank guarantees. As a general matter, application fees should reflect the cost of processing an application. In line with international best practices, requirements relating to capitalization, the rationale for which makes little sense in most cases, should be eliminated. While bank guarantees are appropriate in limited cases, such requirements should reflect the scope of business intended to be offered and should be a temporary, not permanent requirement.

The inconsistencies that currently exist between licensing fees and capitalization requirements for different services in India demonstrate the need for reform. For example, an applicant for an ILD license must have a capitalization of \$500,000 and pay a license application fee of \$500,000 and a bank guarantee of \$500,000. For GMPCS (Global Mobile Personal Communications by Satellite), the capitalization requirement is \$20 million; license application fee is \$200,000 and there is a requirement for a \$200,000 bank guarantee. A capitalization requirement for GMPCS that is more than 40 times larger than what is required of ILD licensees cannot be justified – hence, as noted above, the capitalization requirements for both services should be eliminated. In addition, all license application fees should reflect the cost of application processing. A paper providing additional detail on this issue was provided by a Subcommittee member directly to DoT prior to the December 2008 meeting of the Working Group in New Delhi. DoT had indicated an interest in revising GMPCS licensing requirements, but no public

action has been taken to date. The Subcommittee looks forward to hearing how the DoT may address this issue.

With respect to annual license fees, which are a percentage of annual gross revenue, we would appreciate knowing more about how the government currently arrives at the fee percentage, and what the basis is for charging some services higher fees than others. We believe that annual fees, as well as licensing fees, should be based solely on the accepted principle of recouping administrative costs. It is not clear why holders of an ILD license are required to pay 6% of annual gross revenue and providers of GMPCS services are charged 10%.

It is important to note GMPCS and other satellite services can play a very important role in disaster preparedness, rescue and relief efforts, particularly in remote areas and at times when the terrestrial infrastructure is compromised or overloaded. Satellite services should be included in India's disaster management plans but the licensing barriers noted above make it difficult for those services to be available currently.

Similarly, we urge India to take a closer look at the methodology it currently uses to calculate license fees for both ILD and NLD operators providing enterprise data services to ensure that India's license fee regime does not frustrate the goals of promoting competition, creating a level playing field among all service providers, and reducing the sales price of services to consumers. Under the current methodology, license fees for these operators are based on revenues from both licensed and unlicensed activities, which make the calculation of such fees unnecessarily burdensome.

In light of the variances in licensing fees and the burdensome rates of the licensing fees, the Subcommittee was troubled to learn that the DoT was planning to impose a uniform rate of 8.5% across all telecom licenses existing contractual license agreements that were calculated using the earlier established licensing fees.

The standalone global carriers holding ILD, NLD, and ISP (with Internet telephony) licenses currently pay 6% of their Adjusted Gross Revenue (AGR) as a license fee to DoT. There are other categories of licenses (access services) that require AGR based fees which range from 6% to 10% depending upon the category of the circle (A, B, C, and Metro) in which they operate. There are integrated operators that hold virtually all type of licenses and pay revenue share based fees to DoT as per their license terms and conditions.

The liberalization of ILD and NLD saw the advent of global telecom carriers that serve the needs of the enterprise data segment. The sector already witnessed a reduction of licensing fees from 15% to 6% in 2005-2006. TRAI in May 2010 has also favorably recommended a uniform license fee of 6% on ILD and NLD licensees.

If DoT imposes a uniform rate of 8.5% across all telecom licenses, such action will impact standalone global carriers operating in India as well as similarly placed standalone licensees. This increase would severely impact telecommunications carriers based on the

current cost (including the 6% licensing fee), which is already part of long term contracts. The sudden hike in fees would impact costs and returns on investment for the carriers.

In addition, the license fee should not operate as a multi-stage and cumulative assessment. The fact that input costs (such as charges for interconnection or local loops which themselves already reflect the license fee) are not deductible from the adjusted gross revenue on which the license fee is calculated, results in the multi-stage assessment of license fees in some cases. Whereas facilities-based operators using their own networks need only pay the license fee once, wholesale inputs that operators such as stand-alone ILDOs, NLDOs, ISPs, and potentially ISPs buy from other operators as part of their own infrastructure-based service offerings are subject to the license fee twice – once when they are sold from the first network owner to the second operator, and then again when the second operator sells them to the end user. The same applies to operators who interconnect to facilities-based operators' facilities. As a consequence of levying a license fee at every sales point in the supply chain, a telecom operator who buys wholesale inputs from other licensed operators is placed at a competitive disadvantage with those who do not need to buy these inputs.

To avoid this multi-stage assessment of licensing fees, India could clarify that license fees apply only to revenues from retail sales transactions where the service is provided to an end user. Intermediate or wholesale transactions where the purchaser is another carrier would not be counted. Since the service fee charged by the first telecom operator would not need to recover any license fee, all operators would be able to compete on a true level playing field. Alternatively, India could specify that for the purposes of license fee calculations, licensed providers are permitted to deduct from their gross revenue base the value of any wholesale telecom services/telecom resources (bandwidth) they have purchased as inputs. Either of these two approaches would eliminate the double assessment problem. Under the ILD and NLD licenses, the operator is allowed to provision both voice and data services. It is inconsistent that the ILDOs/NLDOs are allowed to take deduction of input costs (interconnection/pass through charges) when they provide voice services. However, when they provide pure data services under the same license(s), they are not allowed any such deduction of input costs. There needs to be a level playing field within the same license.

For example, in the United States, the Federal Communications Commission (FCC) has adopted the excise tax approach purposes of Universal Service Obligation Fund (USOF) contribution, where each carrier is assessed a fee based upon its revenue from end-users. Lastly, should licensing fees be extended to plain ISP services (i.e. without any internet telephony), we urge that the methodology for calculating the revenue base should not result in double assessment of fees on certain ISPs.

(4) Internet Protocol (IP) –Enabled Services and Business Process Outsourcing (BPO)

Business Process Outsourcing providers rely on next generation telecom infrastructure in the provision of their services. The use of VoIP in the call center business can significantly reduce costs while improving service offerings and scale-ability at the enterprise level. Unfortunately in India, VoIP can only be used in CUGs (closed user

groups, or just among sites). For example, if a company has two offices, they are allowed to link using an IP trunk and VoIP, but not out to the PSTN/PLMN (Public network) within India. So companies must maintain separate systems for internal and external communications, increasing establishment costs. We continue to note that VoIP provided over public networks that can connect to the Public Switched Telephone Network (PSTN) eliminates the requirement of users to have a dual-investment in infrastructure; that enterprise users realize enormous savings in the cost of moving telephones or adding telephones; and that company investment in Internet communications realizes higher return because more applications can be managed on a single infrastructure.

Furthermore, VoIP offers advantages for companies in their business continuity planning by enabling companies to reconfigure where they receive calls in a flexible manner. This function allows companies to reroute their communications and continue operations when an emergency strikes, such as a natural disaster or other event.

The Subcommittee was encouraged by the TRAI recommendation published in August 2008 that called for liberalization of VoIP services, but understands that DoT has rejected this recommendation. We urge DoT to reconsider the important benefits that liberalization of VoIP would have on the Indian ICT sector.

Please direct any questions to:

Nicolas Fetchko
Director
International and Government Affairs
Telecommunications Industry Association
202-346-3246
nfetchko@tiaonline.org

Enclosures (5)

Annex 1-The U.S. Approach to Information and Communications Technology Network Infrastructure Protection Paper

Annex 2- Law Enforcement Intercept in the United States Paper

Annex 3- India Telecommunications Security: A Framework Based on International Best Practices

Annex 4- Draft Circular to Establish the Telecom Security Council of India

Annex 5- Draft License Amendment to the Unified Access Service License Agreement for Security Related Concerns