

Telecom Regulatory Authority of India

RECOMMENDATIONS

ON

**“MEASURES TO PROMOTE COMPETITION IN
INTERNATIONAL PRIVATE LEASED CIRCUITS (IPLC)
IN INDIA”**

December 16, 2005

**TRAI House,
A-2/14, Safdarjung Enclave,
New Delhi-110 029**

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EXECUTIVE SUMMARY

1. The ILD segment of telecom sector was opened for competition in March 2002 on recommendations of TRAI, wherein the equal ease of access to International connectivity was mandated for a limited period. During the three years period since 2002, the Authority has been closely monitoring the market developments in the ILD sector in general and in IPLC segment in particular. Observing the market price of IPLC to be on higher side TRAI fixed ceiling tariff for IPLC during September 2005 to bring down cost for the users by an extent of 59% for higher capacities.

2. To address other issues, which came out during the tariff fixation process, TRAI initiated a consultation process on the measures to promote competition in the IPLC segment with the issue of Consultation Paper No.5/2005 in June 2005. TRAI has formulated its recommendation based on the analysis of stakeholders' feedback and the best international practices governing IPLC segment. These recommendations are presented in the following schematic manner: -

- i) Entry Fee and Annual License Fee (Revenue Share).
- ii) Introduction of resale in IPLC segment.
- iii) Access to Essential facilities including landing facilities for submarine cables at Cable Landing Stations (CLS).
- iv) Licensing of non-ILDO international cable carriers.

The gist of the recommendations are given below:

3.1 Entry Fee & Annual License Fee (Revenue Share):

It is observed that govt. has already revised the entry fee for new ILDO license from Rs. 25 crore to Rs. 2.5 crore and annual revenue share to 6% from existing 15% both for existing and new ILDOs, to be effective w.e.f. 1.1.2006. In view of this no recommendation is considered necessary to be made on this issue.

3.2 Introduction of Resale in IPLC Segment:

The Authority is of the view that introduction of Resale would definitely bring in more competition in the IPLC segment. However, it has to consider the fact that the ILD sector was opened for competition only in 2002 and resale was not permitted within the scope of the license. As per NTP'99, resale in ILD sector is not to be permitted till the year 2004. Keeping in view the need to augment the investment in infrastructure and policy provision, it is recommended that introduction of resale would be

appropriate only after a period of 5 years of opening up of ILD sector i.e. with effect from February, 2007. The enabling provision for this has to be made in license at the earliest to initiate the process and also to indicate the road map in this regard to the service providers.

3.3 Access to Essential facilities at Cable Landing Station (CLS):

TRAI has examined the issue of access to cable landing stations (CLS) by various service providers i.e. new ILDOs as well as by Internet Service Providers (ISPs). On the basis of a detailed analysis carried out by TRAI, it has come to the conclusion that growth of competition in IPLC is being hampered by the absence of mandated equal access to cable landing stations. Accordingly, it is recommended that the time limit specified in clause 2.2 (b) of ILD license agreement should be removed and the clause expanded to mandate permission to landing of submarine cables owned by licensed operators. This will avoid unnecessary expenditure and delay in setting up of new CLSs for new cables landing in the country. The CLS owning ILDO should be mandated through license amendment to publish the terms & conditions of such access with prior approval of regulator. This provision will enable TRAI to issue requisite regulation to ensure efficient, transparent & non-discriminatory access to the “essential facilities” at CLSs including fixing the cost-based access charges.

3.4 Licensing of Non-ILDO International Cable Carriers:

As regards entry of non-ILDOs to terminate their capacity on a CLS owned by ILDOs in India, it is recommended that the international cable carriers, who do not hold an ILD license in India, should be licensed like the Infrastructure Providers to provide international bandwidth to ILDOs only. This category could be called International Infrastructure Provider (IIP). There should be no entry fee/revenue share for this category except a nominal annual charge to be levied by Govt., as these are proposed to be providing infrastructure to the ILDOs only.

1. BACKGROUND – NEED FOR EFFECTIVE COMPETITION IN IPLC SEGMENT

1.1 Software exporters, BPO units, banks and other financial services companies, Internet Service Providers (ISPs) and ILDOs are key users of IPLCs. IPLC is also considered to be one of the basic requirements for Information Technology (IT) and IT-Enabled Services (ITES) industries like Business Process Outsourcing (BPO) and Knowledge Process Outsourcing (KPO). India has emerged as one of the leading providers of ITES in the world and is fast acquiring a formidable reputation in this sector. In addition, ISPs use IPLC for their upstream connectivity abroad. The price of IPLC as well as access to essential facilities at CLSs needs to be based on competitive costs for these important initiatives. Further, growth of broadband is now a major objective of the Government as indicated by various Government initiatives including the Broadband Policy 2004 of the Government, which also provides a basis for fundamentally transforming the socio-economic opportunities in rural India. This requires consumer prices for the various broadband-based services to be affordable.

1.2 The ILD segment of telecom sector was opened for competition in March 2002 on recommendations of TRAI. During the three years period since 2002, the Authority has been closely monitoring the market developments in the ILD sector in general and in IPLC segment in particular. Observing the market price of IPLC to be on higher side TRAI fixed ceiling tariff for IPLC during September 2005 to bring down cost for the users by an extent of 59% for higher capacities. Beside the IPLC tariffs, the ceiling tariffs for Domestic Leased Circuits (DLC) have also been lowered substantially, with a reduction of 70% over the market price for higher capacities.

1.3 At the time of opening up the sector for competition, VSNL, the incumbent operator was the only operator in the International Long Distance (ILD) market. Therefore, enabling provision for access to bottleneck facility for international bandwidth for new entrants was incorporated in clause 2.2(b) of the ILD licences, which states as under:

"Equal access to bottleneck facilities for international bandwidth owned by national and international bandwidth providers shall be permitted for a period of five years from the date of issue of the guidelines for grant of licence for ILD service or three years from the date of issue of first licence for ILD service, whichever is earlier, on the terms and conditions to be mutually agreed".

1.4 Videsh Sanchar Nigam Ltd. (VSNL) is the incumbent operator with landing station facilities at Mumbai, Cochin and Chennai. The other ILDOs are Bharti Infotel, Reliance Infocomm, BSNL and Data Access. Out of these ILDOs, Bharati Infotel only owns a Cable Landing Station. At present, Reliance Infocomm & M/s BSNL are still in the process of setting up their own cable-landing facilities and M/s Data Access is not known to provide any service now. Thus, the prevalent market structure for provisioning of IPLC in India is such that there are only three players (who currently own the international cables) and only two of them own the cable-landing stations. As of now, Reliance Infocomm is dependent upon the CLS facility of VSNL to access its capacity available in FLAG cable system owned by it.

1.5 During finalization of ceiling tariffs for IPLC, it was observed that fixation of ceiling tariff alone is not sufficient in long-term as some impediments still existed, which are identified to be following:

- Problems in access to international bandwidth and cable landing stations
- Difficulties in Co-location of equipment at Cable Landing Stations including the landing facilities for new cables.
- High Access charges for facilities at Cable Landing Stations.
- Limited number of players in ILD market

1.6 It was noted that the IPLC providers (who own facilities) are also providing international long distance telephony and some of the ILDOs who are not owning international capacities have to depend upon facilities of IPLC providers owning such capacities. Similarly, the IPLC providers are also Internet Service Providers and thus they compete with other Internet service providers who use their international bandwidth resources. In such a scenario, lack of competition in IPLC market may lead to non-level playing field among the operators owning IPLC facilities and those who have to lease these facilities from their competitors in their service segment.

1.7 In view of the above and the recent developments in the Indian market for IPLC, the Authority decided to initiate a consultation process to deliberate upon various issues pertaining to competition in the IPLC market and issued a consultation paper on “Measures to Promote Competition in International Private Leased Circuits (IPLC) in India” in June 2005. The open house discussions on this were held at Mumbai and New Delhi during July 2005. The Authority considered the existing market conditions in India for IPLC including market prices, its market structure, and the conditions prevalent elsewhere in the region and the practices governing regulation of IPLC in other jurisdictions to draw

various conclusions which form the basis of recommendations on these issues. These recommendations are presented in the subsequent chapters as follows: -

- i) Entry Fee and Annual License Fee (Revenue Share).
- ii) Introduction of resale in IPLC segment.
- iii) Access to Essential facilities including landing facilities for new cables at cable landing stations.
- iv) Registration of non-ILDO international cable carriers with the licensor.

1.8 The summary of international practices pertaining to licensing regime and regulation for international connectivity for few of developed and developing countries is included at Chapter 6 as Annex 1 (International Practices).

2. LICENCE FEE – ENTRY FEE & ANNUAL REVENUE SHARE

2.1 Introduction

2.1.1 Historically, the grant of licence was considered, as conferring of a concession, by Govt. for which the Govt. was required to be compensated through payment of a fee by licensee. Entry fee also used to be seen as a means for augmenting Govts. budgetary resources. In addition, an annual revenue share is also levied on the service providers to generate resources for USO as well as to recover the administrative costs associated with licensing regulation and enforcement. TRAI in its various recommendations, has suggested that a better way for generating revenues for the government while at the same time popularizing services through easier affordability, is to minimize the input costs and to levy taxes such as service tax on the output viz. the service rendered.

2.1.2 It is also mentioned that normally the purpose of Entry fee is to ensure that non-serious players are discouraged on the one hand and on the other hand it should not become a barrier for new players to enter the market. It should also be based on the revenue generation capability and market size of the particular service segment and number of players likely to obtain the licence for that service.

2.1.3 The number of players in any service segment determines the level of competition and as proved in the case of cellular mobile service, adequate competition ensures low tariffs and therefore phenomenal growth. Thus, while deciding upon the quantum of Entry fee, the aspect of competition has to be kept in mind and the amount of Entry fee has to necessarily take into account the overall size of the market.

2.2 Summary of Comments of Stakeholders:

2.2.1 Stakeholders during the open house discussion as well as through written submissions stated that there is no competition in the IPLC sector and regulatory intervention is necessary in the initial stages of liberalization. The submissions of stakeholders on the issues relating to license fee are summarized hereunder;

2.2.2 Some stakeholders have commented that there is not enough infrastructure belonging to new players in the IPLC market and that is why the incumbent operator is in a position to maintain its hold in this area despite the fact that sector was opened for competition early in the

year 2002. It was mentioned that this sector has not been able to attract major investment because the initial entry fee (Rs. 25 Crores) as well as annual revenue share (15%) in the form of percentage are very high. It was stated that these two factors have acted as impediments to entry of sufficient number of new operators in IPLC market.

2.2.3 The stakeholders also raised the issue of optimum number of operators for the ILD market. It was stated by most of the stakeholders that number of operators should be increased so that sufficient infrastructure is available and bandwidth availability would also get improved.

2.2.4 The incumbent operator (VSNL) on the other hand stated that there is already enough infrastructure in the IPLC market and there is no need to initiate any further steps for promotion of competition. They mentioned that the availability of IPLC has improved a lot in the last 2-3 years i.e. after opening up of ILD sector and tariff for IPLC has also come down because of competition. VSNL also submitted that their market share has reduced by almost 60% in the last three years because of competition where as same has not happened in the case of domestic leased circuit (DLC) market as there is hardly any competition to the incumbent, BSNL. It was also mentioned that if TRAI is considering some intervention in IPLC segment then it should also initiate similar steps for domestic leased circuits market as the incumbent still has about 80% market share.

2.2.5 Bharti Group, another ILD operator mentioned that there is already lot of competition in IPLC segment and because of competition the prices of IPLC have come down. It was also stated by Bharti Group that ILD market was opened for competition only in 2002 and in just three years sufficient infrastructure has come up. They also mentioned that the international markets in other countries were opened in 1990-95 and those countries have developed their markets in a period of 10-12 year. It was stated that any intervention at this point would discourage investment in the sector and sufficient infrastructure may not be created. Bharti representative even cited the example of European markets where bandwidth markets crashed and most of the operators either sold off or are in bad debts/became sick.

2.2.6 Some stakeholders from ISPs submitted that in order to expand and popularize the Internet/Broadband, the regulator should intervene to promote competition in the IPLC segment so that the cost of international connectivity is brought down. One of the stakeholder stated that they are providing broadband at Rs. 400/- per month and 50% of this cost is that of international connectivity, which is a very large

portion of input cost and any reduction in IPLC charges can help them to reduce the customer charges for Broadband further. It was also mentioned that annual licence fee if any, should be imposed just to recover the administrative cost only.

2.3 Analysis of Stakeholders comments & International Practices: -

2.3.1 It can be concluded from the submissions of stakeholders as well as discussions held in the open houses that the International telecom services market in India has not witnessed the desired level of competition. This has been confirmed in a recent study conducted by an independent consulting agency (Gartner, Inc 2004, 'Market Focus: International Bandwidth Pricing Trends, Asia-Pacific, 2004'). The conclusion of the Gartner study in regard to international bandwidth markets in Asia-Pacific is reproduced as under: -

'The most-competitive markets for international bandwidth are Hong Kong, Singapore, Japan, Taiwan and South Korea. The least-competitive markets are Indonesia, India and Malaysia.'

2.3.2 Most of the stakeholders and also international carriers have pointed out that Indian government should grant more licenses for international telecom services. It was also stated that present level of entry fee and revenue share for ILD license is prohibitive vis-a-vis international scenario.

2.3.3 Stakeholders also favored that government should issue more licenses for setting up cable landing stations in India so that additional international bandwidth can be terminated at these stations and made available to the Indian telecom operators as well as ISP's. With the easy availability of international bandwidth, the price and other issues will automatically be settled for the IPLC sector.

2.3.4 Incumbent operator VSNL is opposing any move to allow more operators with lower entry fee. According to VSNL and Bharti existing licensees have made huge investment after paying Rs.25 Crores as entry fee and these ILDOs are in consolidation phase. They have submitted that any move to reduce entry fee within three years of opening the sector will be against the interests of existing ILDOs.

2.3.5 As can be seen from the International Practices (Annex 1), many countries had initiated different measures to promote competition in international telecom segment. Some of the measures initiated by these countries include granting more licenses, easing the entry barrier with

reduced license fee, monitoring wholesale price for IPLC, introduction of Resale etc.

2.4 Consideration for Recommendation:

(i) Entry Fee :-

2.4.1 During the open house discussions as well as written submissions, many stakeholders commented on entry fee for ILDO being very high. Govt. has recently reduced entry fee for new entrants in ILDO sector from Rs. 25 crore to Rs. 2.5 crore and hence made the entry for new players quite easy. Therefore, it is not considered necessary to make any recommendation pertaining to the entry fee for new entrants in ILDO segment.

(ii) Annual License Fee (Revenue Share)

2.4.2 Most of the stakeholders were of the view of keeping the revenue share on the IPLC to the minimum level, as any such levy will be passed on the customers/users of the IPLC and will make the service more expensive. It was also mentioned by many stakeholders that imposition of revenue share on IPLC, which is input to many other telecom services, is against the best international practices in this respect. The IPLC is mainly used by ILDOs and ISP's and the ILDO's pay revenue share on their gross revenue. Thus imposition of annual licence fee in the form of revenue share on IPLC would definitely increase the tariff for the service to the end-users and ultimately reducing the competitiveness of the country. It can be seen that such high level of annual revenue share (15%) is not being levied in the other neighboring Asian countries (International Practices Annex 1). Such incidence also amounts to partial double taxation in the case of procurement of IPLC's by another ILDOs who is levied revenue share for the services provided making use of leased IPLC as an input resource.

2.4.3 As an integrated ILDO who is also an ISP has the cost advantage for the IPLC resources; the ISP Wing of the IPLC provider would be in a position to offer various services at lower cost. Therefore, this will put the stand-alone ISPs at a disadvantageous position and result in a non-competitive situation.

2.4.4 The annual licence fee, as a percentage of revenue share should normally be restricted to cover only the administrative costs incurred in the management, control, enforcement and regulation of licences as well as for contribution to rural telecom development through Universal Service Obligation (USO) wherever applicable. It has to be ensured that

undue financial costs are not imposed on resources, which are inputs to other services, as this will inhibit the deployment of such services. This would in turn defeat the objective of harnessing economic advantages, which the country would have exploited as a international telecom hub.

2.4.5 The telecom services should not be treated as a direct source of revenue generation for the Government. Lowering annual fee in form of revenue share on the service providers would not only lead to reduction in tariff for the end-users but also result in higher growth in the total revenue due to growth of demand for services. A high revenue share as annual license fee would be counter-productive and may deprive the government of increased avenues of taxation in the form of service tax on higher revenues.

2.4.6 Generally the maximum level of annual license fee should not exceed the contribution towards USO and Administrative fee for licensing and regulation. The administrative cost should be just sufficient for managing, licensing and regulating the sector. The present level of USO contribution is 5% and the level of Administrative fee can be taken as 1% of AGR. It is also in line with the TRAI's recommendation pertaining to Unified Licensing Regime. Therefore it is considered appropriate that for ILD operators the annual license fee should consist of contribution to USO (5%) and Administrative cost (1%) i.e. a total of 6% of Adjusted Gross revenue (AGR).

2.4.7 Govt. has recently reduced the annual license fee for ILDOs both existing and new from 15% to 6% of AGR to be applicable w.e.f. 1.1.2006. Therefore, it is not considered necessary to make any recommendation in this regard.

3 ISSUES RELATED WITH INTRODUCTION OF RESALE IN IPLC SEGMENT

3.1 Introduction

3.1.1 As per clause 2.2(a) of ILD License, Resellers in the ILD sector have not been permitted in India as the focus has been on creation of infrastructure by new players. Normally, Resellers or non-facility based service providers are introduced to enhance competition after sufficient infrastructure has been established in the particular segment of telecom sector. The Resellers, which are normally, provided with easy entry conditions with light-handed regulation and without need for high capex associated with facility based operation can play a significant role in enhancing the competition without delay. Resellers can also provide some value additions and can serve the retail market more efficiently than the main facility-based operators who can concentrate on providing wholesale service to other operators and resellers.

3.2 Summary of Stakeholders Comments

3.2.1 Many stakeholders strongly favored the introduction of reselling in IPLC market so as to bring in non-facility based service providers in this segment. It was mentioned that reselling will promote competition and also market forces will come into play at once instead of waiting for too long for the competition to develop itself.

3.2.2 Some of the stakeholders opined that international carriers should be allowed to terminate international capacities in India and they should be allowed to sell bandwidth to Indian whole-sellers directly. It was also mentioned that these carriers can also sell to other operators in India, who in turn can do reselling through disaggregating the higher capacity into smaller denominations for the benefit of small players.

3.2.3 Some stakeholders were of the opinion that resellers should not be subjected to higher entry fees. In fact most of the stakeholders favoured that resellers should be allowed to enter the market without any entry fee or with a nominal fee only.

3.2.4 On the other hand VSNL, the incumbent mentioned that regulator should not consider the reselling in isolation for IPLC segment alone. They stated that if regulator is contemplating to introduce reselling then it should be examined in a broader way so as to cover other segments of telecom sector like domestic leased line also. Another ILDO, M/S Bharti opposed the introduction of resellers in IPLC segment. They stated that if resellers are to be allowed, then issues like level playing field with

existing ILDOs, who have paid huge entry fee of Rs. 25 crores should be kept in mind. Both incumbent operators VSNL as well as Bharti opposed the introduction of resellers in the IPLC market also on the ground that this will stop further investment for the setting up of international telecom facilities. They mentioned that at the moment the ILD sector is opened to competition since a period of three years only and the existing ILD licensees have a long-term plan for investment in international telecom infrastructure and therefore any such move at this juncture will destabilize their investment plans. They desired that the existing ILDOs who have invested and are still investing in international cables should be allowed to make a return on their investment. The representative of VSNL also stated that the issue of level playing field should be properly addressed if reselling is at all to be considered in IPLC segment.

3.2.5 Some stakeholders highlighted the need for reselling and desired that Regulator should recommend a license regime which does not inhibit the take up of resellers. It was indicated that the scope, rights and fees should be benchmarked to economies like Hong Kong and Singapore where resale has been successfully implemented. It was also mentioned that the entry fees and revenue share should be kept as low as possible to have maximum number of resellers.

3.2.6 A few stakeholders proposed that resale should be introduced immediately so that its effects are felt almost at once. They indicated that resale is an important way of increasing competition in a market, which has not responded well to facility-based competition situation.

3.3 Analysis of Stakeholders Comments and International Practices:

3.3.1 Both the incumbent ILDO, VSNL and M/s Bharti, strongly opposed the introduction of resale for IPLCs at this time. According to them this is still early stage of competition in IPLCs and new ILDOs as well as incumbent operator are building infrastructure to meet the future demands of telecom operators and other customers.

3.3.2 Except VSNL and Bharti, other stakeholders who responded to the consultation process argued that there was not sufficient competition in the Indian IPLC market. The figures for bandwidth leased as IPLCs provided by the three ILDOs, are shown below:

Table 3.1

Operator	Bandwidth in equivalent of STM1s leased	Market share (%)
VSNL	83	75
Bharti	18	17
Reliance	9	8

(Operators data - June 2005)

From the market share of three existing active ILDOs, it can be observed that the incumbent, VSNL has 75% market share in provision of IPLCs on lease.

3.3.3 The arguments of stakeholders in favour of the introduction of resale of IPLCs in India are summarized as under:

- Resale will allow many more providers to contribute – this could encourage more innovation and lower prices.
- The ILDO licensees will still have significant share of the revenue being the wholesale providers.
- Soon there will be very large high-quality and upgradeable infrastructure in the country to reduce the need for more new infrastructure (after launch of SMW4, Falcon and upgrade of SMW3).
- If resale is to be allowed, there are other parts of the supply network that need to be addressed as well, in particular domestic connectivity to link to customers' premises.

3.3.4 After the adequate infrastructure for international telecom services was setup, some countries in Europe as well as Asia Pacific region have introduced reselling (International Practices Annex 1). In many countries the number of IPLC providers is very large and most of them are Non-Facility Based Operators, who are not owning the International Cable Systems. The table below indicates the no. of facility-based operators & IPLC providers in some developed countries, a majority of which are resellers.

Table 3.2

Country	Total number of IPLC providers	Number of facility-based operators in IPLC segment	No. of resellers
UK	33	4	29
USA	32	6	26
Germany	32	5	27
France	34	NA	NA
South Korea	14	4	10
India	3	3	Nil*

Source: ERNST & YOUNG/NRAs website

* In India for providing IPLC one needs an ILDO license same as required for facility-based operators.

The contrast between the situation in India and some of developed countries is clearly apparent. With the recent announcement by the govt. to reduce entry fee for an ILDO license from Rs. 25 crores to Rs. 2.5 crores, few more entities are likely to obtain ILDO license but the resellers will still have a role in increasing the total number of international bandwidth providers to increase competition.

3.3.5 The most competitive markets for IPLCs and other international services are recognized to be those of North America, Western Europe, Australia, Japan, Hong Kong and Singapore. Each of these allows resale of international services, including IPLCs, although they evolved to that situation through a variety of phases, mostly starting with a facilities-based competition. It can be observed from International Practices (Annex 1), not many countries have introduced reselling within initial years of opening of international telecom services to competition.

3.4 Consideration for recommendation:

3.4.1 The ILD sector was opened to competition in 2002 and till date only four new licenses have been granted. Out of these four new licensees, only Bharti has commissioned a cable between India and Singapore. The other two (BSNL and Reliance) have taken steps for creation of international capacity but still have not been able to commission their own submarine cable landing stations. Thus the impact of competition as was expected with grant of four new ILD licenses could not happen with the result that incumbent operator is able to maintain its market dominance in IPLC segment, which is evident as per the table of IPLC market share in the previous section.

3.4.2 The scrutiny by the Authority on the methods to bring about greater competition in international telecommunication services sector shows that an effective means used internationally is to permit “reselling”. The survey of international market shows that high level of competition have been made possible by this step as shown in Table 3.2. While facility based operators in IPLC segments varies from 4 to 6 in most of the developed economies, the total number of IPLC providers is upwards of 30 in most countries due to the presence of non facility based IPLC providers, that is, “resellers”.

3.4.3 The introduction of “reselling” has two implications:

- (1) it brings about strong competition and therefore reduces the price of international leased circuits

- (2) it may impact adversely addition of new infrastructure and capacity creation by the new entrants owing to the reduction in profit margin as a result of intense competition, if introduced in the very early years of opening the market to competition.

3.4.4 The details of various cables, their capacities and ownership details are given in the table below.

Table 3.3

Submarine Cable	Landing Station	Capacity	Landing facilities Owned by	Cable ownership (whole/partial)
SWM3 & SWM4	Mumbai, Chennai	20 GB	VSNL	VSNL
SAFE	Cochin	5 GB	VSNL	VSNL
FLAG	Mumbai	10 GB	VSNL	Reliance
i2i, SMW4	Chennai	8.4 TB	Bharti	Bharti
TIC	Chennai	5.1 TB	VSNL	VSNL

(Source- Operators)

1 TB = 1000 GB

From the above, it can be seen that only one facility-based ILDO owns adequate number of cables. Further, from the table 3.1 of IPLC market share, it can be seen out of only 3 providers of IPLCs in the country, one has major market-share with freedom to service the market and hence possesses significant market power. The other two are having insignificant market share and also lack sufficient infrastructure to compete effectively with the incumbent. It is observed that two of the new ILDOs are setting up their CLSs and cable systems, which are likely to be operational by middle of 2006.

3.4.5 The study carried out by the Authority shows that most countries adopted “reselling” after “adequate” international capacities for the infrastructure have been created. The Authority examined how “adequate” capacity could be defined for our country. It is evident that at the present juncture only one facility based IPLC provider has a number of cables (4 cables) both westwards and eastwards from India. Another operator has a single large capacity cable going eastwards and another operator has acquired the ownership of an existing private cable but does not have its own landing station for the same. While in terms of bandwidth capacity if the entire lighting up of designed capacity is carried out, it could amount to 16.7 Terra bits/sec (Tbps) compared to the present utilization of the order of 40 Giga bits/sec (Gbps). The fact remains that presently the facilities are predominantly owned by only one operator. To consider the capacity as “adequate” one has to keep in mind its distribution between various operators such that in effective terms the capacity is available with several operators, that is, there are

several facility based operators. Authority is of the opinion that “Reselling” may be more effective in competitive market with diversified availability of capacity.

3.4.6 On the other hand if one looks at the plans of various existing facility based service providers it appears that at least 3 more cables by different operators have been planned and are likely to become operational by the middle of 2006. In short by the end of 2006 there is expected to be “adequate” diversified availability of capacity to introduce “reselling”.

3.4.7 One aspect to be kept in mind while considering “reselling” is that the present license will need a modification to enable introduction of “resale” and to mandate ILDOs to provide bandwidth at wholesale prices to “resellers”. This requires modification of clause 2.2 (a) of ILDOs license, which currently prohibits resale. This can be carried out under the provisions of clause 12.1 of the ILDO license, which provides for any modification in the terms and conditions of the ILDO License in the case of necessity and exigency to do so in public interest. In this particular case the public interest is clearly established because of the beneficial effect of enhanced competition as a result of “reselling” without disincentivising the facility based operators. This will also be in line with the spirit of NTP’99.

3.4.8 It will, therefore, be more appropriate to introduce “Resale” in IPLC market after the consolidation of investments by the facility based operators, appropriately after five years period of opening of ILDO sector i.e. by beginning of 2007.

3.4.9 Being a part of license terms & conditions such provision can be affected by licensor only. The enabling provision for the same should be made at the earliest so that the requisite regulations/directive can be framed up by the regulator well in time for introduction of “Resale” for IPLC Segment.

3.5 Recommendation:

3.5.1 The Authority therefore, recommends that the introduction of “Resale” in the IPLC segment of ILDO market be introduced after five years of opening up of ILDO sector i.e. with effect from February 2007, so as to give enough time for the new entrants to fully consolidate their investment plans in the international bandwidth market.

3.5.2 For enabling this, the clause 2.2 (a) of ILD license, which prohibits “Resale”, should be suitably amended, at the earliest.

3.5.3 After a decision to introduce the resale in IPLC segment is taken by the govt., the terms and conditions applicable to resellers will be recommended by the regulator after a consultation process.

4. ACCESS TO ESSENTIAL FACILITIES INCLUDING LANDING FACILITIES FOR SUBMARINE CABLES AT CABLE LANDING STATIONS

4.1 Introduction:

4.1.1 Access to submarine Cable Landing Stations (CLS) is considered an essential input for many telecom services needing international connectivity. Any access barriers to such facility can constrain the competitiveness of telecom operators and become detrimental to healthy growth of international telecom market. Thus the CLSs are considered to be critical telecom infrastructures and it needs to be ensured that any restriction at such facilities should not become 'bottleneck' to international telecom service provision.

4.1.2 Thus recognizing the critical nature of Cable Landing Station (CLS) and for facilitating access to this bottleneck facility, an enabling provision under clause 2.2 (b) was incorporated in ILD license while opening up the sector. This provision states that:

"Equal access to bottleneck facilities for international bandwidth owned by national and international bandwidth providers shall be permitted for a period of five years from the date of issue of the guidelines for grant of licence for ILD service or three years from the date of issue of first licence for ILD service, whichever is earlier, on the terms and conditions to be mutually agreed".

4.1.3 The first ILD license was issued in Feb. 2002 and therefore, the new ILDOs were entitled for equal ease of access to bottleneck facilities at Cable Landing Station of the incumbent operator upto Feb. 2005. As per the license, the terms and conditions of such access were to be mutually agreed between the parties concerned. However, it is observed that there is no standard/published access facilitation agreement, which the new service providers can make use of for availing of access to international cable capacity. In these circumstances there has been a scope for delay in provisioning of access to the capacity acquired by the competing operators from incumbent and other carriers. Also as the terms & conditions of such access are to be mutually agreed between the parties concerned, the regulator is not in a position to intervene in such matters.

4.1.4 The continued control of international capacities, Cable Landing Stations (CLS) and associated facilities by only few operators can enable the owners to stall or delay entry of competitive operators and thus create major bottleneck to the growth of international telecom services. Problems can also be faced by operators who have acquired capacity in a cable system from some other international carrier and wishing to access this capacity at the landing station of an existing operator. Discussions with industry sources suggested that establishing an international cable system including landing facilities in India not only requires a large investment but is also a cumbersome process involving various time-consuming clearances including security clearance, maritime clearance, civil authorities permissions etc. On an average setting up of a cable landing station can cost between Rs. 20 crores to 50 crores depending upon the location in the country. In the Indian conditions, the time required to setup a CLS can be a minimum of 9 months and is normally more than a year. Of course, a CLS is always built to have enough capacity for multiple cables to land therein in future.

4.1.5 As setting up CLS is a very time consuming & capital-intensive process, it is not feasible for a new operator to set up a CLS for new cables and neither it makes economic sense to duplicate the expensive CLSs infrastructure in the Country, when many cables can be landed on the same CLS. Therefore, multiple cables owned by different operators should be made to land on a common CLS for economic reasons by a mandate through terms and conditions of the license.

4.2 ‘Essential/Bottleneck Facilities’ Nature of Submarine Cable Landing Station

4.2.1 Normally the submarine cable system operator or the owner manages and controls the landing station also. For consortium cable typically the consortia member in each country where the cable lands, manages the landing station. In future, it is always possible that a situation could arise wherein change of ownership of submarine cable and / or change in the ownership of landing stations could take place impacting the relationship between these two entities. It is thus evident that under circumstances of monopoly or limited number of cable landing stations there appears a need for mandating the access to CLS for the international bandwidth as well as for landing of new cables by competitive operators.

4.2.2 At present there are following five operators in international telecom segments in India:

1. Videsh Sanchar Nigam Limited (VSNL)
2. Reliance Infocomm Limited (RIL)
3. Bharti Infotel limited (Bharti)
4. Data Access Limited. (DA)
5. Bharat Sanchar Nigam Limited (BSNL)

The details of CLSs owned & planned by them are as following:

(i) **M/s VSNL** is the incumbent operator in ILD segment whereas other four were granted License by the Government after Feb. 2002. At the time of disinvestment, the incumbent operator owned and controlled landing stations at Mumbai and Cochin. VSNL has since commissioned a cable (TIC) from Chennai to Singapore with a designed capacity of the order of 5.1 TBPS. It now has a CLS at Chennai also.

(ii) **M/s Bharti** owns, jointly with an overseas partner, cable system from India (Chennai) to Singapore with its CLS at Chennai. The total designed capacity of this cable is of the order of 8.4 TBPS. VSNL and Bharti have recently signed swapping arrangement for mutual back-up/ restoration arrangement between i2i cable owned by Bharti and TIC cable owned by VSNL so that the restorable capacity over both these cables can be provided.

(iii) **M/s Reliance Infocomm Limited (RIL)** started its ILD operations from 2003 onwards. RIL is also laying a submarine cable (FALCON) from Egypt to Hong Kong via India. The total designed capacity of this cable system would be of the order of 3 TBPS. RIL is setting up a landing station at Mumbai, which is likely to be operational by June 2006.

(iv) **M/s Bharat Sanchar Nigam Limited (BSNL)**, which is a PSU ILDO, is in the process of constructing its own CLS at coast of Tamil Nadu to connect to Sri Lanka, by second quarter of 2006.

(v) **M/s Data Access Limited (DA)** another ILDO had started its ILD operations in the year 2003 but owns no CLS of its own. It was making use of Satellite media predominantly and at present the operator is not known to be providing any IPLC service.

4.2.3 The landing stations for various cables in the country, their capacities and ownership details are summarized in the table below:

Table 4.1

Submarine Cable	Landing Station	Designed Capacity of Existing Cables*	Landing Station Owned by
SWM3 & SWM4 (Expected by end of 2005)	Mumbai, Chennai	20 GB	VSNL
SAFE	Cochin	5 GB	VSNL
FLAG	Mumbai	10 GB	VSNL
i2i, SMW4 (Expected by end of 2005)	Chennai	8.4 TB	Bharti
TIC	Chennai	5.1 TB	VSNL
Falcon	Mumbai (Expected by June 2006)	3.0 TB	Reliance
Indo-Srilanka Cable	Southern India Coast (Expected by June, 2006)	160 GB	BSNL

(Source- Operators)

1 TB = 1000 GB

* This capacity can increase in case new cables are landed at the CLS

The Landing station owners provide access to submarine cable bandwidth purchased by the service providers from cable consortium/carriers under the provisions of landing party signatory agreement signed between cable owners and landing station party. As per the existing terms & conditions of their licenses they are not mandated to provide the landing facilities for new cables planned by Competitive operators/ international carriers.

4.3 Summary of Comments of Stakeholders:

4.3.1 Many Stakeholders stated in their written submissions that cable landing stations in India retain their bottleneck nature since four of the five existing cable landing stations (CLS) are under the control of single incumbent operator. It was stated that the incumbent operator has been denying access for international bandwidth to various competing operators on one pretext or the other. It was also mentioned that, the incumbent operator in India has been using its bottleneck control of its cable-landing stations to limit the availability of international capacities to competing operators.

4.3.2 Some stakeholders opined in their written submissions as well as open house discussions that dominant incumbent operator has fixed prohibitive access charges for the international capacity which are very high as compared to the charges prevailing in the Asia Pacific region. The stakeholders also pointed out that the incumbent operator should be mandated to publish its tariffs for access and other terms and conditions on the website so as to make them transparent and non-discriminatory.

4.3.3 One of the stakeholders pointed out that the regulator should mandate cost based equal ease of access to CLS. The access conditions for CLS should be transparent, non-discriminatory and fair. The owner of CLS should provide similar terms and conditions to a competitive service provider as being provided to its own subsidiary/wing in the provision of access to CLS.

4.3.4 Another stakeholder strongly emphasized that cable-landing station is a bottleneck facility and the incumbent operator has been able to inhibit the growth of competition in access to the international bandwidth. Most of the cable systems are accessible only through the CLSs of incumbent operator and other ILDO's and ISP's have been finding it difficult to access the bandwidth purchased by them directly from the owners of the other cable system.

4.3.5 Many other stakeholders stated that there are limited numbers of cable landing stations (CLS) in the country and the existing landing stations are under the control of only two operators, though 5 ILD licenses have been issued. The stakeholders requested the regulator to take some immediate short-term measures to address the issue of access to cable landing station and at the same time initiate steps on long-term basis for mandating open access to the CLS for new cables.

4.3.6 On the other hand VSNL, the incumbent operator refuted the allegations of the other stakeholders and stated that the access has been delayed in some of the cases because of non-compliance of terms and conditions of the license by the requesting licensee. They mentioned that ILD sector was opened for competition in the year 2002 and there was some delay in the initial stages as requesting licensees were not aware of the formalities to be completed for accessing the international capacity. The incumbent also stated that it is bound by the security monitoring conditions of its licence as an ILDO and has to comply with these so as to avoid imposition of penalties by the licensor. VSNL also mentioned that the actual access charges for the provision of bandwidth are negotiated between the ILDO and the other operators and these cannot be made available in the public domain.

4.3.7 The representative of M/s Bharti mentioned that at present about 5 to 7 cables are terminating in India whereas in other countries the number of such cables is 20 to 25. In future more cables are expected to land in India and accordingly more cable landing stations may also come up. The access to cables is already available to the Indian telecom operators and the position will further ease with the coming up of the CLSs of other ILDOs in the near future.

4.4 Analysis of the Stakeholders Comments & International Practices:

4.4.1 CLS is an essential network facility for a submarine cable, and it is not economically efficient to duplicate such a facility for new cables since it would involve considerable costs and time & also will be against the prudent economical principles. It is always desirable to land new submarine cable on the existing CLS to avoid costs & delays associated with building a separate CLS for every cable. Also the cost associated with “Operation & Maintenance” of an international cable system can be reduced significantly by sharing the landing facilities of existing cable system. The table 4.2 below shows the example of multiple cables owned by different carriers landing at CLSs owned by few of them:

Table 4.2: Details of Cable Landing Stations (CLS) and Cable Systems

Country	No. of CLS Owners	No. of CLSs	No. of cables landing at CLSs
Malaysia	1	4	9
Singapore	2	4	8
Hong Kong	4	6	10
United Kingdom	7	8	11
USA	17	22	30
Canada	3	3	4
Australia	2	7	8
Brazil	3	4	6
Russia	2	3	4
Philippines	3	3	5
India	2	5	8

From the above table, it can be observed that generally more than one cable is landed at a CLS. Out of these cables, many are owned by the consortiums/ entities that do not own the CLSs at that location. For example, three such cables owned by the carriers having no landing facility of their own in Singapore and two cables owned by carriers

having no landing facility of their own in Hong Kong have been permitted to land at CLSs of other operators.

4.4.2 Generally, there are two issues regarding bottleneck to essential facilities at a landing station. One is denial of access to the international capacity of a consortium cable by the CLS owner. The other issue is denial of landing facilities to a third party who possesses the requisite license desirous of landing new cable at the CLS of a carrier. Both these can lead to creation of bottlenecks and therefore needs to be removed through regulatory mandate.

4.4.3 As can be seen in the International Practices at Annex 1, one of the worth considering regulatory intervention for access to a CLS was made by IDA, the Singapore regulator by applying the interconnection regulation pertaining to switched voice services to access to CLS also. The variety of cables landing there is amongst highest in Asia with multiple ownership structures. But as the majority of landing stations are owned and operated by SingTel, the incumbent and that fact combined with the wide experiences of many operators that SingTel will exploit the bottleneck aspects of the access to and through these cable landing stations led IDA to conclude that the RIO should apply to the detailed aspects of rights and obligations of the Facility Based Operators (FBO) in access to international capacity as well as landing facilities at CLS. In Singapore for obtaining an FBO license there is no entry fee but an annual license fee of 1% of Gross Turnover is levied subject to a minimum of S\$1,00,000 per year.

4.4.4 The stakeholders in their submissions suggested the Singapore model as a basis for regulation in India which mandates only the dominant operator to provide regulated access to its CLS facilities. However, the Hong Kong model of applying the regulations to all CLSs and not just to the CLSs owned by the dominant operator appears to be more appropriate. This is because of non-discrimination among the operators and on the basis that any ILDO should have the right to non-discriminatory access to any cable. In Hong Kong, for landing any Submarine Cables in the country, a cable based External FTNS (Fixed Telecom Network Service) license is required for which a performance Bond of HK\$20 million is to be submitted but no entry fee is levied.

4.4.5 The comments of the Indian ILDOs that do not currently own such cable stations shows that the control by the owner of CLS is not exercised in a reasonable and non-discriminatory manner. The two main ILDOs, Bharti and VSNL, contend that this should be the subject of a mutual agreement with their competitors, but this is neither supported by the current experience of the Indian competitors nor considered as a

likely outcome going by the experience in other countries. Otherwise also without an explicit provision in the license to this effect it is not possible to have any efficient regulatory intervention.

4.4.6 Moreover, the measures to promote competition in IPLC segment in India are designed to encourage the emergence of new competitors who would invest in more infrastructures. The ability of new licensees to compete would be greatly assisted by their ability to buy capacity on a range of cables, as well as by installing their own cables. This will need the permission for landing of new cables by an operator at the CLS owned by competing operators. This would both increase the capacity terminating in India and increase the speed with which new competitors can start to operate effectively. This requires that the access to submarine cable capacity and landing facilities at a CLS be open and non-discriminatory, both commercially and physically. The terms and conditions for such access including the charges should be finalized under regulatory supervision and the operators should be required to publish the terms & conditions as to how other ILDOs can access the cable capacity as well as landing facility commercially. An enabling provision in the ILDO license is required for this.

4.4.7 The ILDO, which owns and operates the CLS for a cable should have an obligation to provide the services required to activate and manage the capacity on the cable for any other ILDO who has the right to use such capacity by virtue of its licence in the country. In turn, this leads to the conclusion that the ILDO, which owns and operates a CLS, should have explicit obligations to provide access to other ILDOs and other service providers for the capacity they wish to procure. The obligations should be for the life of the cable system and the terms and conditions on which these are provided including the access charges and the principles underlying these terms and conditions should be fair and non-discriminatory and finalized under regulatory supervision.

4.4.8 It can also be observed from the recent initiatives of the regulators (International Practices Annex 1) that to enhance competitive scope of various services, Malaysia, Singapore and Hong Kong are emerging as telecom hubs in this region. The recent decision of IDA, Singapore regulator to allow operators to access capacity that is owned, leased or even owned/leased by the third party is a step forward in promoting competition in international service.

4.4.9 It can be seen from the experiences of other countries that a variety of approaches have been adopted by regulators to mandate open access to CLSs. **A common feature in Hong Kong, Singapore and the UK and now in Malaysia has been the regulator's recognition of the**

need to intervene for a considerable period during the evolution of competition in the arrangements concerning access to international capacity as well as landing of new cables on the existing CLSs, if a single or small number of players have the opportunity to exert unreasonable power/dominance over the essential facilities at the CLSs.

4.5 Consideration for Recommendation:

4.5.1 From the above, it can be concluded that main issues leading to creation of bottleneck at a CLS are denial of access to the existing international capacity of a submarine cable and denial of landing facilities for new consortium/ privately owned cable. The regulators in many countries have removed such bottlenecks by mandating the non-discriminatory, fair and open access at the CLSs in their countries. In case of Hong Kong, two consortium/ privately owned cables and in case of Singapore, three such cables have been permitted to land at the CLSs not owned by the owners of such cable systems after enabling regulation was put in place.

4.5.2 Even after 3 years of competition in ILD sector, the new entrants are not able to provide an effective competition in IPLC market and the incumbent operator continues to be dominant player in the market. As discussed above, the dominance of ownership of CLSs with incumbent operator could be one such factor, which inhibits the effectiveness of competition. As brought out in para 4.1.4, the number of clearances required and the time taken for installation and commissioning of CLS in addition to substantial cost involved, contributes for making this a bottleneck facility. Authority's concern always has been to reduce the cost by effective and efficient utilization of resources and also by introducing the effective competition in the market. The international practice in many countries also establishes the sharing of CLS by multiple international cable carriers. Keeping this in view, Authority considers that CLS owners should be mandated to share the facility with various international cable carriers.

4.5.3 The significant power to control the critical resource of international cable capacity through controlling the access and landing facilities at CLSs has been well recognized and has led many countries, to establish clear obligations and rights of access to these stations. The grounds of such action are that the international capacity provided by these cables is a critical input element to all international services. Also, it is not economically prudent to duplicate the CLS facilities for every new cable, as it is technically feasible & commercially desirable as well as efficient to land multiple cables on same CLS. Therefore, access to the

international capacity as well as landing facilities needs to be mandated and the terms of conditions of such access to be fair, transparent and non-discriminatory. For this the regulator is required to fix the cost based access charges as well as lay down the broad principles underlying the terms and conditions.

4.5.4 As per clause 2.2(b) of ILD license, equal access to bottleneck facilities for international bandwidth owned by national and international bandwidth providers was to be permitted for a period of five years from the date of issue of the guidelines for ILD licence or three years from the date of issue of first license for ILD service, whichever is earlier. It is also mentioned that the terms and conditions for access to bottleneck facilities were to be *mutually* agreed to by the facility owner and requesting licensee. Also there is no explicit mandate for permitting landing of new cables by licensed operators at the CLS owned by other operators.

4.5.5 Based on the past experience, the clause 2.2(b), which states that equal access should be “permitted” and not “required to be provided”, and that it should be subject to a sunset condition & terms and conditions to be mutually agreed, does not appear to be very effective. The international capacity is available for use for the life of the cable, and that has been the basis of the investment by the original parties, who may themselves be ILDOs. It implies that the right to access and use of that capacity for the life of the cable should be allowed for other ILDOs also, as if it is a bottleneck facility throughout the life of cable. Also, the existing provision of license referred above does not mandate the landing permission for new cables by the licensed operators at the existing CLS’s of other operators.

4.5.6 For this purpose enabling provision is required in the ILDO license agreement, whereupon the requisite regulation including the cost based charges can be framed up by the regulator. For this the Clause 2.2(b) of ILDO license, which had a provision for equal ease of access to bottleneck facilities for international bandwidth and has since lapsed, needs to be modified. Such modification is permissible under Clause 12.1 of ILDO license, which empowers the licensor to do so in case it is felt necessary or expedient to do so in public interest.

4.6 Recommendation:

4.6.1 The Authority therefore, recommends that equal access to bottleneck facility at the Cable Landing Stations (CLS), including landing facilities for submarine cables by licensed operators on the

basis of non-discrimination, without any sunset clause, should be mandated.

4.6.2 The ILDO owning the Cable Landing Station should also be mandated to publish, with prior approval of the Regulator, the terms and conditions for all such Access provision. Regulator may also determine and specify cost-based access charges through its regulation.

4.6.3 Clause 2.2(b) of ILD service license should be suitably amended for this purpose and the existing time limits mentioned therein may be deleted.

5. LICENSING OF NON-ILDO INTERNATIONAL CABLE CARRIERS

5.1 Introduction:

5.1.1 Some of the urgent measures to promote competition in IPLC segment have been discussed in detail in the earlier sections. In this section, it is envisaged to explore additional possible initiatives/actions that may be necessary to facilitate further competition in the IPLC sector. TRAI sought views of the stakeholders on any such measures, which have been examined in this section. Some of the international cable carrier has its cable landed at the landing station of an ILDO in India under mutual commercial agreement between them. In future, more of similar such arrangements are likely to happen. In absence of any provision of licensing of such entities, the licensor / regulator does not have any control over such entity and cannot take up with them in case of any disagreement. Also when such an entity has a grievance with any operators in India, there is no provision of any regulatory intervention. In the past, experience shows that regulatory intervention was not possible because international cable carriers are not licensed in India. This resulted into delays in making available the international capacity to the operators in India. Therefore, there is a need for consideration whether such entities should be registered/licensed in India under some suitable category as per the provision of Indian Telegraph Act so that regulatory issues involving them can be handled.

5.2 Summary of Comments of Stakeholders:

5.2.1 The incumbent operator opposed the entry of non-ILDO international carriers in the country on the following grounds:

- a) Violation of Government's FDI norms since this may indirectly lead to allowing 100% foreign owned company to virtually become telecom service operator in India.
- b) Difficulties in monitoring the business as well as security issues.
- c) Licensor may be deprived of 15% revenue share being currently paid by ILDOs.

5.2.2 The incumbent also submitted that there should not be any discrimination between an Indian ILDO and an international cable carriers in the matter of entry fee. If foreign unlicensed carriers are

allowed to conduct business in competition with Indian ILDOs, the level playing field is definitely going to be affected and this will put the domestic ILDOs at a disadvantage vis-à-vis international carrier. They mentioned that the foreign carriers should be subjected to same terms and conditions as well as regulations as applicable to Indian ILDOs.

5.2.3 M/s. Bharti, other ILDO also submitted in their written response as well as open house discussion that IPLC market in Indian should be restricted to licensed ILDOs only as they have the requisite infrastructure for providing end-to-end IPLC including domestic connectivity.

5.2.4 Another Indian ILDO, RIL stated that the regulator should not try to regulate the foreign cable carriers as it may deter them from providing services in India due to the possibility of additional regulatory burden like registration under IP-II and consequent revenue share and bank guarantee etc. The regulator should try to regulate the existing CLS facility of incumbent and at the same time allow the international cable carriers to bring capacity into Indian market as both these will put pressure on the incumbent to provide capacity at the market based price. Any regulation on international carriers/cable systems may not bring any desired result/capacity in the country.

5.2.5 M/s Data Access, another ILDO stated that such international cable projects should be promoted so that infrastructure is available to the Indian telecom operators at a competitive prices. This will also give boost to the competition in the international telecom segment.

5.2.6 Another stakeholder mentioned that the licensor should allow international cable systems/carriers to do business with a simple registration with the licensor as an Other Service Provider (OSP) and they should not be subjected to any complex regulation. One more stakeholder mentioned in its submission that international carriers and operators owning capacities on various international cable systems should have the right to terminate these capacities on the cable landing stations in India at the prices to be regulated by TRAI from time to time. They should also be allowed to sell directly to licensed service provider within India. Such carriers should obtain necessary authorisation from the licensor to sell international bandwidth to licensed telecom operators in the country and they should be provided access to the cable landing station as per the terms and conditions prescribed by TRAI in a non-discriminatory and transparent manner.

5.2.7 Some stakeholders also stated that those international carriers/operators who simply provide a wet segment of the IPLC should not be subjected to any licensing or registration requirements in the country.

This wet segment connectivity would simply include the seashore side of a CLS but not any co-location, cross-connection and backhaul type service at the CLS or backhaul connectivity to the end customers. These type of carriers would simply provide wet segment and such operators offer no service in India and therefore, they should not be required to have any registration in India. However, those non-ILDO international carriers who combine wet segment connectivity with co-location, cross-connection, backhaul, domestic connectivity etc should be licensed or registered appropriately with the licensor. This category of non-ILDOs can be registered under the existing OSP category arrangements. These non-ILDOs international service providers should be provided access to the CLS facilities similar to the rights of Indian ILDOs.

5.2.8 Another stakeholder also pointed out that submarine cable systems are international systems and these projects invariably are required to comply fully with all the relevant domestic laws and regulations while entering a country's territorial water. These include approvals for cable routes and other approvals pertaining to cable laying, landing of the cable at the shore and at times for construction and operation of cable landing facilities. It was also submitted that imposition of telecommunications service regulation on cable system investors could have significant adverse affect on investment in this segment in the country. It was also mentioned that if any taxation or levies are imposed on such cable system investors, then this would act as a deterrent to the investors of the new cable systems.

5.3 Analysis of Stakeholders Comments & International Practices:

5.3.1 It is observed from the comments of new ILDOs as well as incumbent VSNL that registration/ licensing of international cable systems in India could be detrimental to their interest. They are of the opinion that the ILDOs in India have paid huge entry fee as well as are subjected to revenue share of 15% (to be reduced to 6% w.e.f. 1.1.2006) therefore, entry of international cable carriers in the Indian IPLC market would disturb the level playing field. They opined that if such international cable systems are to be allowed to land in the country they should also be subjected to same regulations and rules as being applied to the ILDOs.

5.3.2 Whereas most of the other stakeholders are of the view that these non-ILDO cable carriers should be lightly regulated and registered in the country as OSP (Other Service Providers) or infrastructure providers without levying any license fee, for the purpose of their accountability to

the Government. This will have no impact on the existing ILDO's as such carriers will be allowed to provide international connectivity to ILDO's only and not to any other end users. Therefore, the issue of level playing field with ILDO's also does not arise.

5.3.3 It can be seen from above that the stakeholders' responses to this issue are varied. The ILDO's feel that international cable carriers may find a way to offer IPLC service in country without need to have an ILDO license. The ISP's suggest that some form of registration for such entities is must for the purpose of accountability. Such entities, however, cannot be registered as Other Service Providers (OSP) as OSPs are basically value added service providers and cannot have their own infrastructure.

5.4 Consideration for Recommendation:

5.4.1 As per Section 4 (1) of the Indian Telegraph Act, 1885 (ITA, 1885), *The Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a "telegraph" within any part of India:*

As per Section 3 (1) of above Act, *"telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means.*

As the international cable system comprises of wires and appliances and is capable of use for transmission of signal, it is covered as a telegraph system within the meaning of Section 3 (1). Therefore, a license under the ITA, 1885 would be required to bring an international cable through the territorial waters and to land on the shore of our country. It is also mentioned that a license under Section 4 of ITA, 1885 is granted subject to such conditions and consideration of such payment as central govt. may consider necessary.

5.4.2 As per the international practices any submarine cable carrier landing cable in a country needs to have landing party as its consortium member / partner or needs to have some sort of permission / license under Telecommunication Act of that country. In case of Singapore, an FBO (Facility Based Operator) license is required for a company landing submarine cables on a CLS of an operator who is not the consortium member / partner in that cable system. Similarly, in Hong Kong, external FTNS (Fixed Telecom Network Services) license is required for landing a cable therein in absence of the CLS owner being the consortium member/ partner.

5.4.3 It is mentioned that the international cable carriers are not proposed to be providing any telecom service to the end-users but will provide international connectivity to ILDOs only who will use this for providing international telecom service to end-users in India. Therefore, the issue of level playing field with ILDOs is not relevant in this case and hence it is not appropriate to apply the terms and conditions of ILDO licenses on such entities. But for the purpose of meeting the requirement of ITA, 1885, they are required to be granted some form of a licence.

5.4.4 Clause 2.2 (a) of ILD license agreement permits ILDOs to offer international bandwidth on lease to other operators. Since international cable carriers can offer international bandwidth to the operators only, therefore, the services provided by international cable carriers are covered under ILDO license agreement and hence they don't need any additional licensing for this purpose.

5.4.5 The international Cable Carriers landing their cables in India can be considered similar to Infrastructure Provider (IP-II), which are providing domestic bandwidth to the service providers in the country. As per existing terms and conditions, this category of IP-II is required to submit a financial bank guarantee of Rs. 5 crores at the time of licensing and their annual licence fee is 6% as revenue share.

5.4.6 TRAI had earlier recommended to the licensor (Department of Telecommunication) that the IP-II service providers should not be levied any revenue share (annual license fee) on their revenues, as these service providers do not provide any telecom service to the end users. These IP-II service providers can offer their infrastructure to licensed telecom operators only, which are paying licence fee on their revenues. At present, the existing IP-II service providers do not pay entry fee but are subject to revenue share (annual license fee) of 6% of Adjusted Gross Revenue (AGR). Thus the telecom resources, leased by telecom operator from IP-II providers lead to double taxation as both IP-II as well as licensed telecom operator are paying revenue share on the same resource twice. That is why, in order to avoid double taxation of the same telecom resources, TRAI had recommended that the IP-II providers should not be levied any revenue share on their revenue earned from service providers.

5.4.7 The international cable carriers who will be providing the international bandwidth to ILD operators only, are not justified to be levied any revenue share as this will lead to double taxation as explained above. These could be licensed through registration and need not be levied any entry fee as well as revenue share. This category of infrastructure providers may be designated as 'International Infrastructure Provider (IIP)' to differentiate them from domestic IP-II. IIP

should be allowed to lease international bandwidth only to licensed ILDOs who are already subject to revenue share on their revenues. Therefore, it will not result into any revenue loss to the licensor on this account and will also avoid double taxation and hence adverse impact on the cost of international connectivity for the users. Anyhow to meet the requirement of Section 4 of ITA, 1885 for amount of consideration of payment for such license, a very nominal annual license fee (say Rs. 1 as is done for ISPs) could be considered by the govt.

5.5 Recommendations: -

5.5.1 In view of the above, it is recommended that any international cable carrier who does not hold an ILDO license in the country, should be licensed under the Indian Telegraph Act, 1885 under a new category of infrastructure providers named as International Infrastructure Providers (IIP) with the sole objective to provide international connectivity only to ILDOs licensed in the country.

5.5.2 Further such IIPs should not be subject to any Entry Fee and a very nominal Annual Licence Fee (say Rs. 1 as is done for ISPs), only may be levied as a consideration for grant of such license.

5.5.3 The foreign ownership requirement for such entities should be same as that applicable to IP-II category, i.e., 100% FDI to be permitted.

6. INTERNATIONAL PRACTICES

TRAI has examined the licensing regime as well as regulatory practices relating to international telecom service in some of the developing and developed countries. The brief details of licensing regime, regulations and other terms and conditions relating to the international telecom services for these are summarized hereunder: -

6.1 Malaysia

(i)Regulatory regime

The regulatory body in Malaysia, the Malaysian Communications and Multimedia Commission (MCMC) has adopted the methodology of determining the Access List of services which must be provided by one operator to another upon request, if that service is one of those provided by the prospective access provider. The MCMC has just completed a complete review of the Access List and published its determination on 13 June 2005, including several measures of direct relevance to competition in international bandwidth services

(ii)International competition

There have been five full international licences in Malaysia since the mid-1990s, when Maxis, Celcom, TIME and Digi were awarded licences in addition to Telekom Malaysia (TM), the original monopoly provider. These remain the main providers of all international services, even though a form of resale of international voice services was introduced several years ago. Each of the newer operators have their own capacity in cables such as SMW3 and APCN2, though many more recent cables have not had a landing point in the country (i2i, C2C, Asia Netcom, TIC, Thailand-Indonesia for example); SMW4 will land in Malaysia, with TM as its landing party and only Malaysian owner. All of the CLSs are owned and managed by TM, (even the landing of FLAG in Penang) and delays have been reported in implementing certain connections. More significantly, TM has placed restrictions on the access into the landing stations themselves, not allowed co-location and restricted the services provided by one operator to another – effectively forbidding the resale of capacity by one licensed operator to another.

(iii)The access list review

As part of its further opening of the Malaysian market and to enhance the objectives of Malaysia as a hub, the recent review of the access list includes the following as required services:

- backhaul transmission services between a network termination point and a cable landing station or satellite earth station
- connection services between equipment collocated at a landing station and the cable system
- co-location services, explicitly including at landing stations.

So, for the first time, equitable access to international capacity becomes a possibility as long as this is followed through with the commercial terms being set in a transparent and non-discriminatory manner. We understand that this is the subject of ongoing work.

6.2 The Philippines

(i)Licensing regime

The National Telecommunications Commission of the Philippines (NTC), was formed in 1979, and had its position and responsibilities confirmed and strengthened in the 7925 Republic Act, which became law in 1995. That Act extended competition in local fixed network provision and mobile services and linked the granting of new international licences to the commitment to meet targets in rolling out these infrastructures. Until that time, the Philippines Long Distance Company (PLDT) had dominated international services, with competition from Eastern Telecom, who was a Cable & Wireless (C&W) subsidiary, with a dominant position on the Hong Kong route.

(ii)International competition

There are now eight active international operators in the Philippines, but the market in data communications is still dominated by PLDT who control most of the CLSs, the exceptions being the C2C cable station, which is managed by Globe, who of course have the main owner of that cable (SingTel) as their main shareholder and the Asia Netcom station, is owned by Digitel, which is also the main local supplier to Netcom customers.

(iii) Connection services at landing stations

From time to time, the NTC issues statements on implementing rules and regulations (IRRs) and the IRR on the Republic Act 7925 states that “ To the maximum practical extent, the Commission encourages the use of co-location of and shared facilities when such configuration shall best serve public interest”. However, both this IRR and the more recent memo on interconnect arrangements of April 3 2002, do not make any reference to CLSs or access to international capacity.

Competitors of the international operators who own the CLSs have experienced difficulties in establishing equitable access to their international capacity for the provision of all services, difficulties of pricing of services and in the timeliness of their provision. The issues of the provision of services have been resolved, in the main, but the issues of equitable prices still remain to some degree. For example, even in the case of access to APCN2, the most open of all club cables, the annual connection and co-location fees imposed by PLDT are reported to be comparable with the annual depreciation cost of the international capacity on the cable –and this report comes from operators who originally invested in the cable and therefore should have had cost-based access to it.

As for the private cables, since both of them are more driven by the need to establish financial success, there is more openness, but even here there are suspicions of favouring the local partner to the disadvantage of that partner’s competitors in the case of the C2C cable.

6.3 Singapore

Issues of access to the CLSs and the regulation of IPLC provision has been the subject of extensive controversy and study in Singapore.

(i) Licensing regime

The Singapore telecoms services market was fully liberalised from 1 April 2000. The licence regime was set up using a dual licensing approach consisting of facilities based operator (FBO) licences and service based operator (SBO) licences, with the FBO licence encompassing all the rights of a SBO licence. There is no limitation on the number of FBO or SBO licences.

FBO licences can be obtained with no initial fee but are subject to an annual fee of 1% of gross turnover (subject to a minimum of SGD 100,000 per year), the licences are for a period of 20 years.

Applicants for FBO licences are required to provide information including their strategy, organisational structure, the first five-year business plan and to provide a performance bond equal to 5% of total budgeted capital investment. There are presently more than 50 FBO licences held by around 30 separate entities.

Operators that do not want to build their own network but rather wish to lease network elements from FBOs to provide their own telecommunication services, or to resell the services of FBOs, need to have an SBO licence. The SBO individual licence allows provision of a range of different services (there is also a class licence that allows provision of one service type only). SBOs are subject to no initial fee and an annual fee of SGD5000. Licences are valid for three years and renewable every three years. A banker's guarantee of SGD100 000 is needed under certain circumstances.

(ii) Connection services at CLSs

The IDA, which is the Singapore regulator, has always recognised that access to SingTel controlled CLSs is an essential input that FBOs require in order to be able to compete with SingTel in the provision of international services. Specifically the IDA recognises that FBOs need to be able to connect to their own submarine cable capacity, to backhaul this capacity to their own exchange or to transit it to another submarine cable system.

In April 2002 the IDA added CLS connection services to SingTel's RIO with regulated prices for the provision of this service. SingTel claimed that this was unnecessary since it "had been providing the connection service on a non-discriminatory basis to FBOs since the telecom market was fully liberalised" however other operators had complained that since connection services were not part of the RIO, and thus not subject to price regulation by the IDA, the charges for these were excessively high. It should be noted that co-location services at CLSs were initially part of the RIO but connection services were not.

However, there continued to be complaints from competing FBOs that SingTel was providing connection services on an unreasonable and discriminatory basis preventing them from providing service as quickly as SingTel. SingTel's RIO allowed for 30 working days for the provision of connection services and operators complained that this was excessive. For example, in a submission to the 2003 review of SingTel's RIO Reach stated that in Hong Kong it provided connection services in 10 days and that in Australia this was also the norm. In the 2005 RIO review SingTel offered to reduce the

time limit to 20 days however the IDA in its direction to SingTel decided that 10 days was sufficient.

(iii) Eligibility for connection and co-location services at cable landing stations.

The rules regarding whether an operator was eligible for access to a SingTel's CLS and for connection and co-location services were changed in September 2004. Until this time for an FBO to obtain connection service and co-location space the operator had to have IRUs on a cable landed at the CLS in question, but if it wanted to agree with a third party (i.e. another FBO) to provide backhaul or transit to it then the third party was specifically required to have an IRU on the same cable system as the FBO.

The IDA decided that this was too restrictive to allow effective competition in the provision of backhaul services. It decided that an FBO should be eligible to obtain co-location space and connection service if it had either IRU or long term leased capacity of at least a 10-year lease duration. Furthermore the IDA decided that an FBO could use its co-location space to allow a licensed third party (i.e. another FBO) to provide it with backhaul or transit services irrespective of whether the third party has capacity at the CLS in question.

There remains an open issue concerning the access to and use of cable stations for new cables, which SingTel's competitors judge continues to be a discriminatory feature of the Singapore regulatory regime. The issues concern the timing of access to newly landing cables and whether or not a new or existing CLS is being employed. The current RIO does not require the new cable to be added to the RIO, and hence be subject to the rights and obligation contained within it, until 14 days after the actual ready-for-service date. Since all new cables have lower costs and frequently provide additional benefits to the carriers who use it and to their customers, the first mover advantage to SingTel and any other new landing station operator can be very considerable. Ensuring that non-discrimination includes simultaneity of access after system testing might become a regulatory objective.

(iv) SingTel's request for non-dominance in IPLC and backhaul markets

In March 2004 SingTel requested exemption from dominant licence for the "international capacity services" market(s), which includes IPLCs and backhaul as well as a number of satellite services and managed data services. In its April 2005 decision the IDA granted exemption for a number of the services but not for the IPLC market or for the backhaul market.

IDA noted that the IPLC market had seen increasing competition with the entry of new operators such as Asia Netcom, C&W, MCI, Reach and StarHub and substantial falls in prices. However it believed that while competition appeared to be growing, it was still clear that SingTel retained significant market power in the IPLC market with a high market share both in the aggregate and on selected routes.

The IDA noted that SingTel controlled the two essential inputs required to provide IPLC – connection to and backhaul of capacity at a CLSs and LLCs. However given the CLS and wholesale LLC decisions referred to above the IDA decided that there was the possibility of significant changes in the level of competition in the IPLC and backhaul markets and that it would therefore review the decision on these markets in two years time.

In this work the IDA decided not to define IPLC markets on a route-by-route basis. It believed that granting exemption from dominant licensee obligations on certain routes would lead to significant burdens for both IDA and SingTel. In particular the IDA would have to impose conditions to ensure that SingTel would not use its market position in the non-exempted routes to impede competition in the exempted routes, which would require accounting separation for these services.

(v) 2005 review of SingTel's RIO

On 3 June 2005 IDA issued a direction to SingTel on the changes it believed necessary to the RIO. This followed an extensive review after a consultation process. Of particular relevance for the present work by the TRAI are the Schedules 4B, on CLS connection services, and 8D for cable landing station co-location services. The most relevant points in the decision are listed below.

- IDA directed SingTel to consider applications for services from multiple schedules concurrently. A decision strongly supported by other operators. Previously SingTel was able to not consider an application for connection services until co-location had been obtained.
- IDA recognised that incorporating a new cable system in the RIO only after the ready for service date of that system was unfair to other operators (as these would only then be able to apply for co-location and connection services, which would take time to be provided, during which time they would be at a disadvantage to the incumbent which would be the only operator able to provide IPLCs and backhaul on that cable). The IDA thus directed SingTel to put the new cable system into the RIO with sufficient lead-time so that other operators can have access to the new cable by the ready for service date.

- IDA outlined the only legitimate reasons for SingTel to deny a request for connection services. These reasons were limited to:-
 - a) the capacity not being on the cable to which connection was requested;
 - b) the request form not being completed correctly;
 - c) the co- location space being neither in place nor already requested

(vi) Costing methodologies used by the IDA

The IDA uses long-run average incremental costing (LRAIC) for calculating the charges in the RIO.

The IDA does not regulate the prices of IPLCs, neither imposing controls on wholesale nor retail prices. However, it does regulate the prices of inputs to IPLCs as described above – i.e. connection and co-location services and wholesale LLCs (regulated on a retail minus basis).

6.4 South Korea

(i) Licensing regime

The Ministry of Information and Communications (MIC) oversees licensing and regulation, while the Korean Communications Commission (KCC) is a sub agency pursuant to Article 37 of the Framework Act on Telecommunications, which is responsible for deliberation of and arbitration on disputes that may arise among operators in Korea. One other Act, the Telecommunications Basic Act, defines the framework of licences, dividing them into:

- basic telecoms – providers of basic services using their own facilities, including fixed and mobile services
- specially designated operators – providers of basic services by resale of other providers' basic services
- value-added telecoms – providers, providing other than basic services, including for example ISPs, on-line game providers and e-commerce service providers.

(ii) This licensing regime has allowed international carriers to obtain ready access to the Korean market to provide a complete range of services. For example, Asia Global Crossing (now Asia Netcom) announced in October 2001 that it has been granted the specific service provider and value-added service provider licences by the Ministry of Information and Communications. The licenses allow Asia

Netcom to leverage its seamless, city-to-city global network to provide a highly competitive suite of IP products and connectivity services to carriers, ISPs, and enterprises in Korea.

(iii)The specific service provider license allows Asia Netcom to provide voice and resell IPLCs, while the value-added service provider licence allows the provision of Frame Relay, ATM, IP transit, Virtual Private Networks, direct Internet access, and other specified services. The licences are in addition to the network provider licence granted earlier to DACOM Crossing, a joint venture among Asia Netcom, DACOM, and OPICOM.

(iv)Domestic Korean ISPs have also been able to secure access to international bandwidth and to resell IPLCs under this licensing regime. For example, Korea broadband service provider Thrunet, announced in January 2001 it had acquired an IIPLC licence, which secures its supply of international bandwidth and strengthens its leased line and broadband Internet business. The licence allows Thrunet to enter the IPLC market by offering customers the transmission of voice, data and images via satellite or submarine cable in order to connect to communications facilities to other countries.

(v)Although the licence also allows the company international cable landing rights, Thrunet indicated at the time of obtaining the licence that it had no plans to establish a landing station, presumably because it was satisfied with its access to capacity.

6.5 Hong Kong

(i)Regulation of IPLCs and landing stations

International telecoms services were opened to competition on 1 January 2000. To facilitate agreement between operators OFTA, the Hong Kong regulator, released a statement detailing the principles governing access to and co-location at CLSs. The fact that this occurred so early, with the final statement being issued in September 2000, showed that OFTA recognised the critical importance of access to CLSs in establishing genuine competition in international services. In spite of the fact that a new club cable (APCN2) was imminent, with many of the Hong Kong operators as part owners, and that three new private cables were due at around the same time, with landing parties other than the dominant operator, open access to these cables had to be established. In Hong Kong, for landing any submarine cable in the country a cable based external FTNS (Fixed Telecom Network Service) license is

required for which a performance bond of HK \$ 20 million is to be submitted but no entry fee is levied.

(ii) These principles were originally to apply for the dominant operator only (then called CWHKTI, now called Reach) but in the consultation process, OFTA decided that they should apply to all of the landing stations, whichever of the licensed fixed operators was the landing party. While wishing to ensure that commercial agreements should be the basis of arrangements at landing stations, OFTA recognised that a very strong set of guidelines was necessary to ensure fair treatment of new entrants and therefore stated the principles that determine its considerations were they forced to intervene in such areas as:

- access to landing stations
- co-location of equipment in landing stations
- grooming service charges
- backhaul leasing from the landing station operator
- site access lead-time.

(iii) There was much discussion about duration of agreements, with a major concern being CWHKTI's attempt to force very long-term agreements. While it appears to be presumed that the OFTA guidance on landing station access has no time limit, the opinion that specific agreements would normally be in the three to five year range is seen as the likely norm.

(iv) By March 2002, the OFTA formed the view that Reach was no longer in a dominant position within the meaning of its licence in the external bandwidth market and the main concern of further reporting requirements to OFTA on its commercial relationships for completing circuits in Hong Kong with its domestic operator shareholder, on providing information on its circuits to resellers of those circuits and on other matters concerning commercial relations with competitor/customers.

6.6 United Kingdom

(i) Regulations relating to IPLCs and CLSs

In December 1996 the UK government introduced new international facilities licences. Until this point only BT and C&W were licensed to supply IPLCs. In the light of this Oftel (now Ofcom) reassessed its regulation of international markets to identify where it believed competition would be possible and where it was likely that regulation would continue to be necessary. Potential barriers to entry were identified so that they could be regulated effectively to ensure any

market power possessed by the incumbent former duopolists could not be abused, these included the following:-

- Oftel did not regard capacity on international cable to be a bottleneck but indicated that it expected BT to act as a broker for new UK licencees and to sell them IRUs on the basis of the true cost to BT of acquiring capacity.
- CLS access – Oftel acknowledged that BT as the owner of the CLS had bottleneck control and obliged it to provide a connection service (known in UK as in-span handover). The starting charge for the connection service was determined using LRIC with the evolution of the charge governed by charge control (as part of a basket).
- Backhaul – At May 1997 there were no alternatives to BT for backhaul services. Backhaul was not obliged to be provided as an interconnection service but BT was required to publish tariffs and to practice non- discrimination.

(ii)In 1999 Oftel reviewed the competition in international markets. Referring to the same potential barriers to entry (availability of capacity, CLS access and backhaul) it found the following.

- At this time there was no shortage of international cable capacity and this was not a bottleneck.
- Oftel noted that BT and C&W controlled all apart from that of the Atlantic Crossing Cable and the Eurotunnel CLS and that there was potential for BT or C&W to deny access to cable landing stations. However Oftel found that in practice this was not a problem and stated that it believed that CLS access was therefore not a significant barrier to entry.
- By this time backhaul was provided by a number of operators and the scope for further competition had been increased since all domestic telecommunications operators were now allowed to provide backhaul (not just international facility licence (IFL) operators). Oftel stated that the evidence showed that BT priced backhaul keenly and there was no evidence of operators having any difficulty in obtaining backhaul services.

It found that competition had increased significantly and it noted that.

- For the financial year 1998/1999 BT accounted for just over a third of IPLC capacity and approximately 40% in revenue terms although its share varied on a route-by-route basis.
- At this point in time there were about 10 IFL operators and a number of operators that were providing IPLCs on a resale basis.
- Oftel decided to review BT's IPLC markets on a route-by-route basis and found that 19 IPLC routes were increasingly competitive but not yet effectively competitive. It decided to reduce BT's obligations to publish IPLC prices from 28 days in advance to one day.

(iii) In November 2003 existing regulation in relation to CLSs was removed as part of Oftel's review of wholesale international services markets.

6.7 USA

(i) The market for international data in the USA is competitive, fuelled in large part by long-standing competition between the original three main operators, AT&T, MCI and Sprint, then by the addition of other operators including resellers, the deregulatory efforts of the FCC and advances in technology. International data services have not been regulated since 1985, when the FCC concluded that there were no dominant operators in the market.

(ii) Operators of the CLSs are varied, including the original main operators and several new investors, such as FLAG, Tyco and Global Crossing. The conditions placed on these landing stations require them to satisfy all of the rules and regulations of the FCC and hence to following general rules relating to access and supply. There has been no suggestion of any tariff regulation of IPLCs nor would we ever expect there to be.

6.8 Australia

(i) Licensing regime.

The regulation of telecoms services is one of the responsibilities of the Australian Competition and Consumer Commission (ACCC) which in general relies upon its strong competition legislation and wide-ranging powers of investigation of alleged anti-competitive behaviour to manage the development of competition in Australia. The Trade Practices Act gives the ACCC the powers to make an access code that sets out model terms and conditions upon which an access provider will, upon request, supply a relevant service to

an access seeker. However, it appears that it has not been necessary to include any of the services at CLSs in the list of access codes, which implies that commercial agreements have been reached among the main operators and that resale of circuits also works effectively.

(ii) In the view of participants in the initial (duopoly) opening of the market in Australia, this absence of contention, and hence of specific regulation, in the field of access to landing stations and international bandwidth arose from a clear acceptance by both parties of each other's presence in the market and the existence of strong general guidelines on the access to each other's infrastructure. Furthermore, the dominant operator espoused the idea that selling wholesale services to its competitor in this range of services made economic sense. Once established as a practice between Telstra and Optus, it became, it seems, the norm for the later entrants.