Telecom Regulatory Authority of India

Notification

New Delhi, the 28th of December, 2001.

No.311-6/2001 -TRAI (Econ.)

In exercise of the powers conferred upon it under section 36 read with clauses (ii), (iii) and (iv) of sub-section (b) of Section 11 (1) of the Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000, to ensure effective Interconnection between different Service Providers and to regulate arrangements amongst Service Providers of sharing their revenue derived from providing Telecommunication Services, the Telecom Regulatory Authority of India hereby makes the following Regulation.

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THE TELECOMMUNICATION INTERCONNECTION (PORT CHARGES) REGULATION 2001

(6 of 2001)

Section I

Title, Extent and Commencement

1. Short title, extent and commencement:

(i) This Regulation shall be called “The Telecommunication Interconnection (Port Charges) Regulation 2001.” (The Regulation).

(ii) This Regulation pertains to the Port charges payable by the Interconnection Seeker to the Interconnection Provider for terminating the interconnection links on the Network Interface of the Interconnection Provider.

(iii) In this Regulation, a “Port” means a place of termination on a Switch/ distribution frame to provide a point of access or interconnection for ingress and egress of traffic between the two

Interconnecting Networks. The bandwidth of the Port shall be 2.048 Megabits per second.

(iv) The Regulation shall be deemed to have come into force with effect from date of notification in official Gazette.

(v) This Regulation shall regulate Port charges as detailed herein including those in Schedule I.

Section II

Applicability

2. Unless the context otherwise requires, all the definitions as provided under Section II and the Regulations under Section(s) III and IV of “The Telecommunication Interconnection (Charges & Revenue Sharing) Regulation, 2001" notified on 14.12.2001, will be applicable to this Regulation.

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Section III

3. Reporting Requirement

(i) All Service Providers shall comply with the Reporting Requirement in respect of Port charges specified under this Regulation, as also all subsequent changes.

(ii) Where a port charge below the ceiling notified herein is to be implemented, the Service Provider may implement the proposed port charges after the mandatory notice period of 45 working days, unless the Authority within such period directs otherwise.

(iii) Port charges whenever implemented as per Schedule I herein, shall be reported to the Authority within 45 days of their implementation.

(iv) When an Interconnection Provider informs the Interconnection Seeker that it cannot provide the Ports as sought for by the latter, the Interconnection Seeker within 45 days of being so informed, may approach the Authority for seeking its intervention.

(v) No service provider shall alter any Port charge, or any part thereof, without complying with the Reporting Requirement.

Section IV

4. Review

(i) The Authority may, from time to time, review and modify Port charges.

(ii) The Authority may also at any time, on reference from any affected party, and for good and sufficient reasons, review and modify the Port charges.

Section V

5. Explanatory Memorandum

This Regulation contains at Annexe A, an Explanatory Memorandum to provide the background and reasons for issuing this Regulation

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Section VI

6. Interpretation

In case of dispute regarding interpretation of any of the provisions of this Regulation, the decision of the Authority shall be final and binding.

By Order

(DR. HARSHA VARDHANA SINGH)

Secretary-cum-Principal Advisor

SCHEDULE I

PORT CHARGES

ITEM	'PORT' CHARGES	
(1) Date of Implementation	28.12.2001	
(2) Coverage	Charges for 'Ports' provided by service providers (other than the Port charges for internet, which are specified in Schedule VI of the Telecommunication Tariff order 1999).	
(3) 'Port' Charges covering all switches	No. of 'Ports'	'Port' Charges in Rs.
	1 to 16 PCMs	**N*55,000**
	17 to 32 PCMs	**8,80,000 + (N-16)*30,000**
	33 to 64 PCMs	**13,60,000 + (N-32)*20,000**
	65 to 128 PCMs	**20,00,000 + (N-64)*15,000**
	129 to 256 PCMs	**29,60,000 + (N-128)*14,000**

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Notes:

(1) The above Rates are Ceiling Rates and Service Providers are permitted alternative lower charges.

(2) N refers to the number of 'ports' demanded by the Interconnection Seeker within the capacity ranges under the column 'No. of Ports'.

ANNEXE - A

EXPLANATORY MEMORANDUM

1. With the induction of new Basic and National Long Distance Operators in the Indian Telecommunication Network, a Multi-Operator environment has emerged and therefore, the Authority decided to undertake a review exercise relating to charging of 'ports'. The charges for 'ports' specified in this Regulation are a result of such a review. In the course of this review, the Authority has taken into account the inputs received from operators including the incumbent, who is the main supplier of 'ports' at present.

2. The new entrants have been representing to the Authority that there was a reluctance on the part of the incumbent to supply 'ports' at the prices specified by the Authority in the past. It was also represented by the incumbent that the prevailing charges had an anomaly in that they encouraged the Interconnection Seeker to place more than the justified demand for 'ports', because the annual 'port' charges for 8 'ports' were of the same order as that for 33 'ports'. It, thus, transpired that the 'port' charges needed to be re-evaluated and the existing anomaly corrected, so that there is no economic disincentive for supplying the 'ports'.

3. When a set of 'ports' or Digital Trunk Interfaces (DTIs) are added in an existing Switching System, the Directly Attributable Incremental Costs (DAIC) are not only of the 'port' terminals, but also of other elements such as associated CCS7 Signalling Equipment, Processor, Switching Matrix etc. In this review, all such significant associated costs have been computed as overhead in the various 'port' slabs. These common costs have been found to be a step function which varies over a range of 'port' sizes. In this review, cost data for various types of Switching Systems and components thereof, which are directly attributable to the termination of a E1 link on a Switching node, were collected and a weighted average was computed. Other costs e.g. costs in respect of Network Management, Operations and Maintenance Centre (OMC), Fault Management System, etc., have been excluded, as these are not directly attributable to the Interconnection.

4. In this review, the number of slabs for 'port' charges have been increased to five, based on the costs of common control and Switching matrix which are observed to vary in five steps corresponding to five slabs of 'port' charges.

5. Based on the cost data supplied by the Operators for the Switching Systems in the Network, costs have been worked out for the various configurations. To these costs, overheads @ 10% representing freight, storage and installation costs, have been added. For arriving at the Annual Recurring Expenditure (ARE), a rate of 22% has been applied to the capital cost so worked out. The 'port' charges, which are in the nature of annual rentals, have been equated to the ARE so computed.

6. The Authority has considered the point made by network operators that due to provision of an Interconnection 'port' and consequent traffic flow, capacity enhancement would be required at other nodes as also in the interconnecting links for smooth flow of traffic across the network. However, the Authority is of the view that the cost of downstream augmentation of the network resources should be recovered from the usage charges of network elements involved in call carriage. The underlying principle is that all costs are to be recovered and that no cost elements should be double counted.

7. To remove the anomaly in the earlier exercise on 'port' charges, the following algorithm has been employed to determine the charges in the five ranges indicated in Schedule I.

(i) For up to 16 'ports', a per 'port' charge of Rs. X1 is specified.

(ii) For 'ports' between 17 and 32 PCMs, the charge will be 16X1 + (N-16) X2, where X2 corresponds to the average cost for the capacity slab going upto 32 PCMs and X1 is for the capacity slab 1 to 16 PCMs.

(iii) For 'ports' between 33 and 64 PCMs, the charge will be 16X1 + 16X2 + (N-32) X3, where X3 corresponds to the average cost for the capacity slab 33 to 64 PCMs.

(iv) For 'ports' between 65 and 128 PCMs, the charge will be 16X1 + 16X2 + 32 X3 + (N-64) X4, where X4, corresponds to the average cost for the capacity slab 65 PCMs to 128 PCMs.

(v) For ‘ports’ above 128 PCMs, the charge will be 16X1 + 16X2 + 32 X3 + 64 X4 + (N-128) X5, where X5 corresponds to the average cost for the capacity above 128 PCMs.

By Order

[DR. HARSHA VARDHANA SINGH]

Secretary-cum-Principal Adviso

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TO BE PUBLISHED IN THE GAZETTE OF INDIA, EXTRAORDINARY, PART III, SECTION 4

TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 02 February, 2007

THE TELECOMMUNICATION INTERCONNECTION (PORT CHARGES) AMENDMENT REGULATIONS, 2007

No. 1 of 2007

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File No. 409-10/2006-FN.---------- In exercise of the powers conferred upon it under section 36, read with sub-clauses (ii), (iii) and (iv) of clause (b) of sub-section (1) of section 11 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following regulations to amend the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001), namely :-

1. (1) These regulations shall be called as the Telecommunication Interconnection (Port Charges) Amendment Regulations, 2007.
(2) These regulations shall come into force on the 1st day of April, 2007.
2. In the Telecommunication Interconnection (Port Charges) Regulation 2001 (6 of 2001) after regulation 2, the following regulation shall be inserted, namely:-
"**2A. Port charges on or after the 1st April, 2007**. - (1) Every interconnection seeker shall, on or after the 1st day of April, 2007, make his demand, for every Point of Interconnection for the total number of Ports required by him on or after the said date to the interconnection provider.
(2) Every interconnection seeker shall make demand under sub-regulation (1) on the basis of traffic projection (in Erlangs) on half yearly basis.
(3) Every interconnection provider shall charge, on or after the 1st day of April, 2007, the Port charges in accordance with the Port charges specified in Schedule II to these regulations and raise the demand note or the invoice, as the case may be, for the Ports demanded on or after the said date by the interconnection seeker under sub-regulations (1) and (2).

(4) In case where interconnection provider does not allot and provide all the Ports on the date, or, within such period, as requested by the interconnection seeker and in accordance with the demand made by him under sub-regulations (1) and (2), the Port charges for the Ports allotted and provided shall be calculated on the basis of the total number of Ports so demanded (taking into account the Ports allotted and provided and also the remaining ports not allotted and provided by the interconnection provider as per his demand) and charges for the Ports so allotted and provided shall be calculated on the basis of the total Ports so demanded based on traffic projections (in Erlangs) and the charges for the Ports shall be calculated in accordance with the charges specified against the slabs in Schedule II to these regulations.

(5) In case where interconnection seeker does not take all the Ports in accordance with the demand made by him under sub-regulations (1) and (2), the Port charges for the Ports allotted and provided shall be calculated on the basis of the total number of Ports so actually taken by him, and, the Ports not taken by him as per his demand shall be ignored for determining the slab for calculating the Port Charges and the charges for the Ports shall be calculated on the basis of actual Ports taken by him and not on the basis of Ports demanded by him under sub- regulations (1) and (2), in accordance with the charges specified against the Port slabs in Schedule II to these regulations.

(6) The Port charges for every Port demanded, allotted and provided before the 1st day of April 2007 shall be charged before the said date in accordance with the Port charges specified in Schedule I to these regulations and the interconnection provider shall accordingly raise the demand note or the invoice, as the case may be, for such Ports demanded, allotted and provided.

(7) The Port charges for every Port demanded, allotted and provided before the 1st day of April, 2007 shall be charged on or after the said date in accordance with the Port charges specified in Schedule II to these regulations and the interconnection provider shall raise the demand note or the invoice, as the case may be, for such Ports provided by him before the aforesaid date accordingly.

(8) The slab for calculation of Port charges under sub-regulation (7) shall continue to be with reference to the slabs specified in the Schedule I to these regulations, which were taken into account for determining the Port charges before the 1st day of April, 2007.

(9) Nothing contained in the Schedule II to these regulations shall apply in case the interconnection provider and the interconnection seeker mutually agree to charge and pay charges lower than those specified in the Schedule II to these regulations."

3. After the Schedule I to the Telecommunication Interconnection (Port Charges) Regulation 2001, the following Schedule II shall be inserted, namely:-

"SCHEDULE II

{See regulation 2A. }

PORT CHARGES

ITEM	PORT CHARGES	
(1) Date of implementation	1st April, 2007	
(2) Coverage	Charges for 'Ports' (other than the Port Charges for Internet, which are specified in Schedule VI of the Telecommunication Tariff Order 1999)	
(3) 'Port' Charges covering all switches	No. of 'Ports'	'Port' Charges (in Rs.) per annum
	1 to 16 PCMs	N*39,000
	17 to 32 PCMs	6,24,000 + (N-16)*22,500
	33 to 64 PCMs	9,84,000 + (N-32)*14,500
	65 to 128 PCMs	14,48,000 + (N-64)*11,500
	129 to 256 PCMs	21,84,000 + (N-128)*10,500

Note.----N refers to the number of 'Ports' within the capacity ranges under the column 'No. of Ports'.**"**

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(Rakesh Kacker)
Acting Secretary

Note1. The principal regulations were published vide F.No. 311-6/2001-TRAI (Econ.) dated 28th December 2001 (6 of 2001).

Note 2. The Explanatory Memorandum explains the objects and reasons of these regulations.

EXPLANATORY MEMORANDUM

Background:

1. With the induction of the competition in telecom sector in the country, the interconnection among the operators has become an essential requirement for the development of the sector. In the multi-operator multi service scenario, establishment of interconnection helps the consumers of one network to communicate to the consumers of other network. Port is an essential part for the establishment of the interconnection between two networks.

2. On the 28th May 1999, the Authority had notified the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999, which specified arrangement among service providers for interconnection charges and revenue sharing for all telecommunication services including Port charges. Schedule III of the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999 specifies average annual charges per Port. These Port charges were derived on the basis of cost based charges for a unit of 8 PCMs (E1s), starting from 8 E1s and going up to 256 E1s.

3. The entrants in the telecom sector, before commencement of the Telecommunication Interconnection (Port Charges) Regulation 2001, had been representing to the Authority that there was reluctance on the part of the some operators to supply Ports at the prices specified by the Authority in the past. It was also represented by the BSNL that charges specified in the Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999 had an anomaly in that these charges encouraged the interconnection seeker to place more than the actual demand for Ports. It thus transpired that the Port charges needed to be re-

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evaluated and the existing anomaly to be corrected so that there should not be any economic disincentive for provision of more Ports. Therefore, Authority decided to undertake a review exercise relating to Port Charges.

4. The Authority, after discussion with the industry notified a revised Regulation on Port charges the Telecommunication Interconnection (Port Charges) Regulation 2001 on 28th December 2001 (hereafter referred to as the said regulation). The said regulation inter-alia specifies the Port charges payable by interconnection seeker to the interconnection provider. In the said regulation, the number of slabs for Port charges were increased to five from three.

5. For specifying the Port Charges in the said regulation, the Authority had considered only incremental or additional cost directly attributable to the provision of Ports by the interconnection provider. The Directly Attributable Incremental Cost (DAIC) are not only taken for Port terminals but also for all other relevant elements such as CCS7 signalling equipment, processors, and switching matrix etc. All such associated costs have been computed as overhead in the various Port slabs. These common costs have been found to be a function, which varies over a range of Port sizes. Based on the cost data supplied by the operators for the Switching Systems in the Network, costs have been worked out for the various configurations. To these costs, overheads @ 10% representing freight, storage and installation costs had been added. For arriving at the Annual Recurring Expenditure (ARE), a rate of 22% had been applied to the capital cost so worked out. The `Port` charges, which were in the nature of annual rentals, had been equated to the ARE so computed.

6. In considering the point made by network operators that due to provision of an Interconnection `Port` and consequent traffic flow,

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capacity enhancement would be required at other nodes as also in the interconnecting links for smooth flow of traffic across the network. A decision therefore, was taken that the cost of downstream augmentation of the network resources should be recovered from the usage charges of network elements involved in call carriage. The underlying principle is that all costs are to be recovered but that no cost elements should be counted twice.

7. The "Telecommunication Interconnection (Port Charges) Regulation 2001 (6 of 2001)", provides that the Authority may also at any time, on reference from any affected party, and for good and sufficient reasons, review and modify the Port charges. Besides, there has been long pending basic demand of interconnection seekers that Port charges need to be reviewed so as to align it with the current switch/exchange cost.

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8. The Authority has, therefore for the purpose of revisiting the Port Charges and review thereof, initially asked the service providers to furnish the cost details of the various elements used for expansion of Digital Trunk Automatic Exchange (DTAX) / Tandem to provide Ports for interconnectivity. Most of the service providers including the Bharat Sanchar Nigam Limited (BSNL), being the incumbent operator with legacy network spread out in 2647 Short Distance Charging Areas (SDCAs), Level-II Trunk Automatic Exchanges (TAXs) at 322 locations and Level-I Trunk Automatic Exchanges (TAXs) at 21 locations and is also the main provider of the Ports, furnished the cost details of the various network elements. A consultation was done by TRAI with BSNL, MTNL, COAI and AUSPI for review of the Port charges specified in these regulations and matter was also discussed in series of meetings with them for the said purpose.

9. For the purpose of Port Charges review as made by this notification, the service providers were asked to submit cost of the network elements and detailed traffic trend analysis to the Authority. On the basis of the substantial data provided by the interconnection seekers and interconnection providers, the Authority undertook the calculations for determining Port Charges and found some gaps and even inconsistencies in data in certain cases provided by interconnection seeker and interconnection provider. The Authority has made a reasonable check with due diligence while taking the network elements and costs thereof for expansion of exchange / switch. For calculating Port Charges, the Authority has adopted the similar approach as used in the said regulation in year 2001, with alignment of the costing methodology adopted by the Authority in recent regulations and tariff orders.

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10. List of network elements used for the calculation of the Port charges is given in Table-1 in this Explanatory Memorandum. The network elements listed in Table-1 are normally required to expand the OCB exchanges, which are mostly used for providing the interconnection to other service provider by the incumbent operators. Separate cost is calculated for expansion of the exchanges by 16 E1s, 32 E1s, 64 E1s, 128 E1s and 256 E1s and accordingly different slabs are specified in these regulations.

11. In the present review for calculation of the Port charges, the reasonable returns (Pre-tax Weighted Average Cost of Capital) @ 14% per annum on the capital employed (net block only) has been considered after providing depreciation @10% per annum based on Straight Line Method of depreciation. Additionally, overhead @ 10% on CAPEX recovery has been added. The Authority has not adopted Annual Recurring Expenditure (ARE) method for present review of Port Charges.

12. The Authority released the draft of the proposed amending regulations on Port charges along with detailed Explanatory Memorandum after due diligence on inputs from stakeholders and particularly major interconnect provider such as BSNL. The draft of the proposed amending regulations was released on the 12th January 2007, for seeking the comments of stakeholders. The last date for receiving the comments of the stakeholders was the 22nd January 2007.

Examination of the main comments / issues raised by the stakeholders:

13. Some of the stakeholders requested for extension of time for submission of comments. The Authority considered the requests of extension and found that issue involved is relating to review of Port charges only, for which meetings were also held earlier by TRAI with the stakeholders namely BSNL, MTNL and other service providers represented through COAI and AUSPI. In addition, the calculations for Port Charges in the present review are based on the costs details furnished by both interconnect providers and interconnect seekers. The draft amendment regulations on Port charges were released with detailed Explanatory Memorandum for seeking the comments of the stakeholders with clear indication of the 22nd January 2007 as the last date of submission of comments. Therefore, the Authority decided not to extend the time limit for submission of comments and also intimated accordingly. However the comments received from the BPL Mobile Communications Limited, the Bharti Airtel Ltd, the TATA Teleservices Ltd, the MTNL, the BSNL and a joint response from the COAI and the AUSPI have been fully considered and addressed.

14. The Authority has taken the various comments and inputs into consideration and analysed the matter in detail. For sake of clarity the comments/issues raised by stakeholders are shown below in

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italic fonts and the analysis/consideration of the Authority is made thereafter.

Issue 1: Date of Applicability of Regulations:

Revised Port charges Regulations should be made effective from the date of its notification.

15. The demand of the interconnection seekers / stakeholders regarding the date of application of the new Port Charges has been examined and the Port charges as specified in the Schedule II to the Telecommunication (Port Charges) Amendment Regulation, 2007 have been made applicable with reference to the financial year beginning on and after the 1st April 2007 for following reasons namely:

(a) It is easier for reconciliation and implementation that payments, which are on an annual basis, should coincide with the financial year.

(b) Moreover interconnection seeker is required to properly assess their traffic before placing the demand on the basis of traffic projection on six monthly basis. Thus there is a need to give sufficient time to interconnection seeker for assessing their demand.

(c) Since Port charges are specified on per annum basis and the revised port charges are applicable to existing working ports.

Therefore, the Authority is of the view that the date of applicability should be the 1st April 2007 instead from the date of its notification.

Issue 2: The new Regulations should replace or amend the existing 2001 Regulation:

It will be more appropriate that the proposed Regulation should replace the existing 2001 Regulation instead of amending the existing 2001 Regulation. This will have implication for extending connectivity and for the operators who have already got POI.

16. There was a long pending basic demand of the interconnection seekers that costs of the network elements have been reduced over the

period and also costing methodology for calculation of the Port charges needs to be aligned with the costing methodology used by the Authority in various other regulations / orders. The Authority has taken note of these demands and found that the basic demand can be met by amending the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001).

Issue 3: Port Charges Calculations:

(a) The Authority has permitted reduction in domestic leased line and long distance tariff to a great extent in 2005. The cost of equipment has gone down further thereafter. Therefore, there is an ample justification for 80% reduction in the Port charges.

(b) BSNL will be able to get the benefit of economy of scale for the purchase of the equipment and these benefits should be reflected in the reduced Port charges.

(c) Only the portion of the cost element be considered, which is associated with additional Port provisioning by BSNL / MTNL. How much proportion of central equipment costs has been apportioned for various slabs of E1s should be tabulated along with the capacity.

(d) There have been reductions in the domestic leased line tariffs by the Authority and in IUC for carriage charges.

(e) First price slab should not exceed Rs.31200/- and corresponding adjustment is required for other slabs.

(f) In the interest of the transparency, it is proposed that detailed calculations made by TRAI in arriving at Port charges in Schedule II may be put on its website to enable operators to examine and respond back.

17. The Authority has made all the calculations on the basis of the substantial data provided by the interconnection seekers and interconnection providers. The Authority has also found some gaps and even inconsistencies in data in certain cases provided by interconnection seeker / provider. The Authority has made reasonable checks with due

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diligence while taking the network elements and costs furnished by some of the stakeholders thereof for expansion of exchange / switch. The Table-1 in this Explanatory Memorandum provides details of network elements considered for determining the Port charges. It was also noted that while furnishing the costs details of network elements, some of the stakeholders marked it 'Confidential'. Therefore the cost has not been indicated against the network elements listed in Table-1.

18. In the present review, the Authority has taken cost of the network elements provided by the service providers (interconnection seekers and interconnection providers) and also aligned the costing methodology with current practices adopted by the Authority in various regulations / tariff orders and specifies the Port charges by amending the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001).

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19. In the present review, the Authority considered only incremental or additional cost directly attributable to the provision of Ports by the interconnection provider. The Directly Attributable Incremental Cost (DAIC) are not only taken for Port terminals but also for all other relevant elements such as CCS7 signalling equipment, processors, switching matrix etc. All such associated costs have been computed as overhead in the various Port slabs. These common costs have been found to be a function, which varies over a range of Port sizes.

20. The five slabs for Port charges have been specified, based on the cost of common control and switching matrix which are observed to vary in five steps.

Issue 4: Pricing Methodology, Depreciation, Rate of Return on Incremental CAPEX:

(a) The returns allowed are much higher than 14% in the proposed draft Regulations. In 10 years the service provider would get returns @ 16%.

(b) *Equating annual Port rental to 22% ARE may not be justified specially in new nodes / tandems where switches may be required before completing 10 years life (as 10% depreciation with Straight Line Method has been assumed by the Regulator for calculation of ARE). In fact, for new nodes, the depreciation should be 20% in view of plans to migrate to IP switches and chances of non-support of conventional switches by vendors in near future.*

(c) *The Authority has taken the incremental CAPEX as taken in previous Regulations. This may not always be the case as some times, new tandems will be required for providing E1s from nodes / tandems that are fully grown (45K).*

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21. For calculation of the Port charges, the reasonable returns (Pre Tax Weighted Average Cost of Capital) @ 14% per annum on the capital employed (net block only) has been considered after providing depreciation @10% per annum based on Straight Line Method of depreciation. The Authority has not used Annual Recurring Expenditure (ARE) method in the present review of Port Charges. Therefore, in view of the methodology used by the Authority for calculations of the Port charges, the view of the stakeholders that interconnection provider would get returns @ 16% is not correct.

22. The Port charges payable by the interconnection seeker have been classified on the basis of number of Ports falling in a particular slab. The first such slab begins from 1 to 16 PCMs and the last such slab ends at 128 to 256 PCMs. Further, if higher capacity new switches are to be installed by interconnection provider then it is expected that about 50% of the ports of the total capacity will be used by interconnect provider for its own network connectivity for intra-network links and remaining will be used for provisioning of ports to interconnect seekers for inter-network links. The economies of scale will also bring down the CAPEX of higher capacity switches. Therefore, the Authority is of the view that incremental

CAPEX for port charges calculations for various slabs is reasonable as specified in the Schedule II to these regulations.

Issue 5: Applicability of Port Charges for Cellular Services of BSNL:
Port utilization for CellOne POI is 100% and, therefore, the Port charges for CellOne POIs, irrespective of the demand, should be charged at average rate of 256 E1s.

23. The Authority is of the view that applicability of port charges on uniform basis would make implementation smooth and reconciliation of port charges easier. As far as charging at average rate of 256 E1s is concerned, interconnection seeker can always take the advantage by placing demand on the basis of their traffic projection as the slab of 129 to 256 PCMs is available for Port charges in schedule II of these regulations.

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Issue 6: Recovery of CAPEX for existing Ports and sunset clause:

(a) *Cost of POI working for more than three years has been recovered by the interconnection providers and, therefore, there is no rational for continuation of payments for the same.*
(b) *Cost of 7 years old Ports have already been recovered as per TRAI's own calculations and as such no further payments should be applicable for at least such Ports and, therefore, sunset clause should apply to these Ports immediately.*
(c) *There should be sunset clause for payment of Port charges.*

24. The Authority has also considered the view of the stakeholders regarding recovery of the cost for the existing ports and is of the view that interconnection provider generally is required to replace the existing equipment necessary for continuance of interconnection from time to time and, therefore, proposition made by the service providers, that cost of the existing ports is completely recovered within 7 years and no further

payment should be applicable with sunset clause for Port charges, is not sustainable in present scenario.

Issue 7: Clubbing of existing Ports:

All E1s working as on 1st April 2007 should be clubbed together to calculate the slab rates for charges payable after 1st day of April 2007 as per the Schedule II.

25. The earlier slabs mentioned in the Schedule I to the Telecommunication Interconnection (Port Charges) Regulation, 2001 were fixed keeping in view of the fact that the interconnection provider may have to expand / upgrade their exchanges sequentially and from time to time. To meet such expansion and up-gradation requirements, the interconnection provider might have made the investment for upgrading their exchange as per the demand raised by interconnection seeker from time to time. Therefore, Authority is of the view that clubbing of the charges for all such existing ports at this stage would be unreasonable on financial grounds to interconnect provider.

Issue 8: Review of Port charges:

Regular review of Port charges, at least once a year, to account for any reduction in the cost of equipment.

26. As far as regular review of Port charges, at least once in a year is concerned, it may here mentioned that various issues including Port charges relating to telecom sector are revisited by the Authority and there is already a provision in the Telecommunication Interconnection (Port Charges) Regulation 2001 that from time to time Authority may review and modify Port charges.

Issue 9: Inclusion of cost of ports in determining termination charge:

Cost of the Ports (including all associated equipments) should be included in the termination charges rather than prescribing separate Port charges.

27. Inclusion of the Port charges in the termination charge will lead to differential termination charge for the calls which are terminating in the interconnection provider's network and hence it may lead to complex tariff structure both for service providers and consumers. For calculating the port charges, only incremental cost has been taken into account. The Authority's observation in this regard in Interconnection Usage Charge (IUC) Regulation dated 29th October 2003 is reproduced below:

> "63. .... The Authority also recalled that during the calculation of Port Charges, only the incremental CAPEX for provision of the port was considered although for providing ports, there is a need for not only augmenting the switch capacities but also other downstream parts of the network to handle the additional traffic entering the network through these ports. The costs required for augmentation of other downstream network elements to handle the additional traffic, were left to be recovered through the IUC."

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Issue 10: Average Port Charges:

Average charges per E1 should be indicated for different slabs.

28. If average charges per E1 as suggested are to be specified then port charges for 17 E1s will be less than the port charges for 16 E1s which will create similar anomaly as was in "The Telecommunication Interconnection (Charges and Revenue Sharing) Regulation 1999". The Authority recalled that during the above regime the new entrants represented to the Authority that there was reluctance on the part of the incumbent to supply Ports at the prices specified by the Authority in the past. It was also represented by the BSNL that prevailing charges had an anomaly in that these charges encouraged the interconnection seeker to

place more than the actual demand or actual requirements for Ports, because annual Port charges for 8 Ports were of the same order as that for 33 Ports. It thus necessitated that the Port charges needed to be re-evaluated and the existing anomaly to be corrected so that there should not be any economic disincentive for provision of more ports. Therefore, the Authority reviewed the port charges in 2001 and made the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001). Therefore, the Authority is of the view that incremental slab system of Port Charges is reasonable.

Issue 11: Sharing of Port Charges in view of traffic patterns and other issues:

(a) POIs are used for both incoming and outgoing traffic and for that reason why charges for Port not recovered on the basis of usage by respective parties.

(b) Ports are used by both interconnection parties and interconnection is a mandatory licensing requirement; then why Port should not be provided on non-charging principle?

(c) All E1s in each exchange of BSNL / MTNL be combined for all services within a seekers license for determining chargeable slab.

(d) Even after more than 10 years of interconnection the private operators are still being treated as interconnection seeker by the incumbent BSNL / MTNL.

(e) While private operators can assess and forecast the likely increase in subscribers and traffic over a period of next one year, it will not be possible for them to forecast the requirement of interconnecting circuits / Ports for handling increased traffic from BSNL network to their network. Therefore, each interconnecting party should place demand on the second party for the Ports required to handle its increased outgoing traffic over the next one year period.

(f) The demand on the basis of traffic projection on annual basis is contradictory to the current scenario where demand is considered firm only after the seeker makes the payment. Seeker may take

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advantage of this clause by giving higher traffic projections and thereby projecting demand for higher number of Ports and in turn, taking advantage of lower Port charges though in the course of the year he may give firm demand for less number of Ports. This may be against the interest of interconnection provider and may also lead to huge inventory.

(g) If the Port surrendered under one category (license / service) is offered to be utilized by the same company under another service / license then no surrender charges should apply.

(h) There should not be any surrender charges after three years.

29. The aforesaid amendment i.e. the Telecommunication (Port Charges) Amendment Regulations, 2007 only makes amendments to the principal regulations i.e. Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001), to the extent that Port charges should be on the current cost of the network element and to align with the present costing methodology adopted by the Authority in various regulations/ tariff orders. There are many countries like United Kingdom, Australia, Germany, Sweden, Ireland, Pakistan, Bahrain, Oman and Malaysia etc. where the concept of separate Port charges in addition to Interconnect Usage Charges is prevalent. The Authority, therefore is of the view that system of the Port charges should continue at present.

Issue 12 Clarification with respect to applicable Port charges for different scenario:

Stakeholders have also requested to explain charges to be paid by the interconnection seeker to an interconnection provider for different scenario emerging out of demand of seeker and provisioning by provider at different point of times. They further requested for clarifications with respect to regulation 2A as inserted in the principal regulations by the Telecommunication (Port Charges) Amendment Regulations, 2007. *An illustration with two cases clarifying the Port Charges is as follows:-*

Illustration: If a seeker applies for 100 E1s and:

Case 1: Provider provides 50 E1s only

Case 2: Seeker takes 50 E1s only although provider is ready to provide all the 100 E1s

In both the cases the queries raised for explanation are:

(i) What is the charge to be paid?

(ii) How it is different from the scenario that Seeker applies for 50 E1s and provider provides 50 E1s?

(iii) What happens, if seeker gives a staggered demand spread over two quarters, will he still get slab benefit of total E1s demanded on six monthly basis?

30. The analysis regarding the above illustrations is explained in the following Table-A:-

Table-A

Interconnection Seeker demanded for 100 E1s on the basis of traffic projection (in Erlangs) on half yearly basis			
Sr. No.	**Description**	**Case-I** Provider provides 50 E1s only	**Case-II** Seeker takes 50 E1s only although provider is ready to provide all the 100 E1s
(a)	Interconnection Provider is ready to Provide	50 E1s	100 E1s
(b)	Seeker takes	50 E1s	50 E1s
(c)	Applicable Slab	No. of 'Ports': 65 to 128 PCMs {As per sub-regulation (4) of Regulation (2A)} Rs.{14,48,000+(N-64)*11,500} taking N=100	No. of 'Ports': 32 to 64 PCMs {As per sub-regulation (5) of Regulation (2A)} Rs.{9,84,000+(N-32)*14,500} taking N=50
(d)	Liability of Seeker to pay total Port Charges	Rs.18,62,000 for 100 E1s (Using the formula given at (c) above)	Rs.12,45,000 for 50 E1s (Using the formula given at (c) above)
(e)	Invoice or Demand note to be raised by Interconnection Provider	Rs.12,45,000 for 50 E1s {= 9,84,000+(N-32)*14,500}: taking N=50	Rs.12,45,000 for 50 E1s {= 9,84,000+(N-32)*14,500}: taking N=50
(f)	Invoice or demand note to be raised for remaining Ports	Amount payable for remaining 50 Ports = (d) minus (e) Rs.6,17,000 {=Rs.18,62,000 minus Rs.12,45,000}	At Later stage, if Seeker asks for 50 E1s then seeker has to pay Rs.12,45,000 again.

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(g)	How it is different from the scenario that seeker applies for 50 E1s and provider provides 50 E1s	Seeker has to pay the charges for 50 E1s with taking into account the slab of No. of Ports 33 to 64 PCMs i.e. Rs.12,45,000. Subsequently if seeker requests for further 50 E1s then he has to pay Rs. 12,45,000 and benefit of higher slab will not be available.	No Difference (In this case it is presumed that seeker needs 50 E1s only)

Note regarding staggered demand:

If seeker gives staggered demand for the total number of ports spread over two quarters (six months) at a time, on the basis of traffic projection on six monthly basis in one go, he will get the benefit of applicable higher slab for total E1s so demanded. In case the interconnection provider is not able to meet the demand for the total number of ports in one occasion or as per the staggered demand made on six monthly basis, based on traffic projection, then also interconnection seeker will get the slab benefit for the ports so demanded. However benefit of higher slab shall not be applicable if interconnection seeker demands at different points of time within six months.

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Table-1

NETWORK ELEMENTS REQUIRED FOR EXPANSION OF SWITCH / EXCHANGE

S.No.	Name of the Equipment
Port Terminals	
1	SMT Basic Equipment
2	SMT Processor
3	16 LR Interface
4	8 PCM Module-120 Ohms
	CCS 7 Signalling
1	SMA Basic Equipment
2	CCS 7 Coupler
Processor	
1	MAS Access Unit
2	Memory Board
3	SMC Basic Equipment
4	Processor Unit
Switching Matrix	
1	Switching Matrix Interface
2	MAS Access Unit
3	MCX Matrix 1 branch
4	MCX Helping 1 branch
5	MCX Coupling 1 branch
6	MCX Matrix O/P 1 branch
7	DC/DC Convertor
Mechanical	
1	UE Rack
2	UC Rack
3	XA Rack
4	Rack cladding
Cable, Connector	
1	16 pair HF Cable (meters)
2	SMT 32 PCM Convertor
3	SLIM Rack for 8 Modules
4	DDF Module for 8 PCMs
5	Inter suite runway
6	Basis Cords
7	Cords Set- Rack
8	CordSet
9	Cordset MCX
10	128 pair cable
11	Power cables
Software	
1	basic platform software
2	ISUP-N Interface Software

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Batteries & Power Plant	
1	Power Plant
2	Batteries
3	Powere-40 outputs distrib. Module
4	Power Distribution Panel - 48 V
5	Power Distribution Panel-220 V
Miscellaneous	
1	Installation Material
2	Tools & Testers
3	Spares
4	DDF Tools MSU
5	Documentation

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TELECOM REGULATORY AUTHORITY OF INDIA

NOTIFICATION

New Delhi, the 18th September, 2012

THE TELECOMMUNICATION INTERCONNECTION (PORT CHARGES) (SECOND AMENDMENT) REGULATIONS, 2012

(No. 18 of 2012)

File No. 409-3/2011-I&FN.---------- In exercise of the powers conferred upon it under section 36, read with sub-clauses (ii), (iii) and (iv) of clause (b) of sub-section (1) of section 11 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the Telecom Regulatory Authority of India hereby makes the following regulations to further amend the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001), namely :-

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1. (1) These regulations may be called the Telecommunication Interconnection (Port Charges) (Second Amendment) Regulations, 2012.

(2) These regulations shall come into force on the first day of October, 2012.

2. In the Telecommunication Interconnection (Port Charges) Regulation, 2001 (6 of 2001), after regulation 2A, the following regulation shall be inserted, namely:-

"**2B. Port charges on or after the 1st October, 2012**. - -

(1) Every interconnection seeker shall, on or after the 1st day of October, 2012, make his demand, for every Point of Interconnection for the total number of Ports required by him on or after the said date to the interconnection provider.

(2) Every interconnection seeker shall make demand under sub-regulation (1) on the basis of traffic projection (in Erlangs) on half yearly basis.

(3) Every interconnection provider shall charge, on or after the 1st day of October, 2012, the Port charges in accordance with the Port charges specified in Schedule III to these regulations and raise the demand note or the invoice, as the case may be, for the Ports demanded on or after the said date by the interconnection seeker under sub-regulation (1) and (2).

(4) The Port charges for every Port demanded, allotted and provided before the 1st day of October, 2012 shall be charged on or after the said date in accordance with the Port charges specified in Schedule III to these regulations and the interconnection provider shall raise the demand note or the invoice, as the case may be, for such Ports provided by him before the aforesaid date accordingly.

(5) Nothing contained in the Schedule III to these regulations shall apply in case the interconnection provider and the interconnection seeker mutually agree to charge and pay charges lower than those specified in the Schedule III to these regulations.

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3. After the Schedule II to the Telecommunication Interconnection (Port Charges) Regulation, 2001, the following Schedule III shall be inserted, namely:-

SCHEDULE III {See regulation 2B}

PORT CHARGES

Item	**Port Charges**	
(1) Date of implementation	1st October, 2012	
(2) Coverage	Charges for 'Ports' (other than the Port charges for internet, which are specified in Schedule VI of the Telecommunication Tariff order 1999)	
(3) Port Charges	Port Charges (in Rs.) per port per annum for providing port in MSC	Port Charges (in Rs.) per port per annum for providing port in Tandem/ TAX Switch
	4,000	10,000

Rajeev Agrawal
Secretary

Note 1: The principal regulations were published vide notification dated 28th December 2001 (6 of 2001).

Note 2: 'The Telecommunication Interconnection (Port Charges) Amendment Regulations, 2007 (1 of 2007) were notified on 02.02.2007 to be effective from 01.04.2007

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Explanatory Memorandum

A- Port Charges

1. A 'port' means a place of termination on a switch/distribution frame to provide a point of access or interconnection for ingress and egress of traffic between the two interconnecting networks. The bandwidth of the port is 2.048 Megabits per second. The 'port charges' are payable by the interconnection seeker to the interconnection provider for terminating the interconnection links on the network interface of the interconnection provider.

B- Background

2. The Authority notified 'The Telecommunication Interconnection (Port Charges) Regulation 2001' on 28.12.2001. The regulation, inter alia specifies the port charges payable by the interconnection seeker to the interconnection provider as below:

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Table 1

S.No.	No. of Ports	'Port' charges (Ceiling of Rs. per port)
1	1 to 16 PCMs	N * 55,000
2	17 to 32 PCMs	8,80,000 + (N-16) * 30,000
3	33 to 64 PCMs	13,60,000 + (N-32) * 20,000
4	65 to 128 PCMs	20,00,000 + (N-64) * 15,000
5	129 to 256 PCMS	29,60,000 + (N-128) * 14,000

Where 'N' refers to the number of ports demanded by the interconnection seeker within the capacity ranges under the column 'No. of ports'.

3. Section IV of 'The Telecommunication Interconnection (Port Charges) Regulation 2001', provides that the Authority may, from time to time, review and modify port charges. The Authority may also at any time, on reference from an affected party, and for good and sufficient reasons, review and modify the port charges.

4. After following a consultation process, the Authority notified 'The Telecommunication Interconnection (Port Charges) Amendment Regulation 2007' on 02.02.2007 to be effective from 01.04.2007, vide which, the revised port charges are as below:

Table 2

S. No.	No. of Ports	'Port' charges (in Rs.) per annum
1	1 to 16 PCMs	N * 39,000
2	17 to 32 PCMs	6,24,000 + (N-16) * 22,500
3	33 to 64 PCMs	9,84,000 + (N-32) * 14,500
4	65 to 128 PCMs	14,48,000 + (N-64) * 11,500
5	129 to 256 PCMs	21,84,000 + (N-128) * 10,500

Where 'N' refers to the number of 'ports' within the capacity ranges under the column 'No. of Ports.

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5. BSNL challenged the abovementioned regulation in Hon'ble TDSAT, mainly on the ground that TRAI has, vide its regulation, overridden its agreement with private service providers and that TRAI does not have power to override interconnect agreement between the service providers. BSNL also contended that lowering the port charges was wrong, illegal and incorrect as the cost of main equipment and total expenses were not taken into account by the TRAI. AUSPI also filed an appeal in TDSAT, requesting to consider inclusion of costs at interconnection seekers network while deciding port charges.

6. Hon'ble TDSAT passed the judgment on 28.05.2010, wherein appeal filed by BSNL was allowed. Hon'ble TDSAT observed that TRAI indisputably can make, modify or alter the Port charges in exercise of its power under Section 11 (1) (b) of the Act. Appeal of AUSPI was dismissed vide Hon'ble TDSAT's judgment dated 24.05.2010.

7. In its appeal, BSNL also raised an issue pertaining to Gateway Switch. On this issue, it is mentioned that Gateway Exchange or Interconnect exchange is one of the way of interconnecting various networks. Establishment of Interconnect Gateway Switch does not obviate the need for port and, therefore, their charges. The earlier exercise initiated by TRAI through issue of Consultation paper on Interconnect Exchange cum Inter-carrier Billing Clearing House for Multi-Operator Multi-Service Scenario on 13th April 2004, could not be concluded as there was no consensus within the stakeholders. The Authority decided to set up an Expert Group to give comprehensive recommendations on all the aspects and issues connected with Interconnect Exchange cum Inter-Carrier Billing System. As per the Terms of Reference of the Expert Group, apart from TRAI other members of the Group were from DOT, TEC,C-DOT, BSNL, Reliance, Bharti, MTNL, Tata, Hutch, Idea, VSNL & Data Access.

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8. In a meeting of the Expert group held on 13th January 2006, BSNL informed that they have submitted its Interconnect Exchange Model to DOT, as DOT was also working on the subject. Subsequently, in the meeting held on 6th September 2006, it emerged that an industry committee has been constituted under the chairmanship of Director BSNL. It was concluded in the meeting of expert group in TRAI that once the committee set up under the chairmanship of Director BSNL finalises the various issues under its purview, some result would come out and the same can act as an input for the Expert Group. After receiving the report of this Committee, if required, Expert Group can look into Interconnect Exchange taking into account the trends towards NGN, need for optimum utilization of infrastructure etc.

9. TRAI has followed up the issue with the industry committee through Director (Operations), BSNL as its Chairman. However, no report has been received by TRAI till date.

10. Now, migration to Next Generation Networks (NGN) has started and the major telecommunication operators in India have already implemented IP based core transport network for carrying voice and data traffic. In some cases IP/Ethernet elements have extended into access and aggregation networks. In the changed circumstances, instead of reviewing TDM switch based interconnect exchange concept, in view of the advancement in technology, extension of networks, entry of various new operators, TRAI is in process of studying that whether peer-to-peer interconnection, IP based interconnection exchange or a combination would be preferable. A comprehensive consultation paper in this regard would be issued, separately.

11. Against the TDSAT's judgment dated 28.05.2010, civil appeal no. 6068 has been filed by TRAI before Hon'ble Supreme Court, inter-alia, on the grounds that TDSAT has no jurisdiction to look into the validity of regulations made by TRAI, the same being sub-ordinate legislation. On merit of prescribing port charges, Civil appeals have also been filed by COAI, AUSPI and Sistema Shyam. BSNL in its appeal has challenged the direction of the Hon'ble TDSAT contained in judgement dated 28.05.2010 which does not allow BSNL to charge Port charge at higher rate for interregnum period.

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C- The Present Exercise to Review Port Charges

(i) Letter dated 18.08.2011 to service providers to furnish relevant information:

12. In view of the various representations received from the industry associations' viz. Cellular Operators Association of India (COAI) and Association of Unified Telecom Service Providers of India (AUSPI) and the Court's order, the Authority decided to review the port charges in order to align the port charges with the prevalent costs of the relevant equipment. To provide fair opportunity and to maintain transparency in the review of the port charges, letters were sent to the service providers and their industry associations on 18.08.2011 requesting them to furnish the following information by 19.09.2011:

(a) What interfaces/ network elements/ equipment shall be taken into consideration for determining port charges? Please explain with the detailed note, justification and diagram, clearly indicating cost recovery mechanism for each element involved.

(b) Explain the approach/ model/ costing methodology to be adopted for determination of port charges. Give justification for adopting the proposed approach, model or methodology and also provide details of the assumptions used in the model, if any.

(c) Provide list of interfaces/ network elements/ equipment required for expansion of switch/ exchange for provisioning of additional ports. Separate list should be provided for each category of switch used for Fixed Line Service/ GSM Mobile Service/ CDMA Mobile Service/ NLD service/ ILD service.

(d) Provide costs and capacity of each interfaces/ network elements/ equipment listed above.

(e) Provide cost model in excel sheet to calculate port charges along with adjustments and justification for all assumptions used.

(f) Whether port charges are specified by the regulator in other countries? If yes, what is the approach/ methodology being followed by the regulator in determining these charges?

(g) Any other relevant information related to subject along with all necessary details.

(ii) Consultation Paper dated 09.05.2012 on 'Review of the Telecommunication Interconnection (Port Charges):

13. In response to TRAI's letter dated 18.08.2011, the service providers and their industry associations submitted the desired information to TRAI. Due cognizance has been given to the inputs received from the service providers and a Consultation paper dated 09.05.2012 was issued on 'Review of the Telecommunications Interconnection (Port Charges). In the consultation paper, comments received from the service providers and their industry association on TRAI's letter dated 18.08.2011 have been described briefly and on the basis of the cost

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inputs received from the service providers the telecommunication interconnection (port charges) have been estimated. Keeping in view the current CAPEX costs of an E1 port in GMSC and TAX exchanges, consultation paper proposed that the ceiling of annual port Charges, as specified in The Telecommunication Interconnection (Port Charges) Regulation, 2001 may be revised as per the following Table:

Table- 2.7 of the Consultation Paper
Proposed Revised Ceiling of Annual Port Charges for MSC and Tandem/ TAX Exchanges

S. No.	Type of Switch	Port Charges (Ceiling of Rs. Per Port)
1	MSC	4,000
2	Tandem/ TAX Exchange	10,000

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The above proposal was presented for the comments of the stakeholders. The last date for comments and counter comments of the stakeholders was 08.06.2012 and 18.06.2012 respectively.

(iii) Comments received from stakeholders on the Consultation paper:

14. On the Consultation Paper dated 09.05.2012, 14 stakeholders including 9 service providers, 2 associations, 1 consulting firms and 2 consumer groups sent written comments that were uploaded on TRAI's website. Counter comments were received from one service providers' association.

D- Examination of the main comments/ issues raised by the stakeholders: Some of the main Comments received from the stakeholders on the specific issues are summarized under the respective issue and dealt with in the paragraphs following thereafter.

15. **Ceiling of Annual Port Charges for Tandem/ TAX Exchanges**

15.1 In response to TRAI's letter dated 18.08.2011, six service providers have submitted current CAPEX for E1 ports for TAX exchanges, ranging from Rs. 24,000 to Rs. 46,430. The same have been provided in Table 2.2 of the consultation paper. For ready reference Table 2.2 of the consultation paper is reproduced below:

Table 2.2 of the Consultation Paper dated 09.05.2012
Current CAPEX of an E1 Port for TAX exchanges

S. No	Service provider/ Industry association	Current CAPEX of an E1 port (Rs.)	Name of switch	Remarks
1	Service provider-2	46,430	Mix of DTAX and IP TAX switches	Costing methodology is weighted average CAPEX. Per circuit cost of main/expansion TAX equipment (TDM/IP-TAX) procured for the last five tenders have been taken into consideration. The service provider-2 has not provided the costs of individual network elements required for expansion of the switch.
2	Service provider-3	44,145	NSN make	The cost has been considered on the basis minimum configuration of the switch.
3	Service provider-4	45,000	OCB Switch	The cost per E1 (allocated cost) is calculated by dividing the cost of the individual element by its capacity. The summation of these costs provides the allocated cost per E1.
4	Service provider-5	40,450	OCB Switch	Based on 128 E1s configuration
5	Service provider-6	24,000	IP TAX	Per line price of IP TAX is Rs. 800.
6	Service provider-7	45,000	-	The cost per E1 (allocated cost) is calculated by dividing the cost of the individual element by its capacity. The summation of these costs provides the allocated cost per E1.

15.2 In the consultation paper, for estimation of ceiling rates of port charges, TRAI has taken the highest value of the CAPEX per E1 port as submitted by the service providers i.e. Rs. 46,430. In response to the consultation paper, some of the service providers commented that TRAI has not furnished any justification for picking up higher cost quote from the service providers as against the lowest quote. Some of them have suggested that a mean of the highest and lowest figure could have been more appropriate than using the highest figure.

Another suggestion was to consider cost of the most efficient operators so that inefficient cost of a service provider should not be loaded on the seeker.

15.3 In this regard, it is mentioned that the port charges specified in the "Telecommunication Interconnection (Port Charges) Regulation, 2001" are the ceiling rates and the service providers are permitted to charge alternative lower rates on the basis of their mutual agreement. Hence, for calculation of ceiling rates, it may be more appropriate to consider highest cost submitted by service providers as against the mean of the highest and lowest or lowest figure.

15.4 In its comments to the consultation paper, BSNL mentioned that they found that TRAI has calculated cost of providing one port E1 on the basis of cost data submitted by BSNL for latest IP TAXs i.e. Rs 46,430/- per port. In this regard BSNL mentioned that indicative cost of Rs 46,430/- provided by them is only the incremental cost of upgrading the TAX (not the network) required to provide 1 E1 connectivity. They submitted that the incremental cost of all network elements i.e. TAX, Media, Transmission Systems, Local switches and other supporting infrastructure need to be taken into account before arriving at fair cost of providing one E1 port to other service provider. Also, the incremental costs incurred in providing one E1 port varies and depend on number of ports being provided, as, after certain limit, Control part of switching equipments also need to be up-graded. Therefore incremental cost needs to be considered in different slabs as was done in Port Charges Regulation'2001 and even 2007.

15.5 It was also submitted by BSNL that Partial provision of IP TAX in their network has not resulted into any CAPEX saving for them as these IPTAX has replaced TDM TAXs who have not outlived their life and hence recovery of CAPEX done on TDM TAXs was not completed. Further, the number of IPTAXs and capacity is very less in comparison to overall network. Therefore, in real terms, there was not

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reduction of incremental cost being incurred by them due to induction of IPTAXs.

15.6 The Authority has noted that while requesting the service providers to furnish relevant information, the Authority vide its letter dated 18.08.2011 has clearly asked the service providers as to what interfaces/ network elements/ equipment shall be taken into consideration for determining port charges. They were also asked to explain with the detailed note, justification and diagram, clearly indicating cost recovery mechanism for each element involved. In its response to the TRAI's letter, BSNL vide its letter No. 1-16/2011-Regln/243 dated 2.11.2011 furnished complete list of interfaces/network elements/equipments pertaining to IP TAX and TDM TAX to be considered for determination of port charges. Although BSNL has not provided the costs of individual network elements required for expansion of the switch, however, BSNL was completely aware with the network elements required for expansion of IP TAX/ Switch/Exchange. The Authority has observed that cost of Rs. 46,430/- per port is not the indicative cost given on the basis of latest IP TAXs but it has been calculated by BSNL on the basis of overall weighted average per circuit cost considering Main/expansion TAX equipments (TDM/IP TAX) procured for BSNL network for last five tenders.

15.7 As regards the point regarding inclusion of incremental cost of all other network elements i.e. Media, Transmission Systems, Local switches and other supporting infrastructure in the port charges, the Authority has noted that this is already established principle that costs of Media, transmission systems, local exchanges and other network elements are not relevant towards port charges and these were left to be recovered through IUC. Inclusion of costs for other network elements towards ports would result in double recovery of these costs. The Authority's observation in this regard in

Interconnection Usage Charge (IUC) Regulation dated 29th October 2003 is reproduced below:

> *"63. …… ……. The Authority also recalled that during the calculation of Port Charges, only the incremental CAPEX for provision of the port was considered although for providing ports, there is a need for not only augmenting the switch capacities but also other downstream parts of the network to handle the additional traffic entering the network through these ports. The costs required for augmentation of other downstream network elements to handle the additional traffic, were left to be recovered through the IUC."*

15.8 Regarding the point that port charges should be on the basis of slabs, the Authority has noted that the cost inputs have been provided by all the service providers on per E1 basis and not on the slab basis. Even in response to the consultation paper, BSNL has not submitted any slab wise data. The Authority has also observed that the cost data submitted by BSNL, shows that procurement in the last five tenders have been done by BSNL for large capacities of main/expansion TAX equipments (TDM/IP TAX) and not for small quantities of E1s. In view of the above, the Authority finds that prescribing ceiling for per E1 Port Charges is appropriate as compared to ceiling for slab wise charges.

15.9 For estimation of Port Charges, the calculations in the consultation paper have been made considering the following:

(a) CAPEX per E1 port = Rs. 46,430
(b) Useful life of the equipment = 10 years
(c) Method of depreciation – Straight line method
(d) Rate of Return (Pre-tax Weighted average cost of capital) =15%
(e) Overhead on CAPEX recovery = 10%

On the basis of above, the average annual cost (averaged over 10 years) per E1 port for TAX Exchange was estimated as Rs. 9,321. Majority of the service providers, in their submissions, have taken useful life of the equipment to be 10 years. However, M/s BSNL, in their calculation for TAX Exchange, have assumed the

useful life of equipment to be eight (8) years. Accordingly they have taken depreciation of 12.5% per annum for eight years using straight line method of depreciation. In the consultation paper, the Authority has also estimated port charges considering the useful life of the equipment, as submitted by BSNL i.e. eight years and accordingly the annual depreciation as 12.5% per annum. The average annual cost (averaged over eight years) per E1 port for TAX Exchange comes out be Rs. 10,693. Giving due weight to the comments of BSNL as well as other service providers, the Authority reconfirms its proposal as given in the consultation paper and decided to prescribe the revised Ceiling of Annual Port Charges for Tandem/ TAX Exchanges as Rs. 10,000 per port.

16 Differential port charges for GMSC and TAX switch:

16.1 In response to consultation paper, some of the service providers submitted that prescribing different port charges for MSC and Tandem/ TAX Exchange switch is discriminatory as it will lead to higher payment to one operator and lower payment to other operators for the same equipment. It was also mentioned by them that the consultation paper does not provide any justification/explanation for considering different CAPEX for these two switches. They submitted that the CAPEX for connectivity to both these types of switch is same as no extra equipment is required for TAX exchanges/ Long distance exchanges and therefore there is no reason to shift from past precedence of uniform port charges.

16.2 The Authority has noted that in their response to TRAI's letter dated 18.08.2011, some of the service providers have submitted that TRAI should determine a separate charge for mobile port interconnections by taking cognizance of the relevant traffic, flow balance between the interconnection provider and interconnection seeker. They have also submitted the cost of provisioning of ports in their Gateway Mobile Switching Center (GMSCs).

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16.3 The Authority has also noted that in the 'The Telecommunication Interconnection (Port Charges) Regulations, 2001', it has prescribed ceilings for port charges on the basis of calculations for Tandem/TAX switch. However, at that time the fixed network was predominant. Most of the cellular operators are not having direct connectivity and they are routing their traffic through TAX. In contrast, the present situation is completely different. As on 30th June,2012 the subscriber base of wireline services is only 3.26 % of total subscriber base and almost all mobile service providers have direct connectivity amongst them, hence, they need not route their traffic through TAX switches. In view of the above, in the present review exercise, the Authority find it more logical and appropriate to estimate port charges for GMSC and Tandem/ Trunk Automatic Exchange (TAX), separately, on the basis of respective costs.

16.4 Current CAPEX of E1 Port for GMSC, as provided by the service provider/association was given in Table 2.1 of the consultation paper. For estimating the port charges, TRAI has taken into account the highest value of the CAPEX i.e. Rs.19,182 per E1 port as submitted by the service providers for Gateway Mobile Switching Center (GMSC).

16.5 For estimation of Port Charges for GMSC, the calculations in the consultation paper have been made considering the following:

(a) CAPEX per E1 port for GMSC = Rs. 19,182
(b) Useful life of the equipment = 10 years
(c) Method of depreciation – Straight line method
(d) Rate of Return (Pre-tax Weighted average cost of capital) =15%
(e) Overhead on CAPEX recovery = 10%

On the basis of above, the average annual cost (averaged over 10 years) per E1 port for GMSC was estimated as Rs. 3,851. The Authority reconfirms its proposal as given in the consultation paper and decided to prescribe the revised Ceiling of Annual Port Charges for providing port in MSC as Rs. 4,000 per port.

17 Applicability period for charges:

17.1 Regarding applicability/ time period for review of port charges, the service providers have submitted time period which is ranging from 6 months to 5 years. It may be mentioned here that various issues including Port charges relating to telecom sector are revisited by the Authority from time to time and there is already a provision in the Telecommunication Interconnection (Port Charges) Regulation 2001 that from time to time Authority may review and modify Port charges. Hence, the Authority will keep close watch and if requires, either suo-motu or on the basis of requests received from the service providers, it may review the port charges.

18 Sharing of cost by Provider's network and subsume Telecommunication Interconnection (Port Charges) in Interconnection Usage Charges.

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18.1 Some of the service providers have submitted that the provider network should also bear a proportion of the costs of interconnect, commensurate with the flow of traffic. A few service providers were of the opinion that TRAI must align the port charges on the basis of usage by merging it with termination charges to maintain the level playing field between the operators. In this regard, it may be noted that as far as principle of payment of charges is concerned, this is not the subject matter of present consultation paper. This aspect has also been clearly brought out in the consultation paper itself. The present review exercise is limited to the revision of port charges which have been specified in 'The Telecommunication Interconnection (Port Charges) Regulations' and following the principles established in the principal Regulation. The seeker/ provider and related principals are governed by "The Telecommunication Interconnection (Reference Interconnection Offer) Regulation, 2002 dated 12th July 2002.

19. Other issues:

19.1 In response to the consultation paper it has been submitted by MTNL that the commercial terms already entered into between the port provider and inter-connection seekers or to be entered into may not be remotely regulated by TRAI. MTNL submitted that in CA No.-D28298/2010 in Hon'ble Supreme court they have contended that TRAI can not frame regulations , which would overpass the agreements entered into between telecom operators. The case is pending before Hon'ble Supreme Court and the matter is subjudice. Besides Hon'ble Supreme court also observed that the tribunal had also directed TRAI to start afresh the process of fixing the port charges and made an obiter dictum as "Whether the delegated legislations can be ruled upon (by) TDSAT... We would have to decide. This question would reoccur and would come again and again," Therefore ab initio the consultation process initiated by TRAI on the plea that the court ordered it to do so in para1.5 of chapter- 1 is not correct and at this stage there should be no attempt to determine the matter which is sub judice.

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19.2 MTNL also commented that in the litigation, on the applicability of the new rates for ports on the basis of consultation process, court intervened and issued an interim order that the new rates shall be made applicable only to the new ports applied and provided after the date of application and not to override the earlier mutually agreed rates between interconnection providers and receivers against undertaking and Bank guarantees for the difference amounts. However this point on applicability is also not finding any place in the consultation paper which inevitably leads to continuation of litigation.

19.3 Regarding issues raised by MTNL in Para 19.1 and 19.2 above, it is mentioned that without prejudice to its rights and contentions, the Authority has, in exercise of its statutory functions, undertaken an exercise to determine the port charges. As on date there is no impediment to the statutory functions of TRAI to make regulations on

Port charges. On the contrary, in para 40 of the said judgment it was clearly held that "*TRAI indisputably can make, modify or alter the Port charges in exercise of its power under Section 11 (1) (b) of the Act".* In para No. 63 of its judgment, Hon'ble TDSAT has in fact directed the TRAI to give a fresh look to the matter. The aforesaid judgment of Hon'ble Tribunal has been challenged by different service providers and by the Authority before the Hon'ble Supreme Court on different grounds and interim relief was also prayed for but no interim stay of the judgment dated the 28th May, 2010 was granted by the Hon'ble Supreme Court. The interim orders passed do not prevent the TRAI from conducting the fresh exercise for reviewing the Port Charges.

19.4 BSNL/ MTNL have also referred to judgment of TDSAT dated 27/04/2005 and the pendency of C.A. No. 3298/2005 before the Hon'ble Supreme Court. As Hon'ble TDSAT has expressly ruled that TRAI has power to make, modify or alter the Port Charges under Section 11(1)(b) of the TRAI Act, the judgment of Hon'ble TDSAT in RIO matter has no bearing. The appeal in that matter pending in Apex Court also. Thus, there is no restrain order which prevents TRAI from exercising its statutory powers and the TRAI is competent to proceed with the review exercise in pursuance of consultation paper issued on 09/05/2012.

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