



Telecom Regulatory Authority of India

Consultation Paper

On

**Determination of Port Transaction Charge, Dipping
Charge and Porting Charge for Mobile Number Portability**

New Delhi: 22nd July 2009

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Preface

It has always been the endeavour of the Authority to facilitate competition in the telecom sector so as to promote efficiency in the operations of telecommunication services. The Authority has been taking various steps so that subscribers have choices in terms of telecom service providers and tariffs. Today, though the subscriber has choice to change his telecom service provider, his mobile number also gets changed in the process. Mobile Number Portability (MNP) allows the mobile subscribers to retain the existing mobile telephone number when the subscriber switches from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider, in a licensed service area. Besides, introduction of MNP also helps in increasing competition between the service providers and acts as a catalyst for the service providers to improve their quality of service, introduce new and innovative products & services and improve the mobile network coverage.

Based on the recommendations of the Authority on MNP, dated 8th March 2006, the Department of Telecommunications (DoT) issued guidelines for MNP implementation in the country on 1st Aug 2008. Subsequently the DoT selected two companies as MNP Service providers each serving in a designated zone in the country. As per the instructions of DoT dated 6th May 2009, a Port Transaction Charge will be charged by the MNP Service Provider from the recipient operator for processing each porting request. The Dipping charge shall be payable by those telecom service providers who utilize the dipping services (query response services) from the MNP Service Provider. The Porting Charge is payable by the subscriber to the recipient operator for porting his mobile number. The port transaction charge, dipping charges and the porting charge shall be governed by the Telecom Tariff Order (TTO)/ determination by TRAI.

In this consultation paper various factors to be taken into account for the calculation of port transaction charge and the dipping charges and the issues related to porting charge have been discussed .

TRAI solicits comments from the stakeholders on this consultation paper. The consultation paper is available on TRAI's website www.trai.gov.in. All the stakeholders are requested to send their comments on the various issues mentioned in the consultation paper by 5th August 2009. In case of requirement of any clarification / information, please contact Shri Sudhir Gupta, Advisor (MN), Telephone No. +91-11-23220018 Fax No.: +91-11-23212014 or email at advmn@traai.gov.in or traai.mn@gmail.com.

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Chapter 1 Introduction

1.1 Mobile Number Portability (MNP) allows the mobile subscribers to retain the existing mobile telephone number when the subscriber switches from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider, in a licensed service area. Besides, introduction of MNP also helps in increasing competition between the service providers and acts as a catalyst for the service providers to improve their quality of service, introduce new and innovative products & services and improve the mobile network coverage.

1.2 The Telecom Regulatory Authority of India (TRAI), *suo-motu* issued a consultation paper on MNP on 22nd July 2005 and based on the inputs received and its analysis, the Authority submitted its recommendations to DoT on 8th March 2006¹ under Section 11(1)(a)(iv),(v) and (vii) of the TRAI Act 1997 (as amended). In these recommendations, the Authority recommended implementation of MNP in the whole country in a phased manner, starting from 'Metros' and 'A' category service areas followed by 'B' and 'C' category service areas. The tentative date for the introduction of MNP was indicated as 1st April 2007. The salient features of the recommendations are at **Annex-A**.

1.3 The DoT vide its letter No. 20-27/2006-AS-I dated 10th December 2007 had communicated its acceptance to the Authority's recommendations and decided to implement MNP starting from four Metro cities in the first phase. DoT had also accepted the suggestion of the Authority that a Steering Committee be formed under the aegis of TRAI, to deliberate upon various

¹ Recommendations available at TRAI website http://www.trai.gov.in/Recommendations_content.asp

issues involved in the implementation of MNP in the country. Accordingly, the TRAI constituted a Steering Committee consisting of representatives from TEC, Service Providers and their Associations.

1.4 Based on the report of the Steering Committee and decision of the Authority, a draft Request for Proposal (RFP) was prepared and submitted to DoT² on the 10th April, 2008 for initiating the process for selection of MNP Service Provider. Further, based on the responses received from the vendor companies, some amendments in the draft RFP were made and same were communicated to DoT³ on 30th April, 2008. Subsequently the DoT issued guidelines for MNP service licence on 1st August 2008 (**Annex-B**). The DoT guidelines envisaged geographical division of the country into two Number Portability Zones (zone 1 & zone 2), each consisting of 11 licensed service areas as given below in Table 1.

Zone 1		Zone 2	
Name of Licensed Service Areas	Category of Licensed Service Areas	Name of Licensed Service Areas	Category of Licensed Service Areas
Delhi	Metro	Kolkata	Metro
Mumbai	Metro	Tamil Nadu including Chennai	A
Maharashtra	A	Andhra Pradesh	A
Gujarat	A	Karnataka	A
Haryana	B	Kerala	B
Punjab	B	Madhya Pradesh	B
Rajasthan	B	West Bengal	B
Uttar Pradesh (E)	B	Assam	C
Uttar Pradesh(W)	B	Bihar	C
Himachal Pradesh	C	North East	C
Jammu & Kashmir	C	Orissa	C

Table 1

² Draft RFP is available on TRAI website http://www.trai.gov.in/misc_list_year.asp?offset=20

³ Modifications in the draft RFP are available at

<http://www.trai.gov.in/WriteReadData/trai/upload/misc/74/modidraftRFP.pdf>

As per these guidelines, the MNP will be initially implemented in all 'metros' and category 'A' service areas within six months of award of MNP license. Subsequently the operation of MNP will be expanded to the rest of the service areas in a time bound manner.

1.5 DoT then initiated the process of selecting the MNP Service Licensees for providing MNP services in the two identified zones. For this purpose, DoT issued the tender Document on 25th November, 2008. Various queries raised by bidders were clarified vide DoT's clarifications dated 22nd January, 2009. Based on the selection parameters set in the guidelines for MNP service license, one MNP service licensee in each zone was selected. M/s Syniverse Technologies(I) Pvt. Ltd was granted licence for operating in Zone-1 (Northern and Western India) and M/s MNP Interconnection Telecom Solutions(I) Pvt. Ltd was granted licence for MNP Service Zone-2 (Eastern and Southern India). A copy of the license granted is enclosed as **Annex-'C'**. These licenses have come into effect w.e.f 20th March, 2009.

1.6 Further, DoT on 6th May, 2009, issued amendment in the licenses of Unified Access Service (UAS), Cellular Mobile Telephone Service (CMTS), National Long Distance(NLD), International Long Distance(ILD) and basic service licenses to facilitate timely implementation of mobile number portability service in the licensed service area as per the regulations/orders made or directions issued by TRAI under TRAI Act, 1997 or any instructions issued by the licensor from time to time. A copy of this amendment is enclosed as **Annex- 'D'**.

1.7 Subsequently, DoT on 6th May, 2009, issued detailed instructions, to all access provider/NLD, ILD licensees regarding provisioning of MNP. A copy of this amendment is enclosed as **Annex- 'E'**.

1.8 In the para 3 (ii) (e) of the above instructions of 6th May,2009, all kind of tariff charges including the following shall be governed by

Regulations/orders/directions/determinations as may be issued from time to time by the TRAI:

- i. The per port transaction fee to be charged by the licensee from the customer(s) and*
- ii. The per port transaction fee to be charged by the MNP service licensee from the UAS/CMTS licensees.*
- iii. The per call dipping charges (if applicable) to be charged by the MNP service licensee from the UAS/CMTS licensees*

1.9 In view of above, per port transaction fee/charge, porting charge and dipping charges (if applicable) are to be determined by TRAI.

1.10 In order to determine the port transaction charge and dipping charges, it is necessary to estimate the capital expenditure (CAPEX) requirement for setting up of the network, subsequent Operational Expenditure (OPEX) for maintenance/management of these services. Also it will be necessary to estimate the likely number of subscribers opting to port their mobile numbers annually for determination of porting charges and the likely number of annual dippings for determination of dipping charges.

1.11 To have an estimation of the above cost components, the TRAI sent a questionnaire to both the MNP Service Providers wherein they were asked to submit information relevant for calculation of these two charges. (copy of the questionnaire is at **annex 'F'**)

1.12 Based on the responses received from both these MNP service providers and information from other sources about MNP and its various processes, an attempt has been made in **Chapter 2** to discuss the role and functions of MNP operator and network elements involved in the MNP process. In **Chapter 3**, information about implementation of MNP in different countries along with the porting charge/fee charged there, has been discussed. In **Chapter 4** analysis of cost details submitted by the two

MNP service providers has been done and various factors to be taken into account for estimation of per port transaction charges and dipping charges have been discussed. Summary of issues for the consultation is given in **Chapter 5**.

1.13 In this consultation paper, the following terms have been used:

(a) 'Per Port Transaction charge': means the charge payable by the Recipient Operator (the operator, where the subscriber is willing to port his number), to the Mobile Number Portability Service Provider for processing each porting request of a mobile subscriber number.

(b) 'Porting charge' means the charge payable by the subscriber to the recipient operator, for porting his number

(c) 'Dipping Charges' means the charges payable by the service provider who uses the query response system of the MNP service provider for obtaining location routing number (LRN) for correct routing of the called number.

(d) 'Recipient operator' means a cellular mobile service provider who will be providing service to the mobile subscriber after porting.

(e) 'Donor operator' means a means a cellular mobile service provider providing service to the subscriber before porting.

1.14 This consultation paper for determination of per port transaction charge, porting charge and dipping charge is being issued for the comments of the stakeholders.

Chapter 2 MNP and its network elements

2.1 The **M**obile **N**umber **P**ortability (MNP) allows subscribers to retain their existing mobile telephone number when they switch from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider in a licensed service area. To facilitate Mobile Number Portability a neutral third party called Mobile Number Portability service provider(s) has been granted MNP service license. For the purpose of MNP, the country has been divided into two geographic zones called MNP zones, each consisting of 11 licensed service areas. For each zone one MNP service licensee shall provide the MNP service.

2.2 As per the scheme for implementing MNP, there shall be a clearing house called **MNP Clearing House** (MCH) which shall receive mobile number portability requests from the recipient operator, forward it to the donor operator for verification. On getting clearance from donor operator MNP service provider shall control and coordinate the mobile number portability process. At a predetermined date and time the MNP service provider will instruct the donor operator to disconnect the mobile number of the subscriber and upon receiving confirmation of such effect shall instruct the recipient operator to activate the mobile number of the subscriber. Once the mobile number is activated at the recipient operator's end, the MCH will send the details of the porting to the centralised **Number Portability Database** (NPDB) which in turn will update its own database by an appropriate routing number called **Location Routing Number** (LRN), a unique routing number assigned to each operator in a service area by the DoT. This updation will be communicated by the NPDB to all the service providers for updating their respective local Number Portability database also. Whenever any call is made to the ported

mobile number, the originating network shall first query the number portability database to obtain LRN and then the call is routed directly to the destination mobile network/number. The detailed porting process has been discussed in the draft regulation on MNP issued by TRAI on 30th June, 2009 and is available at the TRAI website. The details of MCH and NPDB are described in the subsequent paras.

2.3 As per the MNP service licence, the MNP Service Provider is required to design, install and maintain the requisite network consisting of both MCH and NPDB in its designated zone. Thus the role of MNP Service Provider is that of a facilitator, administrator and a referee in the implementation of MNP in its zone and subsequent routing of call to the correct mobile network. MNP Service Provider is the key participant to facilitate and manage the porting activities in a MNP zone. The job of a MNP Service Provider includes *inter alia* the following activities:

a) **Clearing House activities:**

- Processing the porting requests in a predefined manner in coordination with the access providers
- Maintaining Centralized Number Portability Database of ported numbers and keep updating them in a timely fashion. This database is used for implementing the All Call Query method by the concerned service providers. (It may be recalled that it was decided to implement the All Call Query method, in which the originating network first checks the location of the dialed (called) number in the local number portability database and then routes the call directly to the recipient mobile network.)
- Maintaining porting history of ported numbers and facilitating reversal of the unused ported numbers to Number Range Holder.

b) **Query response activity**

- Providing the facility of dipping services for operators who do not own their own database and wants to take the services of MNP Service Provider in the implementation of All Call Query method.

2.4 As mentioned above, for providing MNP service, the MNP Service Provider is required to maintain MNP Clearing House and Number Portability Database system at its production (main) site. For nearly interruption-free MNP service, the MNP service provider has to put its disaster recovery (DR) system at the different site as hot stand-by. Similarly MNP Service Provider is also required to maintain production (main) and disaster recovery (DR) system for its query response system. The detailed components, in the domain of MNP service providers, involved in mobile number portability operation, as mentioned in the clause 30.1 of MNP Service Provider license are given below:

- a. MNP Clearing House (MCH) – Production site
- b. Number Portability Data Base (NPDB) – Production Site
- c. Query Response Database (QRDB) – Production Site
- d. MCH, NPDB, QRDB – Disaster Recovery site
- e. Storage Server, Web server, Report Generation server, Operation & Maintenance (O&M) server
- f. Other- Routers, switches etc.

2.5 These components are discussed briefly in the following subparagraphs:

2.5.1 **MNP Clearing House** – The MCH, which also consists of centralized number portability management system, is the most critical component of the network, where all the porting process between different operators is synchronized. It also provides important industry statistics and reports for tracking/ monitoring the health of the system.

2.5.2 **Number Portability Data Base (NPDB)** – This centralized database contains the details of all the ported numbers and other related information. It also takes care of broadcasting of route information to ensure that all service providers have timely updated network routes to ported numbers.

2.5.3 **Query Response Database (QRDB)** – This data base is primarily meant for service providers who prefer to query centrally from the MNPO instead of implementing a local query response system in their own network.

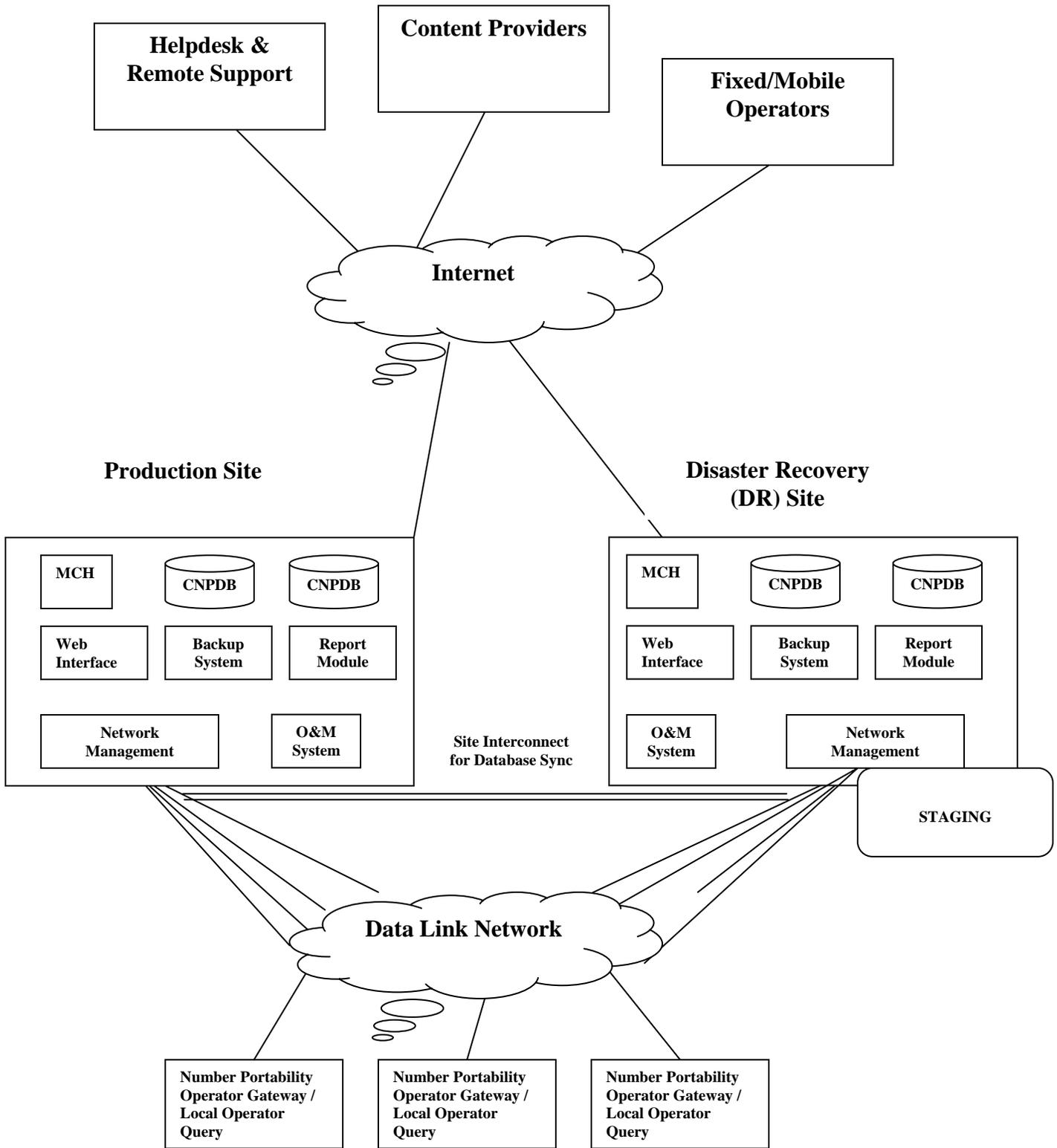
2.5.4 **MCH, NPDB, and QRDB – Disaster Recovery site** – The service provider is required to maintain the disaster site having a separation with the main site by at least five hundred KM to ensure availability.

2.5.5 **Storage Server, Web server, Report Generation server, O&M server** – These servers are required for storing various applications relating to MNP service.

2.5.6 **Other- Routers, switches etc.**- These components are required for maintaining the data network.

2.6 A typical diagram of the network of a MNP Service Provider is given below:

MNP SOLUTION COMPONENTS



2.7 In other countries where MNP system has been implemented, the MCH and NPDB are established by employing one of the following three models for cost recovery -

- (a) It is established and maintained by a third party but funded by the Government/Regulator
- (b) A consortium of all the operators, fund the capital expenditure and share the operational expenditure.
- (c) It is established by the MNP Service Provider, who charges per port transaction charge from the recipient operator, who in turn has the option of recovering the charges as porting charge from the subscriber.

Wherever model (c), as above, is deployed, the MNP Service Provider quotes its 'port transaction charge(s)' in the bidding process and once it is successful in the bidding process, it charges 'port transaction charge(s)' from the recipient operator as per the winning bid price. It is also seen that normally one MNP Service Provider provides MNP services for the entire country

2.8 In India, the MNP licensee has to establish its networks on build operate and owned basis. The MNP licensee shall be compensated by way of per port transaction charge and dipping charges, as determined by the TRAI. For this purpose the CAPEX and OPEX of the components, for establishing the network and maintaining it, shall be considered. The analysis of costs submitted by the MNP licensees has been done in the **Chapter-4**

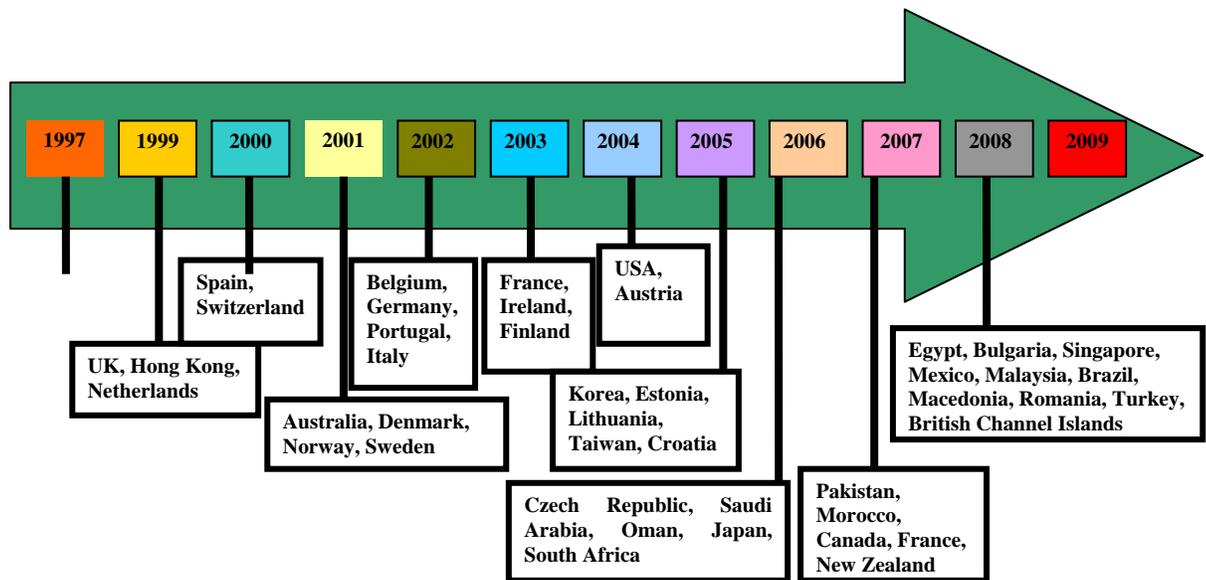
Preparation by the service providers

2.9 For the implementation of MNP, the access and the long distance service providers will have to upgrade their respective telecom networks. In this regard the DoT has already issued necessary instructions to these service providers to upgrade their network at their own cost.

2.10 The service providers also need to have connectivity to the MNP Service Providers at its production (main) and disaster recovery (DR) site. Access providers and ILDOs have to either maintain a local number portability data base or take query response services (use of query database) from the MNP service providers. The Local number portability database and query database shall be replica of central NPDB which is maintained by the MNP service provider.

Chapter 3 International Practices

3.1 Over the past decade, Mobile Number portability has been implemented in more than 50 countries in the world. As per the available statistics, by January 2008, over 154 million people all over the world has taken the opportunity to keep their number when they change mobile operator which equals to 4% of global mobile subscribers and 13% of subscribers in countries that have launched MNP. The below diagram summarizes MNP implementation history in international jurisdictions.



3.2 In this chapter we briefly describe some of the experiences from other countries that may inform the implementation of Mobile Number Portability particularly with reference to initial number of portings, the costs, porting charge and dipping charges.

Malaysia

3.3 Malaysia has around 23 million mobile subscribers of which 83% are prepaid. The MNP system initially went live in August 2008 when MNP services were made available in the Klang Valley only. MNP services were offered nationwide in October 2008 and almost 150,000 mobile numbers have been ported till January 2009. Malaysia adopted the All Call Query Routing. Service providers are allowed to charge up to RM25 (approx. US\$7) each time a subscriber changes his/her service provider. This charge will cover the administrative charges, issuance of new SIM card and all other costs in relation to the port.

3.4 The costs for the setting up and running of the Number Portability Clearinghouse (NPC) consists of the costs for the setting up and establishment of the NPC (CAPEX) and costs for the operations and maintenance of the NPC (OPEX). The costs for CAPEX are borne by all Porting Participants and Malaysian Communications and Multimedia Commission (MCMC) by way of a straight line cost apportionment method whereby the CAPEX costs are divided equally between all Porting participants and MCMC. The cost for OPEX is borne by all Porting Participants. The methodology to be used for the cost allocation for OPEX costs is by way of a straight line cost apportionment model where the OPEX costs will be divided equally between all the Porting Participants.

3.5 New Porting Participants will also bear a onetime payment upon their entrance into the market, the payment of which will be used to defray the costs for any up gradation, addition in capacity, addition in resources or any such costs relating to the clearinghouse set-up and operations, if deemed necessary. The Dipping Charges are not regulated in Malaysia.

Singapore

3.6 The number portability was initially implemented in Singapore with call forwarding solution. A modernized number portability solution of All Call Query routing was introduced in June 2008. Singapore has around 6.4 million mobile subscribers and 75% of them are prepaid. During the first 8 months, 60,000 ported their mobile numbers. Operators have locked in about 80% of their subscribers with 2 to 3 years contract before June 2008.

3.7 In Singapore, the Dipping Charges are regulated by IDA, the regulatory body. The price structure is a tiered pricing scheme with monthly minimums. The exact per dip charge for individual customer depends on various factors (volume, term and feature used). The ball park charge per dip is about \$0.01 (regulated) or below.

Brazil

3.8 Brazil has over 152 million mobile users out of them 80% are prepaid. In 2007, Anatel, the regulatory body in Brazil, mandated that all carriers in Brazil be able to port mobile subscribers by September 1, 2008. MNP has been gradually introduced between September 2008 and March 2009. Centralized solution was implemented and the ceiling on the porting charge for the subscribers is kept at US\$1.8. Mobile operators are competing for new customers by offering subsidized packages and sophisticated handsets. So far 3, 61,617 MNP requests were completed by March 24, 2009.

Pakistan

3.9 In Pakistan, there are 6 mobile (5GSM) operators, 1 fixed line operator, 3 WLL operators. The mobile subscribers base has reached 90 million, 98% are prepaid. MNP was launched in March 2007. The country adopted the centralized solution. For each subscriber porting, Pakistan

Rs. 500 (approx.US\$6) is billed to recipient operator by the Central Clearing House and the operator charges PKR. 0 to 200 from the subscriber. So far, 0.8 million mobile numbers have been ported.

Oman

3.10 In March 2006, mobile operators Oman Mobile and Nawras were directed by the Oman Telecommunications Regulatory Authority (TRA) to bring in the MNP which allows the same number to be retained when a mobile user changes their network. The operators were given five (5) months for the implementation of MNP. Since there are only two mobile operators in Oman, presently serving a total of almost 3.1 million mobile subscribers, MNP was implemented as a bi-lateral solution. MNP was launched in Oman in August 2006.

USA

3.11 MNP services in the USA were launched in November 2003. Unlike MNP implementations in other countries, the provision of MNP in the USA involves two clearinghouses each supplied by different third parties. This unique and costly approach to MNP was driven by the process flow design and implementation that had been adopted for fixed number portability in the USA in early 1997. Each clearinghouse performs distinct functions and every porting transaction must be processed by both clearinghouses as follows:

- Interconnections between mobile operators during the port ordering and validation part of the porting process are enabled by a “Pre-Port” Clearinghouse (Jointly operated by both the MNP clearing houses).
- The activation of the port and subsequent broadcast notifications of routing information for the ported number to all operators are enabled by a second clearinghouse known as the Number Portability Administration Centre (NPAC).

3.12 In the United States, the Dipping Charge is not regulated. Many operators maintain their own local copy of the central database and query it with no charges. For those operators who use a 3rd party service to dip, the price is unregulated and left to market forces. There are only a few very small mobile operators, who may elect to use another operator's (usually the locally dominant fixed operator's) local copy of the central NP database to dip. In this relatively rare case, these charges are capped by a tariff approved by the regulators based on the larger operator's costs.

Hong Kong

3.13 The Hong Kong annual ports during first launch was exceptionally high due to price wars between operators which decreased significantly after price wars were stopped and with the increase of prepaid subscriber base during subsequent years. The Porting charge was initially set at HK\$26 per porting activity in March 1999 when MNP was implemented. It was reduced to HK\$17 in October 1999 and further lowered to HK\$10 in November 2000. These were further revised from HK\$10 to HK\$2.5 on 30th May, 2002. The exercise of review is undertaken annually. In Hong Kong, Dipping Services is provided by multiple service providers. Only the dipping Charges of the dominant player (PCCW, i.e. ex-Hong Kong Telephone Company) is regulated by OFTA (the Regulator), but not for the other players. These charges were revised in 2002 from 1.19 cents to 0.5 cents.

Status of Per Port Transaction Charges

3.14 In some of the countries where the recipient operator pay to the MCH Administrator porting transaction charges is tabulated in the below table:-

Per port transaction charges levied by MCH administrator from recipient operator	
Country	Per port transaction charge
Mexico	US\$1.40
Greece	€ 3.5
South Africa	US\$5
Brazil	US\$1.10
Saudi Arabia	US\$4
Sweden	€ 3.84
Lithuania	No Charge

Table 2

Status of Dipping Charges

3.15 The status about dipping charges in other countries are as below:-

Status of Dipping charges in other countries

Country Name	Status
USA	Left to the operators (Annual data feed cost)
UK	Left to the operators
Hong Kong	Regulated by Regulator
Finland	All operators use their own database(No dipping has been assessed)
Canada	Left to the operators
Singapore	Regulated by Regulator

Table 3

Porting Rate in other Countries

3.16 The experience of porting rate around the world is summarized and given at the table given below:

Mobile Number Portability rate(%)in other countries

Ratio annual number of mobile ports to number of subscribers								
Country	2000	2001	2002	2003	2004	2005	2006	2007
Australia	-	-	1.9	4.2	6.5	6.6	7.4	6.1
Austria	-	-	-	-	0.2	1	1.3	1.1
Belgium	-	-	1.2	2.5	2.4	4.9	4.4	4.5
Denmark	-	2.1	6.1	8	8.8	7.6	7.8	8.2
Estonia	-	-	-	-	-	4	2.8	2.6
Finland	-	-	-	6.6	24.2	27.8	9.7	7.4
France	-	-	-	0.1	0.5	0.7	0.9	1.5
Germany	-	-	-	0.3	0.4	0.2	0.4	0.4
Greece	-	-	-	-	0.1	0.4	1	1.5
Hongkong	27.3	31.9	14.9	14.4	13.5	14.5	16.3	14.4
Iceland	-	-	-	-	1	5.3	6.2	6.1
Ireland	-	-	-	1.2	4.4	6.6	6.5	7.1
Israel	-	-	-	-	-	-	-	1.6
Italy	-	-	0.6	2.3	3.5	4.3	4.8	4.7
Japan	-	-	-	-	-	-	2.1	2
Netherlands	0.6	0.8	1.2	0.6	2.8	1.9	3.3	2.1
Norway	-	6	6.5	10.5	10	12.3	9.8	13.1
Sweden	-	0.6	2.1	2.6	4.4	6.2	6.5	5
Switzerland	1	1.7	2.1	1.3	1	1.5	2	1.5

Table 4

Source:- Market Research report published by the Telecommunications Management Group, Inc. 2008

Chapter-4 Analysis of costs submitted by MNP service Providers

4.1 As per the MNP service licence, the MNP Service licensee is required to design, install and maintain the requisite network consisting of both Mobile Number Portability Clearing House (MCH) and Number Portability Database (NPDB) so as to facilitate MNP in its designated zone. The Licensee Company will operate the MNP system based on 'build, operate and own basis'. It shall take into account traffic study, services to be given, etc. for dimensioning of its MCH, NPDB and database query response system. The relevant clauses of the MNP service provider licence are reproduced below:

“12.1 The licensee shall be permitted to provide, Mobile Number Portability (MNP) services in the licensed MNP zone, confirming to centralized All Call Query method that meets the relevant International Telecommunication Union (ITU)/Telecommunication Engineering Center (TEC) of DoT's Technical and Performance standards as applicable.

12.3 Licensee shall make its own arrangements for all infrastructure involved in providing the service and shall be solely responsible for installation, networking and operation of necessary equipment and systems, treatment of subscriber complaints, issue of bills to Access Service Providers, collection of revenue, attending to claims and damages arising out of his operations.

12.4 The licensee shall establish, administer and operate the Mobile Number Portability centralized clearing house (herein after called MCH) and logically centralized Number Portability DataBase (herein after called 'NPDB') for implementation of mobile number portability in the licensed MNP zone in accordance with QoS parameters, defined criteria/ benchmarks, SLAs and other parameters including tariffs, as prescribed by TRAI/DoT from time to time.

12.5 The MCH and NPDB established by the licensee shall be used by all telecommunication service providers (both existing & new) (i.e. Basic, CMTS, UAS, NLD and ILD Licensee(s)) of the licensed MNP zone for the purpose of supporting porting of mobile numbers between mobile operators. As part of this activity, the Applicable System of Licensee shall contain the updated porting information which will be used by the telecommunication service providers for the purpose of routing calls to the ported end-users.

12.6 The Licensee company will operate the MNP system based on 'build, operate and owned basis'. It shall take into account traffic study, services to be given, etc. for dimensioning of its MCH, NPDB and database query response system. The Company shall arrange all those equipments (tools and testers etc.) which may be required for efficient working of the network from time to time.

12.8 The LICENSEE is permitted to provide, SERVICE by utilizing any type of network equipment, including circuit and/or packet switches that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) / International standardization bodies as applicable.

12.9 It is obligatory upon the LICENSEE to provide the above stated services of good standard by establishing a state-of-the-art digital network.

19.1 The per port transaction fees shall be as per TRAI's regulation / direction/orders for Mobile Number Portability from time to time.

19.2 The LICENSEE will charge the UAS/CMTS Licensees per port transaction fees as per regulation/ direction/ orders of TRAI. The LICENSEE shall also fulfill requirements regarding publication of tariffs, notifications and provision of information as directed by TRAI through its orders / regulations / directions issued from time to time as per the provisions of TRAI Act, 1997 as amended from time to time".

4.2 Thus, as per the MNP licence, the capital expenditure (CAPEX) and operational expenditure (OPEX) for the installation and maintenance of the requisite network shall be incurred by the MNP Service Licensee. As per the details supplied by the MNP service Licensees, for establishing MNP systems they shall have to incur costs under the following heads:

➤ **Hardware:** It consists of Data base servers, application servers, disk arrays, routers, switches, firewalls, network management server and other (backup tapes, racks, KVM, cables). Primary and backup servers and assigned. There will be a staging system for operator testing and a development system for in-house application customization/system testing purposes as well.

- **Software License:** Software license for various database, security, network management and other application software for use in India.
- **Customization/Testing/Project Management:** Includes manpower costs and professional fees for customization, testing, project management.
- **Office Setup:** Furniture, renovation and office equipment of the administration office for the service.
- **Hosting and Communication Fee:** Includes the setup cost of data centre hosting and communication facilities between primary and secondary data centers plus the initial hosting and communication rental fees during implementation period.
- **Other Costs:** Includes entity setup, entry fee, licence fee, and other expenses on day to day operations.

4.3 As noted earlier, the MNP Service Licensee shall recover costs, as explained above, by way of port transaction charge for facilitation of porting of the subscriber's number. Additionally, the MNP Service Licensee shall also maintain a query response system, which may be used by the access service providers and/or the Long distance operators for query purpose to obtain LRN number before routing the call to the correct destination mobile network/number. For each such query, a certain amount of dipping charge will also be charged by the MNP Service Provider.

Thus there are two types of charges/fees which can be charged by the MNP Service Providers from the Access/Long distance service providers:-

- (a) 'Per port transaction charge' which is payable by the recipient operator for each porting transaction carried out by MNP service provider

(b) 'Dipping charges' which is payable by those service providers who may use the dipping services from the query response system of the MNP service provider(s).

Per Port transaction charge

4.4 In order to determine 'per port transaction charge', it is necessary to understand the main factors which may be taken into account for estimation of the 'per port transaction charge'. In the following paragraph the details of each factor and action/assessment of the TRAI on these factors is given.

4.5 Factors to be taken into account for estimation of per port transaction charge

4.5.1 CAPEX and OPEX in setting up and maintaining the MCHA and NPDB

4.5.2 To ascertain the port transaction charge, it is necessary to know the cost estimate of the various components involved in setting up the MCHA and NPDB and the recurring expenditure which will be incurred by the MNP Service Licensee for providing the MNP service. To ascertain the same, the TRAI requested both the MNP Service Licensee to submit the details of their business plan along with cost estimates of various components discussed in the previous paras. Since the MNP service Licensees have requested for not sharing their detailed cost-sheets and business plans, being proprietary and competitively sensitive in nature, the same is not being given in this consultation paper.

4.5.3 To understand MNP Service Licensee's business models and revenue recovery mechanism, a series of discussions were held with both of them and during these discussions, it was observed that certain elements of expenditure, shown by them in their cost-sheets, were irrelevant for working out the per port transaction charge. Removal of such costs has resulted in

reduction of 13-16% in the final cost data. It was also observed from the discussions that one of the MNP service providers has proposed to employ Capital Expenditure (CAPEX) oriented business model whereas the other one has employed operational Expenditure (OPEX) oriented business model for providing the MNP services. Though both the operators have given their cost estimates for 10 years i.e. upto October 2019, however, for the present calculation of per port transaction charge, the TRAI considered the costs for the initial 5 years due to the following reasons:

- a) It is evident that per port transaction charges depend significantly on the number of porting which will take place after the implementation of MNP. In the absence of any concrete data presently, porting rate has to be estimated based on certain assumptions and the realistic per port transaction charges can only be calculated/arrived at after a period say 1-2 years when actual porting numbers are known and accordingly a review of per port transaction charge can be done.
- b) In their cost estimation submitted to TRAI, the MNP Service Licensees have informed that their hardware and software needs up-gradation/replacement after every 4-5 years. Therefore to take cost estimates beyond 5 years does not seem prudent.

4.5.4 In their submission to TRAI, One MNP Service Licensee has estimated the porting rate in India @2% annually constant for the next 10 years, while the other MNP Service Licensee has estimated it as varying from 0.56% in the first year to 4.3% in the 5th year. The following table gives the estimated number of subscribers and the yearly porting rate assumed by the two MNP Service Licensees in their respective zones:

MNP Service Licensee-I

Year ending	Estimated subscriber base (in Mn)	Assumed porting rate (%)	No. of ported subscribers (in Mn)
Mar 2010	250.00	2	5.00
Mar 2011	255.92	2	5.12
Mar 2012	261.63	2	5.23
Mar 2013	267.45	2	5.35
Mar 2014	273.35	2	5.47

Table 5

MNP Service Licensee -II

Year ending	Estimated subscriber base (in Mn)	Assumed porting rate (%)	No. of ported subscriber (in Mn)
Dec 2009	249.5	0.56	1.4
Dec 2010	314.0	2.1	6.9
Dec 2011	373.8	2.84	10.6
Dec 2012	436.7	3.54	15.5
Dec 2013	493.3	4.3	21.2

Table 6

The cost summary of initial and revised submissions of the MNP Service Licensees submitted by them is given below:

Particulars	MNP Service Licensees I		MNP Service Licensees II	
	Initial submission	Revised submission	Initial submission	Revised submission
Porting Rate	2%	2%	0.56% to 4.3%	0.56% to 4.3%
Estimated Capex for 5 years (Rs in Million)	802	729	423	488
Estimated Opex for 5 years (Rs in Million)	2023	1638	3841*	3230*
Total Costs (Rs in Million)	2825	2368	4264	3718
Average Costs per year (Rs in Million)	565	473	853	744

Table 7

* This includes the cost submitted by the MNP service provider in the heading 'other costs'

4.5.5 Analysis / Observations on the cost details furnished by the MNP Service Licensees

TRAI has done following analysis on the cost details submitted by the MNP Service Licensees:-

a) Capex-Opex Ratio

Particulars	MNP Service Licensees I	MNP Service Licensees II
Capex	31%	13%
Opex	69%	87%
Total	100%	100%

Table 8

Difference in costs structure of these companies is mainly due to deployment of different business models, projections of subscriber base and assumptions of porting rate for the next five years for their respective Zones.

b) Fixed and Variable Opex

The composition of fixed and variable operating expenditure in the total operating expenditure of the MNP service providers is given in the following table.

Particulars	MNP Service Provider I	MNP Service Provider II
Fixed Costs	89%	90%
Variable Costs	11%	10%
Total Opex	100%	100%

Table 9

It may be observed that fixed operating expenditure constitutes about 90% of the total Operating expenses. Such ratio indicates that about 90% of the total

costs are unavoidable and it has no impact on increase or decrease in the porting numbers. In such a situation where fixed costs are around 90% of the total OPEX, capacity of the system/capacity utilization of the system plays a very important role for the purpose of costing of services.

c) Depreciation

MNP Service Licensees have estimated the recovery of their Capital Investment (capex) within the period of 3 to 5 years, whereas it is stated by them that the useful life / accounting life of these investments might be more than 5 years.

4.5.6 Estimation of Capital Employed and Rate of return

During the discussions with the MNP Service Licensees, they were asked to submit the capital employed for each year. However, none of the MNP Service Licensees has submitted this information. Therefore, based on the information available in the cost sheets submitted by the MNP Service Licensees to the TRAI, capital employed was estimated. For this purpose, the net book value of the Capex was taken after deduction of depreciation as provided in costing sheets and working capital has been added. The working capital has been assumed as one month operating expenditure of the MNP Service Licensees. In line with the existing practice for the examination of other telecom tariff, a reasonable rate of Return on Capital employed (RoCE) at the rate of 15% has been taken.

Issue for consultation:

Q1:- Whether the network elements, cost details and the cost structure considered for estimating the port transaction charges are appropriate? If not, give reasons.

4.6 Factors affecting the number of portings

There are various factors which will affect the estimation of number of portings which may impact the dimensioning of MNP Service Provider's network. Some of these factors are discussed in the following paragraphs.

4.6.1 Mobile Subscriber Base

The number of subscribers in the country is a factor which will influence the amount of per port transaction charge. Higher the number of subscribers higher will be the probability that the number of porting will be more. Therefore, it is necessary to project the mobile subscriber base for the next 5 years. It is observed that the Compounded Annual Growth Rate (CAGR) of the subscriber base for the year 2007-08, 2008-09 has been 58% and 54% respectively (base year taken as 2006-07). Taking a conservative estimation of further growth at a CAGR of 50%, 45%, 40%, 35% and 31% for the year 2009-10 to year 2013-14 respectively, the projected subscriber numbers would be as given below:

Year Ending	Projected Wireless Subscriber Base (in million)
Mar-07	165
Mar-08	261
Mar-09	392
Mar-10	557
Mar-11	730
Mar-12	888
Mar-13	999
Mar-14	1093

Table 10

Note: Subscriber base at the end of March 2007 to March 2009 are actual figures (as reported by the Service Providers)

4.6.2 Churn Rate

As per the industry estimate (COAI) the monthly churn rate of mobile subscribers in December 2008 was 3.4% for pre-paid subscribers and 3.39 % for postpaid subscribers. This churn rate translates into whopping 40% per year. However, one can argue that these are the mobile subscribers who are willing to change their service providers without bothering to retain their mobile telephone numbers. Therefore even after the introduction of MNP, these subscribers will still churn without going through the process of porting. However, the other argument could be that if the porting charge is minimal or if the recipient operator is willing to absorb the porting charge then a substantial number of these subscribers may opt for porting of their mobile numbers too. The above figures also falsify the myth that the pre-paid subscribers are not very much interested in keeping their numbers as the above figure shows that churn rate is same in both the pre-paid and post-paid segments.

There is another segment of the subscribers like share brokers, doctors and other professionals whose number is widely circulated and known among their clients. They prefer not to change their existing service provider even if they are not satisfied with the quality of service being provided by their service provider, as it may affect their business prospects and may cause inconvenience to their clients. This segment of the subscribers would also contribute in the potential porting.

4.6.3 Number of Access service providers in a service area

In other countries, mobile number portability was introduced after the network had reached a certain saturation level, both in terms of addition of new subscribers and in terms of the access providers. In India, though in certain areas like metros and large cities, the subscriber teledensity is above 70% but there are large pockets where the tele-density is still in the range of

10-15% and about 12-15 millions mobile subscribers are being added every month including in the metros. There are 6-7 service providers in most of the licensed service areas and there are 6-7 additional licensees who are in the process of deploying their network in the coming year(s). Moreover, there are existing service providers, who are also in the process of deploying their network with alternate technology. For these service providers, MNP will be an attractive tool to acquire the subscribers from the incumbent service providers. It is anticipated that because of these factors the number of porting in India in the next 2-3 years might be higher as compared to other countries. The details regarding number of operators licensed and operational in various service areas are given in **Annex-G**.

4.6.4 Life time plans

In India, Life time plans are popular schemes where subscriber stay connected to the operator for much longer time by paying a fixed amount upfront. One can argue that the payment of an upfront fee in these life time plans may act as a barrier to subscribers, porting their numbers. However, recently this upfront fee has come down significantly to as low as Rs. 49/- or below. Therefore it is felt that this may no longer act as a barrier for the subscribers to port their number.

Issues for consultation:

Q2:- Do you agree with the factors affecting the number of porting as discussed above? Please indicate if any additional factors are required to be taken into account.

Q3:- Whether the projection of the subscriber base and annual rate of porting as explained in the paper for the next 5 years is reasonable? If not, give your estimation of annual porting rate along with the reasons.

4.7 Estimation of Per Port transaction charge

4.7.1 It is observed that the MNP Service Licensees have employed different parameters/ costing techniques for estimating the port transaction charges which are not consistent with the costing methodology used for estimation of network services/ products for telecommunications services. It is important to note that MNP Service Licensees-I has considered annual porting rate as 2% fixed whereas MNP Service Licensees-II has taken the annual porting rate varying from 0.56-to-4.3%. The porting rate has direct bearing on estimation of the port transaction charges.

4.7.2 Further, the estimated cost based per port transaction charges was calculated by following cost plus methodology, based on the costs data submitted by MNP Service Licensees, which is given below:-

Particulars			MNP Service Licensee I	MNP Service Licensee II
	Period	Unit	Amount	Amount
Estimated porting during the 5 Years	5 Years	In Mn	26	56
Porting rate per year		%	2%	0.56-4.3%
Estimated Costs for the 5 years				
Depreciation	5 Years	Rs in Mn	729	424
RoCE (@15% on CE)	5 Years	Rs in Mn	239	103
OPEX	5 Years	Rs in Mn	1638	2371
Total Cost	5 Years	Rs in Mn	2606	2898
Average cost per year		Rs in Mn	521	580
Average porting per year		In Mn	5.2	11.14
Average Porting Charges per subscriber		in Rs	99.60	52.03

Table 11

4.7.3 It may be noted that the above calculation has been done taking into account the projected mobile subscribers of all India as per table 5 and 6.

However as per the DoT guidelines, the MNP will be implemented in the initial phase in the 'Metros' and 'A' Category Circles within 6 months of award of MNP license. These two category Circles account for about 50% of total mobile subscribers. In the second phase, the remaining two categories ('B' & 'C') of service areas will have the MNP implemented within one year of award of MNP license. Accordingly the number of portings will get influenced.

In their submission to TRAI, MNP Service Licensee-I and MNP Service Licensee-II have indicated/proposed per port transaction of Rs. 200 and Rs. 75 respectively.

4.7.4 As mentioned earlier that the porting rate will play a significant role in the cost recovery of MNP Service Licensees and also in determining the per port transaction charges. Though, MNP Service Licensees present estimation may help in approximation of the porting rate and determining the tentative porting charges, however, to determine the realistic per port transaction charge, a review can be undertaken once the actual data will be available,

Issues for consultation:

Q4:-Based on the cost details, what is your estimation of per port transaction charge. Justify your estimation and supplement it with the worksheets.

Q5:- What should be the time period for review of per port transaction charge?

4.8 Dipping charges

4.8.1 It is decided that for implementation of MNP, All Call Query (ACQ) method will be used. In this method, for each call, the Number Portability Data Base is queried by the service provider for ascertaining the correct

mobile network where the call can be routed. As per the MNP guidelines and license, the service providers have the option of either maintaining their own local Number Portability database or to use local database of same group of companies having different licensed network or of the MNP Service Provider for the dipping/query purpose. The Pan India service providers are integrated operators having Access, NLD and ILD Licences. Such service providers may opt for keeping their own Local Number Portability database for query purposes. In case the service providers opt for using the Query response system (which has the query Number Portability database (Q-NPDB)) of the MNP Service Provider, they shall have to pay dipping charge for using the query database to the MNP Service Provider. Therefore there is a need to determine the dipping charge which will be payable by such service providers to the MNP Service Provider for using its query database.

4.8.2 The various factors which will contribute in calculation of the dipping charges are:

- The expenditure incurred in the installation and maintenance of Q-NPDB
- The number of service providers who use the query database of the MNP Service Providers
- The number/volume of porting queries which these service providers execute

4.8.3 In future, content providers may also use the query data. However, presently it is neither known that how many service providers will use the query database of MNP Service Licensee nor the number of content providers who may use query database, therefore it is very difficult to estimate the above parameters for estimating the dipping charge.

4.8.4 Regarding dipping charges in other countries, by and large it is left for the mutual negotiations between the MNP service providers and the

telecom service providers. In case of Singapore and Hong-Kong the dipping charges are regulated by the Regulator. In chapter-3 (International Practices) a table has been shown about the status of dipping charges in other countries.

4.8.5 In their submission to the questionnaire sent by the TRAI, the MNP Service Licensees have submitted the following assumptions which they have taken for the calculation of dipping charges:

- MNP Service Licensee-I has assumed that around 1% of total O/G calls will use its query data base for dipping. The dipping charges have been proposed in the range of Rs 0.051 to Rs 0.0306.
- The MNP Service Licensee-II has assumed that two of the smallest mobile operators may use their query database for both voice and SMS/MMS and smaller of the two for only SMS /MMS, Four SMS aggregators and 8 mobile content providers (for SMS/MMS) may use its query database. The dipping charges have been proposed in the range of Rs 0.002 to Rs 0.05.

4.8.6 In absence of any significant data, except the estimated cost to be incurred by the MNP service Licensees, as submitted by them, it is difficult to estimate the dipping charges at present. Internationally also in almost all the places it is left to the mutual agreement between the MNP service provider and concerned service provider who is using dipping services. Before the dipping charges are determined it is felt necessary to take the view of the stakeholders.

Issues for consultation:

Q6:- What is your estimation about the number of voice/SMS/MMS dipping which may take place in the MNP service provider's Query Response System?

Q7:- What should be the factors which may be considered for the estimation of the Dipping charge.

4.9 Porting charge

4.9.1 As discussed earlier, as a prelude to implementation of MNP, the access and long distance service providers will have to upgrade their networks and systems and also connect their network with that of the MNP service Licensee(s). However, as per the instructions issued by the DoT vide their letter dated 6th May, 2009(Annex-'E'), the cost incurred for the up-gradation, operation and maintenance of their respective networks/systems, for facilitating timely implementation of MNP shall be borne by the respective service providers.

4.9.2 After the implementation of MNP, the subscriber desiring to port his mobile number shall have to submit a request to the recipient operator. On receipt of such request, the recipient operator will verify the subscriber's identity and based on the verification he will request the MCH to execute the request of the subscriber. The MCH will forward the request to the donor operator who in turn has to verify the subscriber identity details from his record. After verification, the donor operator will forward its electronic clearance to the MCH. Once clearance has been obtained from the donor operator, the MCH will ask donor operator to disconnect the mobile services of the subscriber and upon receiving the confirmation of such effect from the recipient operator the MCH will ask the recipient operator to connect the mobile services of the subscriber. Once this is done, the MCH will update its database with the new routing number called Location Routing Number. MCH will also update the database of all the operators who are maintaining their own local database. For this work done the recipient operator will have to pay a port transaction charge to the MNP service provider (as discussed in para 4.4 & 4.5 above).

4.9.3 In the countries where the Mobile Number Portability (MNP) has been introduced, there are mixed practices in terms of payment by the porting subscriber to the service provider. The countries where implementation of MNP has been funded by regulator/Govt./Consortium of operators, the porting charge, prescribed, are negligible. In USA a subscriber pays monthly porting charges. In Hong-Kong, porting and dipping charges are approved by the regulator (OFTA).

4.9.4 The table below shows the amount of one time porting charges levied by the recipient operator from the subscribers in some of the countries:-

Country	Porting Charges(US \$)
Bulgaria	4
Pakistan	1-4
Egypt	14
Brazil	1.8
Mexico	1.64
Malaysia	7.5

Table 12

4.9.5 As per the instructions issued by the DoT vide their letter dated 6th May, 2009, the porting charge will be determined by the TRAI. For determination of this porting charge, the Authority wrote to all the UAS/CMTS Licensees that in view of the DoT instructions that the cost of up-gradation and maintenance of the systems /network is to be borne by the service providers, the recipient operator shall not charge any additional fee/charge for porting-in the mobile number of the subscriber other than the porting charge and this porting charge shall not be more than the “Per port transaction charge” which is payable by the recipient operator to the MNP service provider.

4.9.6 In response to this query, some of the access providers in their initial and interim response submitted that the porting charge should be shared among donor, recipient and MNP service provider and should be based on

work done principle while some others has stated that in the cost conscious market the overall cost of porting should be kept at minimum and only 'per port transaction' cost which the recipient operator shall be paying to the MNP service provider should be recoverable. They have also submitted that in view of the complexity of issues involved, they require more time to respond to this query. In view of the above, comments are solicited from the stakeholders on the following issues:-

Issues for Consultation

Q8 (a) Whether the recipient operator should be allowed to charge the porting charge from the porting subscriber ?

(b) If yes, should porting charge be equal to or less than or more than the per port transaction charge? Give reasons to justify your view?

(c) If no, give reasons to justify your view.

Q9 Whether the porting charge, if any, paid by the subscriber to the recipient operator, should be shared with the donor operator? Give reasons to justify your view.

Chapter-5 Summary of Issues for the consultation

Q1:- Whether the network elements, cost details and the cost structure considered for estimating the port transaction charges are appropriate? If not, give reasons.

Q2:- Do you agree with the factors affecting the number of porting as discussed in chapter-4? Please indicate if any additional factors are required to be taken into account.

Q3:- Whether the projection of the subscriber base and annual rate of porting as explained in the paper for the next 5 years is reasonable? If not, give your estimation of annual porting rate along with the reasons.

Q4:-Based on the cost details, what is your estimation of per port transaction charge? Justify your estimation and supplement it with the worksheets.

Q5:- What should be the time period for review of per port transaction charge?

Q6:- What is your estimation about the number of voice/SMS/MMS dipping which may take place in the MNP service provider's Query Response System?

Q7:- What should be the factors which may be considered for the estimation of the Dipping charges.

Q8:-(a) Whether the recipient operator should be allowed to charge the porting charge from the porting subscriber?

(b) If yes, should porting charge be equal to or less than or more than the per port transaction charge? Give reasons to justify your view?

(c) If no, give reasons to justify your view.

Q9 Whether the porting charge, if any, paid by the subscriber to the recipient operator, should be shared with the donor operator? Give reasons to justify your view.

Annex – A

Salient features of TRAI recommendations on Mobile Number Portability:

- ❖ Mobile Number Portability implementation process should be initiated in our country. A time frame of 12 months between the acceptance of recommendation by the Government and launch of this facility is recommended. It is recommended that this facility should be available to mobile subscribers tentatively by 1st April 2007.
- ❖ Government may mandate all UASLs/CMSPs to implement Mobile Number Portability. Further, it is recommended that initially MNP be introduced within the service Area only.
- ❖ It is appropriate to implement MNP in phased manner starting from metros and A category service areas followed by B then C category service areas within the interval of six months.
- ❖ A direct solution i.e. All Call Query Method be implemented for mobile number portability in India.
- ❖ Mobile Operators through neutral third party shall establish logically centralised database with not more than 5 regionally located databases. Cost of this database shall be borne proportionately based on subscriber base by each operator. This database shall be the depository for the ported numbers.
- ❖ Any other issues relating to creation of database, interfaces, performance parameters, service levels shall be resolved by discussion and coordination among all the stakeholders. A steering committee consisting of operators, industry association and TEC under the aegis of TRAI shall be constituted to workout the details of these implementation issues.
- ❖ Customer shall approach recipient operator for porting
- ❖ In respect of porting charges, only Recipient operator shall be permitted to charge a fee for successful porting.

- ❖ Provision may be made by the licensor in the license indicating TRAI shall issue regulation in this regard
- ❖ Common setup costs for Number Portability Administration Center (NPAC), Clearing House would be borne by operators based on the subscriber market share of operators as on 1st Jan 2007.

Annex – B

Government of India
Ministry of Communications and Information Technology
Department of Telecommunications
Sanchar Bhawan, 20 Ashoka Road, New Delhi-110 001.

No.20-27/2006 – AS-I(Vol II)

dated, the 1st August 2008

SUB: GUIDELINES FOR MOBILE NUMBER PORTABILITY (MNP) SERVICE LICENCE.

Mobile Number Portability (MNP) allows subscribers to retain their existing telephone number when they switch from one service provider to another or from one technology to another of the same service provider. Following are the broad Guidelines for grant of **MOBILE NUMBER PORTABILITY (MNP) SERVICE LICENCE** in the country:

1. Grant of Mobile Number Portability (MNP) Services Licence shall be based on bidding process.
2. The bidder company must be a company registered under 'The Companies Act 1956'. If the bidder is under process for registering the company under 'The Companies Act 1956', for participation in the bid, the bidder should disclose their intention to register a company in India at the time of submitting the bid alongwith proof of application submitted to Registrar of Companies to this effect. The company is required to be registered under 'The Companies Act 1956' before grant of licence or within 3 months from the last date for submission of Bid.
3. Presently, the country is divided into 22 service areas for mobile services. The Service Areas for the purpose of MNP operation shall be co-extensive and be the same for the named Service Areas as those of existing UAS/ CMTS licences. It may be noted that there are certain CMTS/ UAS licences which are operating either in Tamil Nadu (excluding Chennai), and/or Chennai or Tamil Nadu (including Chennai) service area. Any further UAS licence granted after 31.03.2008 and in future shall also be covered for MNP implementation as per existing policy of the Government.
4. **MNP zones:** For the purpose of grant of Licences for MNP operation in India, the whole country is divided into 2 MNP zones (Zone 1 & zone 2) consisting of 11 Licenced Service Areas (LSAs) each with 2 Metro service areas in each zone. The details of each Zone are annexed as in Annexure - I.
5. MNP is to be implemented in each LSA for intra service area MNP. Initially MNP is to be implemented in all Metro and Category 'A' service areas within 6 month of award of the Licence. Later on, the operation of MNP will be expanded in the rest of the respective

zones in time bound manner in phases. The total MNP implementation in each zone in the country shall be completed within 1 year of award of the Licence in respective zones. The road map shall be submitted by the MNP Licence applicant at the time of bidding.

6. There shall be only one licence for MNP services in each MNP zone.

7. One company can bid for both the zones. However, only one MNP licence shall be issued to any eligible and successful bidder company in either of the MNP zones as per the priority indicated at the time of bidding by the company.

8. The Licensee shall provide MNP services in the respective zone on an exclusive basis for a period of five years from the date of award of the licence. DoT reserves the right to review this exclusivity condition in the larger public interest and national security considerations. The duration of MNP service license shall be for a period of 10 years from the effective date of licence, extendable for a further period of 10 years by the licensor on request of the licensee.

9. The MNP Services licensee shall provide and operate the services according to the terms and conditions laid down in the licence agreement as amended from time to time.

10. The licensee will operate the MNP system based on 'build, operate and owned basis'. It has to take into account traffic study, services to be given, etc. for dimensioning of its Mobile Number Portability Clearing House (MCH), Number Portability Data Base (NPDB) and database query response system. The Company shall arrange all those equipments and solutions (tools and testers etc.) which may be required for efficient working from time to time.

11. Direct Solution i.e. All Call Query method be implemented for mobile number portability in India.

12. In a multi-operator scenario when N operators are involved in the complete call setup, considering 1 being the originating operator and N being Terminating operator, (N-1)th operator shall be responsible for routing the call to the ported numbers.

13. The system should be flexible, scalable and configurable to meet future requirements. The design of clearing house will be such that total time to port should not exceed two working days initially but up gradable to much faster levels. Customer shall approach the recipient operator for porting his/her number. Donor operator shall not use ported out numbers till such time it is in use by the ported subscriber. After the surrendering of number by ported subscriber the number shall revert back to the original donor operator.

14. Department of Telecommunications shall provide unique Routing Number (RN) to each Access Services operator to enable routing to ported number.

15. **Restrictions on Equity:** No single company/ legal person / the MNP License applicant or MNP Licensee Company either directly or indirectly will have any equity, in any of the telecom service provider licensee company (Basic service, UAS, CMTS, NLD and/or ILD licensees) in India. Similarly any telecom service provider licensee company (Basic service, UAS, CMTS, NLD and/or ILD licensees) will not have any equity, directly or indirectly, in the applicant/MNP Licensee Company.

16. No bidder/ MNP Licensee and their shareholders, either directly or indirectly, shall have any substantial equity share holding (SEH) in more than one MNP Licensee Company. 'Substantial equity share holding (SEH) herein will mean equity of 10% or more'.

17. **Foreign Equity:** Foreign Direct Investment (FDI) shall be subject to extant guidelines and regulations. However, equity of the foreign partner in the company should not be less than 26%.

18. **Paid up capital:** The applicant Company shall have a minimum paid up capital of an amount Rs 10 Crores on the date of the application.

19. **Networth:** The applicant Company and equity holders in the applicant company shall have a combined net-worth of atleast Rs. 100 Crores.

The net worth of only those Equity Share Holders shall be counted, who have 26% or more equity in the applicant company, in the proportion of their direct equity. Any indirect equity held in the applicant company shall not be counted for this purpose.

Here the net worth shall mean the sum total, in Indian rupees, of paid up equity capital and free reserves. While counting Net-worth, the foreign currency shall be converted into Indian Rupees at the prevalent rate indicated by the Reserve Bank of India as on the date of opening of Bid.

20. The minimum net worth, as well as paid up equity capital as mentioned above is to be maintained during the currency of the licence by the MNP Licensee.

21. **Experience:**

(A) The Applicant / bidder should have implemented and operating successfully MNP solution for a subscriber base of not less than 25 million mobile subscribers in one or more countries put together for a continuous period of at least 2 years as on the date of bidding.

(B) For satisfying the eligibility condition for experience criteria, either the applicant Company should have required experience, or its share equity holders having direct equity of 26 % or more in the Company shall have required experience.

(C) In case of successful award of license, the equity holder whose experience has been taken into account for fulfilling the eligibility conditions, shall not be allowed to dilute its equity shareholding in the Company below 26% equity share capital for at least three

years from the date of commencement of operation of mobile number portability in the country.

22. **Entry Fee:** One time, non-refundable, Entry Fee of Rs. 1 (one) Crore is required to be paid for grant of MNP services licence.

23. **Licence Fees:** In addition to the Entry fee described above, the Licensee shall also pay Licence fee annually @ 1 (one) % of Adjusted Gross Revenue (AGR) of the licensee Company. There shall be a moratorium of licence fee payment for first two years from effective date of the licence. The Licensor reserves the right to modify the above mentioned Licence Fee at any time during the currency of the MNP services licence.

24. The bidder shall submit an earnest money bank guarantee of Rs. One crore with the bid.

25. **Method of Selection:** For award of MNP services license in each zone, applicant(s) / bidder(s) shall be first screened in the pre-qualification round on the basis of eligibility criteria consisting of technical and financial strengths, experience, track record etc. Then, the pre-qualified applicant(s)/ bidder(s) shall be subjected to a 'Techno-Economic Evaluation' of bids for final selection.

26. **Parameters for selection:** As the final selection of the company for award of MNP services Licence for the respective Zone shall be based on 'Techno-Economic Evaluation' method, various parameters shall be considered for assessment. Applicant(s)/ bidder(s) shall be assigned marks for the various parameters for the purpose of evaluation of the bid.

The parameters and method of marking/ assessment for the selection through 'Techno-Economic Evaluation' of bids is annexed as Annexure –II.

27. The bidders shall strictly comply with technical, commercial conditions, financial and operating conditions laid by the Licensor.

28. The successful bidder shall pay the entry fee and furnish Performance Bank Guarantee of Rs. One crore and Financial Bank Guarantee of Rs. Two crore before grant of MNP licence.

29. The Licensee shall comply with any order, direction, determination or regulation as may be issued from time to time by the Licensor or TRAI as the case may be.

30. Liquidated Damages (LD) on account of failure to meet Roll Out Obligations shall be prescribed separately.

31. All Unified Access Services (UAS) / Cellular Mobile Telephone Service (CMTS) Licensees shall implement Mobile Number Portability (MNP), i.e. support the porting of mobile numbers between Mobile Operators and route calls to ported numbers within the same LSA. All Basic Services, NLD and ILD Licensees shall also support the routing of calls to ported numbers.

32. In the interests of security, suitable monitoring equipment as may be prescribed for each type of system used will be provided by the LICENSEE for monitoring as and when required by LICENSOR. The specific orders or directions from the Government, issued under such conditions, shall be applicable.
33. The LICENSEE shall provide necessary facilities depending upon the specific situation at the relevant time to the Government to counteract espionage, subversive act, sabotage or any other unlawful activity.
34. The LICENSEE shall make available on demand to the person authorized by the LICENSOR, full access for technical scrutiny and for inspection, which can be visual inspection or an operational inspection.
35. The LICENSEE shall not, without the prior written consent of the LICENSOR, either directly or indirectly, assign or transfer this LICENCE in any manner whatsoever to a third party or enter into any agreement for sub-Licence and/or partnership relating to any subject matter of the LICENCE to any third party either in whole or in part i.e. no sub-leasing/partnership/third party interest shall be created.
36. LICENSOR shall have the right to take over the SERVICE, equipment and networks of the LICENSEE or revoke/terminate/suspend the LICENCE either in part or in whole of the MNP Zone in the interest of national security or in case of emergency or war or low intensity conflict or any other eventuality in public interest as declared by the Government of India.
37. LICENSEE will ensure that the installation carried out by it should not become a safety hazard and is not in contravention of any statute, rule or regulation and public policy.
38. The LICENSOR reserves the right to modify at any time the these guidelines and terms and conditions of the LICENCE, if in the opinion of the LICENSOR it is necessary or expedient to do so in public interest or in the interest of the security of the State or for the proper conduct of the telegraphs. The decision of the LICENSOR shall be final and binding in this regard.
39. The bid documents containing detailed terms and conditions shall be issued separately.

MNP ZONES		
Sr. No.	ZONE - 1 SERVICE AREAS	ZONE - 2 SERVICE AREAS
1	Gujarat	Andhra Pradesh
2	Haryana	Assam
3	Himachal Pradesh	Bihar
4	Jammu & Kashmir	Karnataka
5	Maharashtra	Kerala
6	Punjab	Madhya Pradesh
7	Rajasthan	North East
8	Uttar Pradesh (E)	Orissa
9	Uttar Pradesh (W)	Tamil Nadu including Chennai
10	Delhi	West Bengal
11	Mumbai	Kolkata

Parameters for selection of MNP Licensee

Parameter		Bench Mark	Marks
A	Mobile Subscriber base supported for MNP	25 Million	10
		Highest Mobile Subscriber base supported say X Million	15
		Mobile Subscriber base supported between 25 to X Million	Proportionate marking
B	Networth of the MNP Service Provider/ partner in proportion of equity shareholding as per guidelines	Rs. 100 Crore	10
		Highest Networth among the applicants, say Rs. Y Crore	15
		Networth between Rs. 100 to Y Crore	Proportionate marking
C	Gross Revenue from Mobile Number Portability during last Financial Year	Lowest Gross Revenue among the applicants, say Rs. P Crore	10
		Highest Gross Revenue among the applicants, say Rs. Q Crore	15
		Gross Revenue between Rs. P Crore to Q Crore	Proportionate marking
D	Mobile Numbers ported	5 million mobile numbers ported	10
		Highest Mobile numbers ported, say R Million	15
		Mobile numbers ported between R & 5 million	Proportionate marking
E	Technical solution in Country 'AA' (only countries with minimum of one million numbers ported will be considered)	If the bidder has own developed solution for MNP – Indicate components. Please indicate components obtained from other vendor. Also indicate about the capability to upgrade the system components on its own strength.	10 for minimum strength among bidder
	Technical solution in Country 'BB' (only countries with minimum of one million numbers ported will be considered)		15 for maximum strength among bidder
	Insert more countries, if required		Proportionate marking for bidders in-between
F	Reliability of the architecture	Failure rate (in terms of %)- how many time system crashes due to design defects. Also indicate MTBF	10 for minimum strength among bidder
			15 for maximum strength among bidder
			Proportionate marking for bidders In-between
G	Performance of Architecture	(1) Speed of performance i.e. average time taken to handle a MNP query. (2) No. of queries that can be handled simultaneously. (3) Percentage of wrong results due to system bugs. (4) MTTR	7 for minimum strength among bidder
			10 for maximum strength among bidder
			Proportionate marking for bidders In-between

**GOVERNMENT OF INDIA
MINISTRY OF COMMUNICATIONS & IT
DEPARTMENT OF TELECOMMUNICATIONS
SANCHAR BHAWAN, 20, ASHOKA ROAD,
NEW DELHI-110 001. INDIA.**

LICENCE AGREEMENT

FOR

**MOBILE NUMBER PORTABILITY (MNP)
SERVICE**

**NO. 20-201/2008-AS-I
DATED _____**

IN MNP Service Zone -----

TOTAL PAGES _____

LICENCE AGREEMENT

FOR

MOBILE NUMBER PORTABILITY (MNP) SERVICE

This AGREEMENT is made on the _____ day of _____ (month) _____ (year) by and between the President of India acting through Shri _____ (name), _____ (designation), Department Of Telecommunications (DOT), Sanchar Bhavan, 20, Ashoka Road, New Delhi – 110 001 (Hereinafter called the LICENSOR) of the FIRST PARTY.

AND

M/s _____, a company registered under the Companies Act 1956, having its registered office at _____ acting through Shri. _____, the authorised signatory (hereinafter called the LICENSEE which expression shall, unless repugnant to the context, include its successor in business, administrators, liquidators and assigns or legal representatives) of the SECOND PARTY.

WHEREAS by virtue of the provisions of Section 4 of the Indian Telegraph Act, 1885, the LICENSOR enjoys exclusive privilege to grant Licence and the LICENSEE has requested to grant Licence for **providing Mobile Number Portability (MNP) Service in MNP Service Zone ---**. Whereupon and in pursuance to the said request, the LICENSOR has agreed to grant this Licence to **provide Mobile Number Portability (MNP) Service in MNP Service Zone ---** as per terms and conditions described in the SCHEDULE appended hereto.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In consideration of the payment of Licence fee, and due performance of all the terms and conditions mentioned in this Licence agreement on the part of the LICENSEE, the LICENSOR does, hereby grant under Section.4 of the Indian Telegraph Act, 1885 to **set up and operate the Mobile Number Portability (MNP) Service in the licensed MNP service zone** as described in SCHEDULE appended hereto.
2. This LICENCE shall be valid for a period of 10 years from the effective date unless revoked earlier for reasons as specified elsewhere in the document.
3. The LICENSEE hereby agrees and unequivocally undertakes to fully comply with all terms and conditions stipulated in this Licence Agreement and without any deviation or reservations of any kind.
4. Effective Date of this LICENCE shall be
5. Additional Licences in LICENSEE's MNP Service Zone may also be issued from time to time in future without any restriction of number of operators with same entry conditions or different entry conditions as described in SCHEDULE appended hereto.

6. The Licence shall be governed by the provision of Indian Telegraph Act, 1885, Indian Wireless Telegraphy Act, 1933, Telecom Regulatory Authority of India Act, 1997 and Information Technology Act, 2000 as amended from time to time.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed through their respective authorised representatives on the _____(day) _____(month), _____(year).

Signed for and on behalf of

Signed on __/__/____, on

President of India

Behalf of

M/s._____

By

By

Mr. _____
Designation),

(Name and Designation),
Mr. _____

(Name and

Authorised signatory and holder of General Power of Attorney dated_____, executed in accordance with the Resolution No. _____, dated ____ passed by the Board of Directors.

In the presence of:
Witnesses:

1. Signature

Name

Occupation.

Address

Place.

2. Signature

Name

Occupation.

Address

Place.

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SCHEDULE

TERMS AND CONDITIONS

Part-I GENERAL CONDITIONS

General Conditions

1. Mobile Number Portability (MNP) allows subscribers to retain their existing telephone number when they switch from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider.

2. Presently, the country is divided into 22 Licensed Service Areas (LSAs) (**Annexure-VII**) as defined in Unified Access Services (UAS) Licence guidelines dated 14-12-2005. For the purpose of grant of Licence(s) for MNP Services in India, the whole country is divided into 2 MNP zones as per details in **Annexure-VI**.

It may be noted that there are certain CMTS/ UAS licences which are operating either in Tamil Nadu (excluding Chennai), and/or Chennai or Tamil Nadu (including Chennai) service area. A list of CMTS / UAS Licensee as on 28.02.2009 is available on DoT website. Any further UAS licence granted after 28.02.2009 and in future shall also be covered for MNP implementation as per existing policy of the Government.

3. The Licensee shall have exclusive right to provide MNP solution in the licensed MNP zone for a period of five(5) years from the effective date of licence and no MNP licensee shall be inducted during this period in the said MNP Zone:

Provided that if the Licensee fails to perform in accordance with the Service Level Agreements (SLAs) specified by the TRAI during this period, the Licensor, on the recommendations of TRAI made by it either suo-moto or on the request of Licensor, may induct MNP service licensee(s) ;

Provided further that the Licensor reserves its right to review this condition in the interests of public and national security;

Provided further that pilot project for MNP may be approved and licensed for any period by the Licensor for inducting a new Technology.

4. The licensee will operate the MNP system based on 'build, operate and owned basis'. It shall take into account traffic study, services to be given, etc. for dimensioning of its Mobile Number Portability Clearing House (MCH), Number Portability Data Base (NPDB) and database query response system. The licensee company shall arrange all those equipments and solutions (including tools and testers etc.) from time to time which may be required for efficient working.

5. The Licensee shall incur all the capital expenditure and operational expenditures. It may be noted that the system will need to cater to mobile number portability requirement for whole of the licensed MNP zone in a phased manner.

6. LICENSEE shall be solely responsible for installation, networking and operation of necessary equipment and systems for provision of SERVICE, treatment of telecom operators

complaints, issue of bills to the UAS/CMTS licensees of its MNP zone, collection of its component of revenue, attending to claims and damages arising out of his operations.

7. LICENSEE shall be solely responsible for successful implementation/ operation of MNP services and to resolve the issues of interconnections/ interfaces in respect of present networks/services as well as future networks/services of the Basic, CMTS, UAS, NLD and ILD operators at its own cost. However, the costs of upgradation, operation and maintenance of network of Telecom Service Providers to support MNP in its network shall be borne by the respective telecom service providers.

8. The Licensee shall comply with all the terms and conditions of this Licence Agreement as well as the orders, directions, determinations or regulations as may be issued from time to time by the Licensor or TRAI as the case may be.

9. The Licensee shall also be bound by all the terms & conditions of the tender document no. 20-201/2008-AS-I dated 25.11.2008 and Comprehensive Clarifications/ Amendments of the tender document vide letter no. 20-201/2008-AS-I dated 22.01.2009, unless otherwise amended by the Licensor.

10. The Statutory provisions and the rules made under Indian Telegraph Act 1885, Indian Wireless Telegraphy Act, 1933, Telecom Regulatory Authority of India Act, 1997 and Information Technology Act, 2000 shall govern this Licence agreement. Any order passed under the statute(s) shall be binding on the licensee.

PART-II COMMERCIAL CONDITIONS

11. Ownership of the LICENSEE Company:

11.1 Foreign Equity: The total foreign equity (directly and indirectly) in the paid up equity capital of the LICENSEE Company shall not, at any time, exceed 74% of the total equity subject to the following FDI norms :

- (A) Both direct and indirect foreign investment in the LICENSEE company shall be counted for the purpose of FDI ceiling. Foreign Investment shall include investment by Foreign Institutional Investors (FIIs), Non-resident Indians (NRIs), Foreign Currency Convertible Bonds (FCCBs), American Depository Receipts (ADRs), Global Depository Receipts (GDRs) and convertible preference shares held by foreign entity. Indirect foreign investment shall mean foreign investment in the company/ companies holding shares of the LICENSEE company and their holding company/companies or legal entity (such as mutual funds, trusts) on proportionate basis. Shares of the licensee company held by Indian public sector banks and Indian public sector financial institutions will be treated as 'Indian holding'. In any case, the 'Indian' shareholding will not be less than 26 percent.
- (B) FDI up to 49 percent will continue to be on the automatic route. FDI in the LICENSEE company/Indian promoters/investment companies including their holding companies shall require approval of the Foreign Investment Promotion Board (FIPB) if it has a bearing on the overall ceiling of 74 percent. While approving the investment proposals, FIPB shall take note that investment is not coming from countries of concern and/or unfriendly entities.
- (C) Foreign Direct Investment (FDI) shall be subject to extant guidelines and regulations. However, equity of the foreign partner in the Licensee company should not be less than 26%.

11.2 The LICENSEE shall declare the Indian & Foreign equity holdings (both direct and indirect) in the LICENSEE company and submit a compliance report regarding compliance of FDI norms and security conditions on 1st day of January and 1st day of July on six monthly basis to the LICENSOR. This is to be certified by the LICENSEE Company's Company Secretary or Statutory Auditor.

11.3 Management control of the LICENSEE Company shall remain in Indian Hands.

11.4 The LICENSEE shall also ensure that:

- (i) No telecom access service provider licensee company (Basic service, UAS and/or CMTS) granted licence under Indian Telegraph Act, 1885 shall hold any equity,

directly or indirectly, in the bidder Company. Further, the bidder shall also not likewise hold any equity, in any of such licensed telecom access service providers – licensee companies.

- (ii) No MNP Licensee and their shareholders, either directly or indirectly, shall have any substantial equity share holding (SEH) in more than one MNP Licensee Company. ‘Substantial equity share holding (SEH) herein will mean ‘an equity of 10% or more’.

11.4A The Licensor may relax condition prescribed in clause **11.4(ii)** in case the MNP service licence in the other MNP service zone has been terminated.

11.5 Change in the name of the LICENSEE Company shall be permitted in accordance with the provisions under the Indian Companies Act, 1956.

11.6 Following equity holder(s) of the licensee company whose experience has been taken into account for fulfilling the eligibility conditions and evaluation purpose, shall not be allowed to dilute their equity shareholding in the licensee Company below 26% equity share capital for at least four years from the date of submission of bid i.e. 06.02.2009:

- (i) -----
- (ii) -----
- (iii) -----

11.7 Any changes in share holding shall be subject to all applicable statutory permissions and conditions of the Licence agreement.

11.8 The merger/ acquisition of Indian companies may be permitted as long as competition is not compromised as defined in **condition 11.4** and the resultant entity should remain compliant to the terms & conditions of this licence agreement.

11.9 The Licensee Company shall maintain a minimum paid up capital of an amount Rs. 10 Crores during the currency of the licence.

11.10 The licensee Company and equity holders in the Licensee Company shall maintain a combined net-worth of atleast Rs. 100 Crores during the currency of the licence.

The net worth of only those Equity Share Holders shall be counted, who have 26% or more equity in the Licensee company, in the proportion of their direct equity. Any indirect equity held in the Licensee company shall not be counted for this purpose. Here the net worth shall mean the sum total, in Indian rupees, of paid up equity capital and free reserves. While counting Net-worth, the foreign currency shall be converted into Indian Rupees at the prevalent rate indicated by the Reserve Bank of India.

12. Scope of the Licence

12.1 The licensee shall be permitted to provide, Mobile Number Portability (MNP) services in the licensed MNP zone, confirming to centralized All Call Query method that meets the relevant

International Telecommunication Union (ITU)/Telecommunication Engineering Center (TEC) of DoT's Technical and Performance standards as applicable.

12.2 The LICENSEE shall clearly define the scope of Service to the Telecom Access Services and NLD/ILD operators at the time of entering into contract with such service providers while entering into agreement with them for providing MNP.

12.3 Licensee shall make its own arrangements for all infrastructure involved in providing the service and shall be solely responsible for installation, networking and operation of necessary equipment and systems, treatment of subscriber complaints, issue of bills to Access Service Providers, collection of revenue, attending to claims and damages arising out of his operations.

12.4 The licensee shall establish, administer and operate the Mobile Number Portability centralized clearing house (herein after called MCH) and logically centralized Number Portability DataBase (herein after called 'NPDB') for implementation of mobile number portability in the licensed MNP zone in accordance with QoS parameters, defined criteria/ benchmarks, SLAs and other parameters including tariffs, as prescribed by TRAI/DoT from time to time.

12.5 The MCH and NPDB established by the licensee shall be used by all telecommunication service providers (both existing & new) (i.e. Basic, CMTS, UAS, NLD and ILD Licensee(s)) of the licensed MNP zone for the purpose of supporting porting of mobile numbers between mobile operators. As part of this activity, the Applicable System of Licensee shall contain the updated porting information which will be used by the telecommunication service providers for the purpose of routing calls to the ported end-users.

12.6 The Licensee company will operate the MNP system based on 'build, operate and owned basis'. It shall take into account traffic study, services to be given, etc. for dimensioning of its MCH, NPDB and database query response system. The Company shall arrange all those equipments (tools and testers etc.) which may be required for efficient working of the network from time to time.

12.7 The Licensee cannot provide any service except as mentioned above and which otherwise shall require a separate licence.

12.8 The LICENSEE is permitted to provide, SERVICE by utilizing any type of network equipment, including circuit and/or packet switches, that meet the relevant International Telecommunication Union (ITU)/Telecommunication Engineering Center (TEC) / International standardization bodies as applicable.

12.9 It is obligatory upon the LICENSEE to provide the above stated services of good standard by establishing a state-of-the-art digital network.

12.10 Any dispute, with regard to provision of SERVICE shall be a matter only between the aggrieved party and the LICENSEE, who shall duly notify this to all before providing the SERVICE, and in no case the LICENSOR shall bear any liability or responsibility. The licensee shall keep the Licensor indemnified from all claims, cost, charges or damages in the matter.

13. Duration of Licence

13.1 This LICENCE shall be valid for a period of 10 years from the effective date unless revoked earlier for reasons as specified elsewhere in the document.

14. Extension of Licence

14.1 The LICENSOR may extend, if deemed expedient, the period of LICENCE by 10 years at one time, upon request of the LICENSEE, if made during 9th year of the Licence period on terms mutually agreed. The decision of the LICENSOR shall be final in regard to the grant of extension.

15. Modifications in the Terms and Conditions of Licence

15.1 The LICENSOR reserves the right to modify at any time the terms and conditions of the LICENCE, if in the opinion of the LICENSOR it is necessary or expedient to do so in public interest or in the interest of the security of the State or for the proper conduct of the SERVICE. The decision of the LICENSOR shall be final in this regard.

16. Restrictions on 'Transfer of Licence'

16.1 The LICENSEE shall not, without prior written consent as described below, of the LICENSOR, either directly or indirectly, assign or transfer this LICENCE in any manner whatsoever to a third party or enter into any agreement for sub-Licence and/or partnership relating to any subject matter of the LICENCE to any third party either in whole or in part.

Provided that the Licensee may transfer or assign the License Agreement with prior written approval of the Licensor to be granted on fulfillment of the following conditions:-

- (i) Whenever amalgamation or restructuring i.e. merger or demerger is sanctioned and approved by the High Court or Tribunal as per the law in force; in accordance with the provisions; more particularly Sections 391 to 394 of Companies Act, 1956;
- (ii) The transferee/assignee is fully eligible in accordance with eligibility criteria contained in license agreement conditions and show its willingness in writing to comply with the terms and conditions of the license agreement including past and future roll out obligations; and
- (iii) All the past dues are fully paid till the date of transfer/assignment by the transferor company or its holding company or any of its subsidiary company; and the transferee company undertakes to pay all future dues inclusive of anything remaining unpaid for the past period of the transferor company.

17. Provision of Service

17.1 The LICENSEE shall be responsible for, and is authorised to own, install, test and commission all the equipment to commission the Applicable system for providing the MNP Service under the Licence agreement.

17.2 The LICENSEE shall be permitted to interconnect with Telecom Service Providers (i.e Basic, CMTS, UAS,NLD and ILD licensee(s)) as mandated by the TRAI/ Licensor.

18. Delivery of Service

18.1 MNP is to be implemented in each intra Licensed Service Area (LSA). Initially MNP is to be implemented in all Metro and Category 'A' service areas within 6 month of award of the Licence. Later on, the operation of MNP will be expanded in the rest of the respective zones in time bound manner in phases. The total MNP implementation in each zone in the country shall be completed within 1 year of award of the Licence in respective zones.

18.2 The date of Test Certificate, issued by Telecom Engineering Centre (TEC) of DOT or any other organization authorised by Licensor in this regard, will be reckoned as the date of commissioning the service for the purpose of calculating liquidated damage charges in terms of **condition 42**.

19. Tariff

19.1 The per port transaction fees shall be as per TRAI's regulation /direction/orders for Mobile Number Portability from time to time.

19.2 The LICENSEE will charge the UAS/CMTS Licensees per port transaction fees as per regulation/ direction/ orders of TRAI. The LICENSEE shall also fulfill requirements regarding publication of tariffs, notifications and provision of information as directed by TRAI through its orders / regulations / directions issued from time to time as per the provisions of TRAI Act, 1997 as amended from time to time.

20. Requirement to furnish information

20.1 The Licensee shall furnish to the Licensor, on demand in the manner and as per the time frames such documents, accounts, estimates, returns, reports or other information in accordance with the rules/ orders as may be prescribed from time to time. The LICENSEE shall also submit information to TRAI as per any order or direction or regulation issued from time to time under the provisions of TRAI Act, 1997 or an amended or modified statute.

20.2 The LICENSOR reserves right to seek complete information from the LICENSEE of terms and conditions, and obligations under all contracts entered into with other UASPs/CMSPs and other Licensed Telecom Service Providers on provisioning of MNP service/ sharing of infrastructure / backbone for the provision of SERVICE, or any change thereof and to obtain the authenticated copies of all such contracts.

20.3 The LICENSEE shall in no case provide MNP service to any Telecom Service Provider whose licence is either terminated or suspended or not in operation at any point of time but shall continue to maintain Data Base and provide MNP service to their subscribers. The Licensee shall keep the LICENSOR indemnified from any claim arising out of such Telecom Service Provider or third party.

21. Suspension, Revocation or Termination of Licence

21.1 The LICENSOR reserves the right to suspend the operation of this LICENCE in whole or in part, at any time, if, in the opinion of the LICENSOR, it is necessary or expedient to do so in public interest or in the interest of the security of the State or for the proper conduct of the SERVICE. Licence Fee payable to the LICENSOR will not be required to be paid for the period for which the operation of this LICENCE remains suspended in whole.

Provided that the LICENSOR shall not be responsible for any damage or loss caused or arisen out of aforesaid action. Provided further that the suspension of the LICENCE will not be a cause or ground for extension of the period of the LICENCE and suspension period will be taken as period spent.

21.2 (i) The LICENSOR may, without prejudice to any other remedy available for the breach of any conditions of LICENCE, by a written notice of 60 Calendar days issued to the LICENSEE at its registered office, terminate the LICENCE under any of the following circumstances:

IF THE LICENSEE:

- a) fails to perform any obligation(s) under the LICENCE including timely payments of fee and other charges due to the LICENSOR;
- b) fails to rectify, within the time prescribed, any defect as may be pointed out by the LICENSOR.
- c) goes into liquidation or ordered to be wound up.
- d) is recommended by TRAI for termination of LICENCE for non-compliance of the terms and conditions of the LICENCE.
- e) fails to comply with FDI norms.
- f) fails to comply with conditions of the licence.
- g) fails to fulfil roll out obligation in the first phase or subsequent phase.

21.2 (ii) The Licensor reserves a right to impose a financial penalty not exceeding **Rs. 1 crore** for violation of terms and conditions of licence agreement. The penalty shall commensurate with the seriousness of the violations and will be recommended by a Committee constituted in DOT. This penalty is exclusive of Liquidated Damages as prescribed under **condition 42** of this Licence Agreement.

21.3 LICENSEE may surrender the LICENCE, by giving notice of at least 60 calendar days in advance. In that case it shall also notify all Access/NLD/ILD Service Providers its customer of consequential withdrawal of SERVICE by sending a 30 calendar days notice to each of them. The LICENSEE shall pay all fees payable by it till the date on which the surrender of the licence becomes effective. The effective date of surrender of LICENCE will be 60 calendar days counted from the date of receipt of such notice by the licensor.

21.4 It shall be the responsibility of the LICENSEE to maintain the quality of service even during the period when notice for surrender of LICENCE is pending and if the quality of service is not maintained during the said notice period, it shall be treated as material breach liable for termination at risk and consequence of the licensee including forfeiture of Performance Bank Guarantee (PBG). The licensee shall also be liable to pay the licence fee till the end of the notice period and more specifically till the date on which the surrender/termination becomes effective.

21.5 The LICENSOR reserves the right to revoke the LICENCE at any time in the interest of public by giving a notice of 60 calendar days from the date of issue of such notice.

21.6 The LICENSOR reserves the right to take over the entire services, equipments and networks of the LICENSEE or revoke/terminate/suspend the LICENCE in the interest of public or national security or in the event of national emergency/war or low intensity conflict or similar type of situations. Further the LICENSOR reserves the right to keep any area out of the operation zone of the SERVICE if implications of security so require.

21.7 Breach of non-fulfillment of Licence conditions may come to the notice of the LICENSOR through complaints or as a result of the regular monitoring. Wherever considered appropriate LICENSOR/TRAI may conduct an inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of the terms and conditions of the LICENCE by the LICENSEE and upon such inquiry the LICENSEE shall extend all reasonable facilities and shall endeavor to remove the hindrances of every type.

22. Actions pursuant to Termination of Licence

22.1 If under the Licence Agreement, material event occurs which entitle the LICENSOR to terminate the Licence Agreement, the action will be taken as per the condition below.

22.2 On termination or surrender or expiry of the LICENCE, the Bank Guarantee shall be released to the LICENSEE only after ensuring clearance of all dues which the LICENSEE is liable to pay to the licensor. In case of failure of the LICENSEE to pay the amounts due to the LICENSOR, the outstanding amounts shall be realised through encashment of the Bank Guarantee(s) without prejudice to any other action(s) for recovery of the amounts due to the LICENSOR without any further communication to the Licensee.

22.3 If the company fails to roll out the first phase services in six months from the effective date of licence, then the licence may be terminated and the MNP licence for this zone may be given to operator in the other zone.

22.4 In the event of termination of MNP licence for any reason as per conditions of the licence, the MNP zone so falling vacant may be allotted to the MNP service licensee in the other zone.

23. FORCE- MAJEURE

23.1 If at any time, during the continuance of this LICENCE, the performance in whole or in part, by either party, of any obligation under this is prevented or delayed, by reason of war, or hostility, acts of the public enemy, civic commotion, sabotage, Act of State or direction from Statutory Authority, explosion, epidemic, quarantine restriction, strikes and lockouts (as are not limited to the establishments and facilities of the LICENSEE), fire, floods, natural calamities or any act of GOD (hereinafter referred to as EVENT), provided notice of happenings of any such EVENT is given by the affected party to the other, within 21 Calendar days from the date of occurrence thereof, neither party shall, by reason of such event, be entitled to terminate the LICENCE, nor shall either party have any such claims for damages against the other, in respect of such non-performance or delay in performance. Provided SERVICE under the LICENCE shall be resumed as soon as practicable,

after such EVENT comes to an end or ceases to exist. The decision of the LICENSOR as to whether the service may be so resumed (and the time frame within which the service may be resumed) or not, shall be final and conclusive.

23.2 However, the Force Majeure events noted above will not in any way cause extension in the period of the LICENCE.

23.3 While it will normally not be a ground for non-payment of Licence Fee, the liability for payment of Licence fee for such inoperative period(s) due to force majeure clause may, however, be reduced/waived by the LICENSOR, at its discretion based on circumstances of the EVENT.

24. SET OFF CLAUSE

24.1 In the event any sum of money or claim becomes recoverable from or payable by LICENSEE to the LICENSOR either against this Licence Agreement or otherwise in any manner, such money or claim can be (without prejudice to any right of set off for counter claim given or employed by law) deducted or adjusted against any amount or sum of money then due or which at any time thereafter may become due to the LICENSEE under this Licence Agreement or any other agreement or contract between the LICENSOR and the LICENSEE.

24.2 The aforesaid sum of money payable by the LICENSEE Company shall include any security deposit which can be converted into money.

PART-III FINANCIAL CONDITIONS

25. FEES PAYABLE

25.1 Entry Fee: One time, non-refundable, Entry Fee of Rs. 1 (one) Crore has been paid by the LICENSEE prior to signing of this licence agreement.

25.2 Licence Fees: In addition to the Entry fee described above, the Licensee shall also pay Licence fee annually @ 1 (one) % of Adjusted Gross Revenue (AGR) of the licensee Company. There shall be a moratorium of licence fee payment for first two years from effective date of the licence.

25.3 The Licensor reserves the right to modify the above mentioned Licence Fee at any time during the currency of the MNP services license.

26. Definition of 'Adjusted Gross Revenue'

26.1 Gross Revenue: The Gross Revenue shall be inclusive of revenue from services, Porting fees, sale proceeds of any software & hardware items, revenue on account of interest, dividend, capital gains, value added services, supplementary services, access or interconnection charges, revenue from permissible sharing of infrastructure and any other miscellaneous revenue etc., without any set-off from related items of expense.

26.2 For the purpose of arriving at the "Adjusted Gross Revenue" the following will be excluded from the Gross Revenue to arrive at the adjusted gross revenue:

Service Tax on provision of service and Sales Tax actually paid to the Government; if gross revenue had included the component of Service Tax and Sales Tax.

27. SCHEDULE OF PAYMENT OF ANNUAL LICENCE FEE AND OTHER DUES

27.1 For the purposes of the Licence Fee, the 1st year shall end on 31st March following the date of end of period of moratorium of payment of Licence fee i.e. first two years from the effective date of the licence and the Licence fee for the First year shall be determined on a pro-rata basis for the actual duration of the "year". From second year onwards, the year shall be of Twelve English calendar months from 1st of April to the 31st March for payment of Licence Fee.

EXPLANATION: The Licence fee for the first quarter of the first year for the purpose of licence fee and last quarter of the last year of the Licence will be computed with reference to the actual number of days after excluding the other quarters, each being of three months.

27.2 Licence Fee shall be payable in four quarterly installments during each financial year (FY). Quarterly installment of licence fee for the first three quarters of a financial year shall be paid within 15 days of the completion of the relevant quarter. This Fee shall be paid by the LICENSEE on the basis of actual revenue (on accrual basis) for the quarter, duly certified with an affidavit (**Annexure-II**) by a representative of the LICENSEE, authorized by the Board Resolution coupled with General Power of Attorney. However, for the last quarter of the financial year, the LICENSEE

shall pay the Licence Fee by 25th March on the basis of expected revenue for the quarter, subject to a minimum payment equal to the actual revenue share paid for the previous quarter.

27.3 The LICENSEE shall adjust and pay the difference between the payment made and actual amount duly payable (on accrual basis) for the last quarter of financial year within 15 days of the end of the quarter.

27.4 The quarterly payment shall be made together with a STATEMENT in the prescribed form as **Appendix-II to Annexure- II**, showing the computation of revenue and Licence fee payable. The aforesaid quarterly STATEMENTS of each year shall be required to be audited by the Auditors (hereinafter called LICENSEE'S Auditors) of the LICENSEE appointed under Section 224 of the Companies' Act, 1956. The report of the Auditor should be in prescribed form as **Appendix-I to Annexure-II**.

27.5 Any delay in payment of Licence Fee payable, or any other dues payable under the LICENCE beyond the stipulated period will attract interest at a rate which will be 2% above the Prime Lending Rate (PLR) of State Bank of India existing as on the beginning of the Financial Year (namely 1st April) in respect of the licence fees pertaining to the said Financial Year. The interest shall be compounded monthly and a part of the month shall be reckoned as a full month for the purposes of calculation of interest. A month shall be reckoned as an English calendar month.

27.6 Final adjustment of the Licence fee for the year shall be made based on the gross revenue figures duly certified by the AUDITORS of the LICENSEE in accordance with the provision of Companies' Act, 1956.

27.7 A reconciliation between the figures appearing in the quarterly statements submitted in terms of the **condition 27.4** of the agreement with those appearing in annual accounts shall be submitted along with a copy of the published annual accounts audit report and duly audited quarterly statements, within 7 (seven) Calendar days of the date of signing of the audit report. The annual financial account and the statement as prescribed above shall be prepared following the norms as prescribed in **Annexure-III**.

27.8 In case, the total amount paid as quarterly Licence Fee for the 4 (four) quarters of the financial year, falls short by more than 10% of the payable Licence Fee, it shall attract a penalty of 50% of the entire amount of short payment. However, if such short payment is made good within 60 days from the last day of the financial year, no penalty shall be imposed. This amount of penalty shall be payable within 15 days of the date of signing the audit report on the annual accounts, failing which interest shall be further charged per terms of **Condition 27.5**.

27.9 All sums becoming due and payable as mentioned in this Licence Agreement shall be paid by the LICENSEE through a demand draft or Pay Order payable at New Delhi, drawn on any Scheduled Bank, in favour of the Pay & Accounts Officer (HQ), DOT or any other Authority if so designated by LICENSOR.

27.10 The LICENSOR, to ensure proper and correct verification of revenue share paid, can, if deemed necessary, modify, alter, substitute and amend whatever stated in **Conditions 27.4, 27.7, 27.5 and 27.6** hereinbefore and hereinafter written.

27.11 The LICENSEE shall also separately pay charges for network resources obtained by the LICENSEE from other licensed service providers. This will be governed by the determination of TRAI if any.

28. BANK GUARANTEES:

28.1 Performance Bank Guarantee:

Performance Bank Guarantee (PBG) in prescribed format shall be submitted for amount equal to **Rs. 1 crores** valid for **two** years before signing the Licence Agreement.

On completion of one year of MNP implementation for all the licensed service areas of the licensed MNP zone, except those specifically restricted by DoT, 50 % of the PBG amount shall be released while remaining 50% of the PBG shall be released after the expiry of the license period.

28.2 Financial Bank Guarantee:

The LICENSEE shall submit a Financial Bank Guarantee (FBG), valid for **three** year, from any Scheduled Bank or Public Financial Institution duly authorized to issue such Bank Guarantee, in the prescribed Performa **annexed**. Initially, the financial bank guarantee shall be for an amount of **Rs. 2 Crore** which shall be submitted before signing the Licence agreement. Subsequently, the amount of FBG shall be equivalent to the estimated sum payable equivalent to license fee for two quarters and other dues not otherwise securitised and any additional amount as deemed fit by the Licensor. The amount of FBG shall be subject to periodic review by the Licensor and shall be renewed from time to time.

28.3 Initially, the bank guarantees shall be valid for a period of three year and shall be renewed from time to time. The licensee, on its own, shall extend the validity period of the bank guarantees for similar terms at least one month prior to date of its expiry without any demand or notice from the licensor on year to year basis. Any failure to do so, shall amount to violation of the terms of the licence and entitle the licensor to encash the bank guarantees and to convert into a cash security without any reference to the licensee at his risk and cost. No interest or compensation whatsoever shall be payable by the licensor on such encashment.

28.4 Without prejudice to its rights of any other remedy, LICENSOR may encash Bank Guarantee (FBG as well as PBG) in case of any breach in terms & conditions of the LICENCE by the LICENSEE.

29. Preparation of Accounts.

29.1 The LICENSEE will draw, keep and furnish independent accounts for the SERVICE and shall fully comply orders, directions or regulations as may be issued from time to time by the LICENSOR or TRAI as the case may be.

29.2 The LICENSEE shall be obliged to:

a) Compile and maintain accounting records, sufficient to show and explain its transactions in respect of each completed quarter of the Licence period or of such lesser periods as the LICENSOR may specify, fairly presenting the costs (including capital costs), revenue and financial position of the LICENSEE's business under the LICENCE including a reasonable assessment of the assets employed in and the liabilities attributable to the LICENSEE's business, as well as, for the quantification of Revenue or any other purpose.

(b) Procure in respect of each of those accounting statements prepared in respect of a completed financial year, a report by the LICENSEE's Auditor in the format prescribed by the LICENSOR, stating inter-alia whether in his opinion the statement is adequate for the purpose of this condition and thereafter deliver to the LICENSOR a copy of each of the accounting statements not later than three months at the end of the accounting period to which they relate.

c) Send to the LICENSOR a certified statement sworn on an affidavit, by authorized representative of the company, containing full account of Revenue earned from the SERVICE for each quarter separately along with the payment for the following quarter.

29.3 (a) The LICENSOR or the TRAI, as the case may be, shall have a right to call for and the LICENSEE shall be obliged to supply and provide for examination any books of accounts that the LICENSEE may maintain in respect of the business carried on to provide the service(s) under this Licence at any time without recording any reasons thereof.

(b) The LICENSEE shall invariably preserve all billing and all other accounting records (electronic as well as hard copy) for a period of THREE years from the date of publishing of duly audited & approved Accounts of the company and any dereliction thereof shall be treated as a material breach independent of any other breach, sufficient to give a cause for cancellation of the LICENCE.

29.4 The records of the LICENSEE will be subject to such scrutiny as may be prescribed by the LICENSOR so as to facilitate independent verification of the amount due to the LICENSOR as its share of the revenue.

29.5 The LICENSOR may, on forming an opinion that the statements or accounts submitted are inaccurate or misleading, order Audit of the accounts of the LICENSEE by appointing auditor at the cost of the LICENSEE and such auditor(s) shall have the same powers which the statutory auditors of the company enjoy under Section 227 of the Companies Act, 1956. The remuneration of the Auditors, as fixed by the LICENSOR, shall be borne by the LICENSEE.

29.6 The LICENSOR may also get conducted a 'Special Audit' of the LICENSEE company's accounts/records by "Special Auditors", the payment for which at a rate as fixed by the LICENSOR, shall be borne by the LICENSEE. This will be in the nature of auditing the audit described in **condition 29.5** above. The Special Auditors shall also be provided the same facility and have the same powers as of the companies auditors as envisaged in the Companies Act, 1956.

29.7 The LICENSEE shall be liable to prepare and furnish the company's annual financial accounts according to the accounting principles prescribed and the directions given by the LICENSOR or the TRAI, as the case may be, from time to time.

PART-IV TECHNICAL CONDITIONS

30. TECHNICAL CONDITIONS

30.1 Components of the proposed MNP Solution

- a. MNP Clearing House (MCH)- Production site
- b. Number Portability Data Base (NPDB)- Production Site
- c. Query Response Database (QRDB)- Production site
- d. MCH- Disaster Recovery site
- e. NPDB- Disaster Recovery site
- f. QRDB- Disaster Recovery site
- g. Storage server
- h. Web server
- i. Report Generation server
- j. O&M server
- k. Others- Routers, switches etc
- l. Local operator DB query response system (To be procured, installed, operated, maintained by respective telecom service providers in their network)
- m. Number Portability operator Gateway (To be procured, installed, operated, maintained by respective telecom service providers in their network)

30.2 Architecture

30.2.1 The proposed architecture for implementation of MNP shall take in to account the following:

- Cost Effectiveness
- Scalable and modular architecture
- High Performance –To meet bench marks as mandated by concerned authority.
- Reliability – The solution shall conform to the reliability standards set by the DoT/TRAI.
- Disaster Recovery at separate Geographic location(city)
- Support Open standards on interfaces towards telecom service provider ends.
- Security of centralized database

30.3 Solution Guidelines

30.3.1 Establishment, administration and operation of one centralized MNP Clearing House (MCH) for port ordering, processing, notification and administration of ported numbers between mobile Operators. The Company shall also establish, administer and operate an online disaster recovery site of this MCH at a separate geographic site falling in different seismic zone and with a minimum distance of 500 KM. The MCH will have modular architecture with scalability option so as to cater to the requirement of MNP for the entire MNP Zone in phased manner.

30.3.2 Establishment, administration and operation of Centralized NPDB in the licensed MNP zone of MCH – for supporting the centralized clearing house operations. The NPDB will work as a centralized reference database and will be the repository of all ported numbers in the respective MNP Zone. This database will be partitioned based on the service areas as defined by DoT from time to time. The Company shall also establish, administer and operate an online disaster recovery site of this NPDB/Query database at a separate geographic site falling in different seismic zone and with a minimum distance of 500 km. The Centralised NPDB will have modularity and scalability option so as to cater to the requirement of database for the entire MNP Zone in phased manner.

30.3.3 Disaster Recovery (DR) sites for MCH, NPDB, QRDB shall be maintained by MNP service provider. DR sites shall be updated in real time manner and interconnected with main production site with redundancy in connecting links to maintain continuity and uninterrupted service . Interconnection shall be secure path protected and with sufficient bandwidth.

30.3.4 Modularity of the centralized QRDB will be such as to support number portability related queries for existing and future operators for call setup and data service delivery (i.e. SMS/MMS) purposes. The centralised NPDB shall update operator local DB of Telecom Service Providers in the MNP Zone(s) in real time as soon as porting process for subscriber is completed and their associated routing information. The detail of existing service providers in each service area is available at DoT's website www.dot.gov.in.

30.3.5 The Centralized Clearinghouse shall use an electronic processing approach for processing port requests. This includes the management of the porting processes and information exchange among the Operators to support MNP.

30.3.6 All CMTS/UAS licensees, International and National Long Distance Operators that deliver calls to a LSA shall implement direct routing i.e., All Call Query method, to route calls to ported numbers.

30.3.7 Access Services Providers/ NLDO/ ILDO may have option to either maintain its own local database or use shared Local operator DB with other telecom service providers or may take services of MNP service provider for query response system.

30.3.8 Telecom service Operators' interconnection (through operator's gateways) with the centralized clearinghouse (MCH) and NPDB will be through a secure network.

30.3.9 Each Access Service Providers/International and National Long Distance operator that provide telecom services within service area in which MNP is implemented shall receive mobile number ported numbers data downloads and associated routing information from the centralized NPDB via an automated process and/or, if required, by a manual process to their Local database query system.

30.3.10 It will be the responsibility of the Centralized NPDB to provide download as per defined time(s). For the new operator, complete download will be provided while for those operators who have downloaded the database earlier, incremental database updates will be provided, if so desired.

30.3.11 The Company shall describe all the call flow scenarios that will fit the solution offered by the Licensee.

30.3.12 Other operators such as Application / content providers may require downloads of ported numbers and associated routing information in order to deliver their services to subscribers. This may be provided by the Licensee on commercial terms and conditions subject to conditions as may be prescribed by DoT / TRAI from time to time.

30.3.13 Any issues relating to creation of database, interfaces, performance parameters, service levels shall be resolved by the DoT / TRAI whose decision would be final and binding on the Licensee.

30.4 CENTRALIZED MOBILE NUMBER PORTABILITY CLEARINGHOUSE (MCH) AND NETWORK PORTABILITY DATABASE(NPDB):

30.4.1 The Mobile Number Portability Centralized Clearing house (MCH) is a centralized system used by mobile Operators to port mobile subscriber numbers so that subscribers may retain their number when changing Operators.

30.4.2 The clearinghouse shall exchange porting messages among participating Operators, validate these messages, and notify all Operators of ported numbers and their associated routing information.

30.4.3 The Clearinghouse will support a uniform set of process flows and business rules to which all Operators will adhere when performing port transactions.

30.4.4 The Clearinghouse shall be a hardware and software platform with automated and/or manual interfaces for Operators, message processors and a Centralized number portability database (NPDB) serving as the repository for all ported numbers in the respective MNP Zone.

30.4.5 The Centralized number portability database (NPDB) shall maintain a record of all ported numbers and a history file of all transactions relating to the porting of a number.

30.4.6 The Clearinghouse shall utilize timers to govern the order of execution of the MNP processes and to help ensure that requests are executed in a timely manner.

30.4.7 The Centralized clearinghouse shall be responsible for meeting performance standards as prescribed, providing user and technical support services and training for industry companies/regulator/Licensors on an ongoing basis.

30.5 Number Portability Operator Gateway:

30.5.1 The Number Portability Operator Gateway is an Operator-based workflow system for processing and managing MNP port transactions with the centralized clearinghouse and Operator back-end systems, e.g. order and provisioning systems.

30.5.2 The Gateway will accept port requests, pass them on to the centralized clearinghouse, and co-ordinate ported number updates from the clearinghouse to back-end systems in the operator's network.

30.5.3 The Gateway will also provide management and reporting functions to allow the Operator to monitor the porting process.

30.5.4 The Gateway shall utilize timers to enable the Operator to manage and control MNP processes in their business environment in conformance with the clearinghouse process flows.

30.5.5 The Gateway shall be a hardware and software platform with automated and manual interfaces to the clearinghouse, message processors and a local database that stores all data required to support exchange of MNP messages between an Operator and the Clearinghouse.

30.5.6 The Gateway shall provide an interface to the Operator's order and provisioning systems. This interface may be custom-designed to integrate with existing Operator order and provisioning systems.

30.5.7 The interfaces provided by the Licensee company towards the operator's gateways should be open standard. The Licensee company shall provide the details of such interfaces (like API etc.) for interconnection of the operator's gateways to its system (MCH and NPDB). The operators shall be responsible for establishing, maintaining and connecting their respective number portability gateways with the company's system on the interface stated by the company. In case, MCH equipment requires specific software at the operator's number portability gateways to communicate with MCH equipment, then such software shall be provided to operators by the MCH free of charge/Cost.

30.6 CENTRALISED MOBILE NUMBER PORTABILITY DATABASE QUERY RESPONSE SYSTEM:

30.6.1 The Mobile Number Portability Query Response System shall be a real-time database with number portability corrected routing data that could be queried by Operator networks during call setup to provide the routing number, based on the dialed number.

30.6.2 With the implementation of MNP, Operators shall have the capability to access and retrieve number portability corrected routing data (supplied by the Clearinghouse reference database) in order to properly route calls to ported numbers.

30.6.3 Centralized MNP Query response DB may be serving to multiple kinds of networks e.g. PSTN, CDMA, GSM, NGN with different kind of protocols INAP, MAP, CAP, WIN, IS-41, SIP, ENUM etc with different versions over SS#7, SIGTRAN, IP etc. MNP Query response system should support all these multiple requirements at same time to match with the network capability of different networks.

30.6.4 The Query Response System will be updated from and synchronized with the reference database in the Clearinghouse.

30.6.5 The licensee shall provide the query database to the operators, if operator so desires. In such case the operators will either query routing information available with them, or from the central query system of the operator.

30.7 For mobile number portability in India, Direct Solution i.e. All Call Query method shall be implemented.

30.8 In a multi-operator scenario when N operators are involved, the system should be capable of providing an efficient, cost effective, complete call set up with clear definitions of operator's responsibility for routing with further provision for scalability to support future introduction of inter service area MNP.

30.9 The system should be flexible, scalable and configurable to meet future requirements. The design of clearing house will be such that total time to port should not exceed two working days initially but up gradable to much faster levels. Customer shall approach the recipient operator for porting his/her number. Donor operator shall not use ported out numbers till such time it is in use by the ported subscriber. After the surrendering of number by ported subscriber the number shall revert back to the original donor operator.

30.10 Department of Telecommunications shall provide unique Routing Number (RN) to each Access Services operator to enable routing to ported number. There will be one RN for each licensee in every LSA. However, system should also support multiple RNs per operator in one LSA.

- 30.11** The Licensees/Licensee shall specify the details of the technology (which shall always be digital), quality of service and other performance parameters of the system proposed to be deployed for operation of the service. The technology should be based on standards issued by ITU/TEC or any other International Standards Organization/ bodies and the licensee shall seek the approval of the licensor before deployment of such technologies.
- 30.12** Requisite monitoring facilities /equipment for each type of system used, shall be provided by the LICENSEE at its own cost for monitoring as and when required by the LICENSOR/ designated security agencies.
- 30.13** Quality of Service: The system should meet the Quality of Service standards/requirements as specified by TRAI from time to time.
- 30.14** The licensee can not provide additional facilities in case of any value addition/upgradation that the technology permits at later date without the prior approval of licensor.

31. Technical Requirements

- 31.1** Within the scope of this licence agreement, the licensee company shall provide all required central facilities, functions, protocols, procedures, mechanism to provide Mobile Number Portability (MNP) service as well as all necessary software and hardware.
- 31.2** The provision should be there in the system (MCH and NPDB) that any of the ported number can not be used by the Donor Operator till such time it is in use by the ported subscriber. After the surrendering of number by the ported subscriber, the number shall revert back to the original Donor Operator on receipt of the information from the recipient operator. MCH shall facilitate the process and shall be responsible for reverting the surrendered ported-out number, back to the Donor Operator.
- 31.3** Once the port is negotiated, network routing information will be passed to each access and long distance Operator that provides service within the service area. Porting mechanism shall be of the type: Break before Make i.e. Donor will stop serving the subscriber once the port negotiation is completed, then the recipient will start serving the subscriber. Break time should not exceed more than **two(2) hours** with the possibility to reduce it further.
- 31.4** MCH shall support both synchronization and command level update with both push and pull mechanism i.e. the porting database can be send to all concerned operators OR it can be downloaded by them as desired by the concerned operators.
- 31.5** The execution of porting requests and updating of the local database of the operator shall be carried out at predetermined specified times in a day. These times shall be decided in consultation with the operator(s).
- 31.6** Incremental data download shall be supported. If any new operator starts services in a telecom service area full data download would be provided.
- 31.7** Archive (storage) of porting data of last seven days (minimum) shall be available and will be made available to the operator on request as per mutual commercial agreement.
- 31.8** The Licensee company must describe all the porting processes that are associated with the clearing house (MCH) and how these processes were localized for the Indian market.
- 31.9** All MNP processes among the Operators should be supported using the same protocol for

responding to and initiating subscriber port requests. These processes include the allocation and management of e-tickets (i. e. acknowledgement / docket with all relevant subscriber details) for porting requests, exchange of messages among participating Operators, validation of these messages, and the notification of executed ports to all Operators. The system should include a Reference Database (RDB) that will serve as the repository for all ported numbers and their associated routing information. It will also store information regarding porting history, statistical summaries of ports initiated, ports completed, and ports rejected for tracking, auditing and accounting purposes.

31.10 The mobile subscriber shall approach the Recipient Operator for porting his/her number. Therefore the porting request will be initiated by the recipient operator.

31.11 The total time to port should not exceed **two (2)** working days initially from the request of the subscriber but up gradable to much faster levels. The System design shall exhibit high cohesion and low coupling characteristics so as to minimise interdependency with other applications and services. The Licensee company shall clearly highlight the critical System interfaces where upgrades and/or operational activities by the Operators may affect the availability and performance of the System. Non-proprietary hardware that is commercially available shall be preferred. Where that is not the case, the Licensee company shall clearly identify and define the functionality of those hardware and provide justification for their usage.

31.12 The Licensee company shall work closely with the Operators to ensure that the System inter-operate with existing fixed line and mobile networks in the most cost effective and efficient manner.

31.13 The Licensee shall provide access to all NLDOs/ILDOs/Access providers for interconnection. The telecom service providers shall establish connectivity from their number portability gateways to the main and DR site at their own cost. The Licensee company shall provide all necessary infrastructure facilities like space for housing for transmission equipment, air conditioning, power, connectivity port etc. without any charge from the service providers and may factor-in these charges while calculating per port transaction charges for bidding purposes. However, service providers shall be responsible for establishing and managing the interconnection with the NPDB Query response system and MCH. The Licensee company shall work with the service providers to manage the security and availability of these interconnections.

31.14 The MCH/NPDB System design shall be based on open standards on the interfaces towards service providers which shall be extensible/ modular and support various standard interfaces to enable an Operator's information and network systems to access and communicate with the MCH/QNPDB system in real-time as well as distributing the Routing Information.

31.15 Port Management System(Consists of MCH/NPDB/QNPDB) Requirements:

31.14.1 The Licensee company shall implement adequate port management procedure for smooth MN portability. All requirements shall be spellout clearly by the Licensee company in detail including various parameters.

31.14.2 The terms and conditions of interconnection including standard interfaces, points of interconnection and technical aspects will be as mutually agreed between the operator and Licensee company, subject to compliance of prevailing regulations, directions and determinations issued by DoT/TRAI from time to time.

31.16 Error Monitoring:

31.15.1 Error Logs:-

31.15.1.1 The Licensee company shall retain, for at least one year or as defined, a log of all transactions, including all attempts (successful and unsuccessful) to access the System, as well as all messages which enter or leave the System, and all database updates or modifications that occur as a result of processing any of these messages.

31.15.1.2 If any problem is to occur while processing a message, the logs shall indicate:

- the nature of the problem, e.g., a database unique constraint violation;
- the time of the problem; and
- the contents of the message that caused the problem, including the particular port for which the message applies, the donor, the recipient and the originator of the message

31.15.1.3 If the problem occurred while attempting to send a message, the logs shall indicate:

- the nature of the problem;
- the time the problem occurred; and
- the contents of the message that was not able to be sent successfully

31.15.2 Error Handling:-

- The System shall validate all incoming messages to ensure that they conform to the definition of the porting process. The Licensee company shall have well defined mechanism for error handling including flexibility to accommodate additional error conditions & response thereof. The Licensee company shall work out the error message details in consultation with the service providers.

31.17 Availability

31.16.1 The System (both hardware and software) shall be designed for high availability and continuous operation. All major hardware components, including router/firewall, web servers, data servers etc. shall have redundancy provisions. The Licensee company shall specify in detail how the availability and redundancy are provided.

31.18 The port management system(Consists of MCH, Centralised NPDB & NPDB Query response system) shall achieve availability of not less than (say) 99.99% on quarterly basis(i. e. every three months) and any failure of maintaining system below 99.99% (or as per order/direction/regulation of TRAI) service availability, the Performance Bank Guarantee may be forfeited if so recommended by TRAI. For the benchmarks related to quality of service etc., a separate regulation will be issued by TRAI.

31.19 Capacity Requirements and Performance

31.18.1 Presently, the number of expected portings and transactions are not known. The Licensee company shall assess the requirement itself and accordingly design the system.

31.18.2 The Licensee company shall provide benchmarks for performance throughput of the proposed System – from port as well as messaging throughput perspective.

31.20 Maintenance and Operations

31.19.1 The system shall provide visual status of the system in real time and make it possible to carry out preventive maintenance and service upgrades without any service down time.

31.21 Audit Logs and Reports

31.20.1 Logs

- The Porting Management System (MCH) shall log data for every port for which an Operator is either a Donor or Recipient Network Operator. Such data will be used for reconciliation purposes.
- Key transactions and audit logs shall be archived off-site and stored permanently for future references, while event/non critical logs and data information shall be retained for at least one year or as defined.

31.20.2 Reports

The System shall be a capable to generate reports pertaining to various transactions and porting events in the format and at frequency as prescribed by DoT/TRAI .

32. Acceptance Testing

32.1 Acceptance Test Plan:-Prior to commencement of the operation of MNP, the **Licensee Company** shall get its system acceptance testing as per TEC/DoT approved test plan **and to the satisfaction of the testing party(s) of DoT.**

32.2 Operations and Maintenance Tests: The Licensee company shall ensure that the system and services are in a condition ready for the commencement of Acceptance Testing within **four (4) months** of award of the contract. The Licensee company and the Operators shall, at their own costs, carry out all Acceptance Testing as laid down by TEC/DoT.

33. Activities at the Licensee Company's end

Licensee shall have to carryout following activities for implementing MNP. However the list of following activities are indicative and not exhaustive:-

- Equipment installation and testing
- Leased line connectivity from operator ends to MCHA and NPDB
- Operator's end preparation for gateway switch connectivity, interfaces etc.
- Meeting with security agencies for lawful interception requirements, if any.
- Testing between operator's (Access & long distance) end to MCHA, NPDB, NP query response system
- End to end testing between one operator to all other operators in the licensed area.
- Training to the technical persons of the operators for MCHA & NPDB, Local query NP database system functionality etc.

- Rigorous test for data synchronization between Central NPDBs and between Central NPDBs to Local NPDBs

34. Broad Guidelines of duties and responsibilities of MNP Service Provider: The Licensee company should follow the broad guidelines of duties and responsibilities of as mentioned below:

34.1 The Entity responsible should adhere to the following:

- a. A record of logs shall be maintained for all activities for at least for a period of one year unless otherwise specified.
- b. **MNP Service Provider** cannot deviate from the stated guidelines stipulated by Regulator/Licensor.
- c. Escalate the issues to Regulator and provide reports to Regulators as per their requirement.
- d. Processing of porting request shall be first come first serve basis. Individual porting requests may be preferred compared to bulk request.
- e. Protection of sensitive information and meeting requirements of security agencies.

34.2 Service Implementation and Launch

34.2.1 Planning & Engineering Services

- Assist Licensor / regulator / operators to understand the significance of key Mobile Number Portability (MNP) issues, analyze alternative approaches, and assist the members in reaching consensus that is in the best interest of all stakeholders.
- Develop preliminary and final Number Portability Clearing House (MCHA) Process Flows and External Interface specifications.
- Obtain DoT concurrence for both Specifications to confirm the feature functionality that will be delivered in the MCHA software release.

34.2.2 Data Centre Establishment

- Provide 24x7 secure and redundant Data Centers conforming to highest industry norms (and necessary ISO certifications: Production Site and a Disaster Recovery and Test Site which are geographically stable to accommodate the MCHA system platform.
- Provide access control systems to ensure entry only by authorized personnel designated by the Clearinghouse Provider to perform installation, resolve problems and perform maintenance.
- Establish a secure environment to protect clearing house and personal data in conformance with standing laws.

34.2.3 Platform Installation

- Procure, install and maintain all hardware, Third Party Software required for the operation of the MCHA, Disaster Recovery and Test systems and for inter-connectivity between the MCHA, operators and any applicable operational support systems (such as monitoring and ticketing systems, operations web site, etc.).

- Develop and maintain a customer web site for posting the latest MCHA documentation, MCHA release information, reports, industry notifications of down-time, etc.
- Secure and restrict website access for each operator and other authorized users (i.e., password protected).
- Design a network at each Site required for the operations of the MCHA system and for inter-connectivity between the MCHA and any applicable customer operational support systems (such as monitoring and ticketing systems).
- Establish all internal data communication links, paths, network configurations for the MCHA system at each Site.
- Provide the means to load balance incoming traffic to its network.

34.2.4 Software Development

- Develop code to implement the MCHA software features based on the Process Flow and External Interface Specifications that have been confirmed by DOT.
- Conduct software testing to help ensure the integrity of the MCHA software system.
- Collect routing and reference data from operators to configure and localize the MCHA software for use .

34.2.5 Software Installation

- Verify that pre-requisites of the installation are successfully completed prior to the start of the initial installation.
- Provide installation of the MCHA system for the Production, Disaster Recovery and Test systems.
- Perform post-installation verification testing to verify that the MCHA is functioning and is ready for Installation Verification.
- Troubleshoot and resolve any issues identified to ensure platform readiness for the Production, Disaster Recovery and Test Systems.

34.2.6 Installation Verification

- Develop an Installation Verification Test Plan (“IVTP”) that will define the scope, procedures, methodologies, data requirements, and test cases to be used to test the MCHA, along with expected test case results and responsibilities of the Parties with respect to the testing activities. IVTP will be approved by DoT.

34.2.7 Operator Access

- Provide Points of Presence – for leased lines, VPN, etc. - for Operator access to the MCHA production and disaster recovery systems.
- Establish Operator IDs and login assignments for each MCHA user.
- Identify the number of GUI users expected.
- Identify the point of contact for each Operator.

- Assist operators in arranging with the Data Centre to get their requested connectivity in place so they can connect to the MCHA.

34.2.8 Industry Testing

- Develop an Inter-Operator Test Plan (“IOTP”) that will assist the industry to define the guidelines, scope, methodologies, data requirements and test scenarios to be used to test the MCHA. IOTP will be approved by DoT.
- Provide technical support for each operator in connecting to each system.
- Provide technical support for the industry for operator testing consisting of Connectivity Testing, System Testing, and Inter-Operator Testing in the timeframes set forth in the Final Schedule.
- Assist the industry to determine the testing strategy, progress tracking and coordination for industry acceptance.
- Provide Help Desk personnel as initial point of contact to track issues reported by the industry.
- Troubleshoot and resolve issues reported.
- Schedule with the industry periodic down-times in order to correct Severity 1 or 2 conditions found.

34.2.9 Service Live

- Confirm and provide final reference data set (routing assignments, national numbering plan, timer values, etc.) for service live.
- Refresh the production database whereby test data is dropped and final reference data set is loaded.
- Provide technical support during service launch.
- Confirm industry readiness and coordinate industry cut-over for service live.

34.2.10 Documentation

- Provide Process Flow descriptions of the porting processes, messages, timer definitions, system interfaces, and data for MCHA that will be available to all operators.
- Provide an External Interface (Interface Specification) that describes the mechanized external [Simple Object Access Protocol (SOAP)] interface to the MCHA that will be available to all operators.
- Provide an End-User Guide containing instructions for service providers who use the MCHA Graphical User Interface (GUI).
- Distribute the documentation accordingly (i.e. password protected web site download, email distributions, etc.)

34.2.11 Training

- The Licensee shall impart extensive, comprehensive technical, commercial training on MNP system to officers of TRAI/DoT for at least 80 man-weeks at India/ abroad on cost of Licensee. However, expenditure on TA/ DA for such trainings will be borne by TRAI/DoT.
- Conduct training for Permitted or Authorized Users (“MCHA End-User Training”).

- Provide training materials in advance of the training class via electronic media.

34.2.12 Program Management

- Identify preparation activities to assist TRAI/DoT coordinate and manage the launch of Mobile Number Portability (MNP) in India.
- Designate a single point of contact Project Manager to develop a Project Plan who will work with the TRAI/DoT and manage the activities set forth in the Project Plan.

34.3 Service Operations and Maintenance

34.3.1 Service Delivery

- All **technical-hardware &** support to Access Services Providers, NLD and ILD operators to provide MNP services to Mobile Subscriber in accordance with the terms and conditions as defined by DOT/TRAI from time to time.
- Automatically process transactions between the pertinent Donor Operator(s) and Recipient Operator(s) in connection with requests by mobile Subscribers for the porting of their mobile numbers using the MCHA system.
- Store ported mobile numbers and their routing information in a reference database, as well as any revisions and updates of the database.
- Enable Access Services Operator/ NLD, ILD operator's information systems to access and communicate with the MCHA System for port processing and notification distribution.
- Generate reports with statistical information related to MNP Services activity for billing purposes including activity level reports, porting history, port in and port out request as may be required from time to time.
- Timely broadcasting of porting updations.
- Updating database of deactivated / surrendered 'ported number' and timely information to Number Rangeholder

34.3.2 Help Desk Support

- Provide and staff a Help Desk to support access service / NLD / ILD operators users 24X7.
- Provide Level 1 and Level 2 user support to Access Services / NLD / ILD .
- Log and refer to systems administration personnel any issues related to MCHA Systems, hardware, third party software, and connectivity.
- Ensure the accuracy and timeliness of any information which is input into the MCHA System and processing the data obtained by its use of the System.
- Provide application level security through authentication procedures for operator access to the MCHA System **SOAP** Interface and the graphical user interface (GUI).
- Provide, maintain and use a standard Help Desk trouble ticketing system which can allow operators to access and enter trouble reports and requests for assistance to include incidents,

severity levels and other related information and operators to query and check on the status of their requests.

- Problem Determination Intervals:
 - Severity 1 Defects: XXXXX
 - Severity 2 Defects: XXXXX
 - Severity 3 Defects: XXXXX
- Restoration Interval:
 - Severity 1 Defects: XXXXX
 - Severity 2 Defects: XXXXX
 - Severity 3 Defects: XXXXX
- Resolution Interval:
 - Severity 1 Defects: XXXXX
 - Severity 2 Defects: XXXXX
 - Severity 3 Defects: XXXXX

34.3.3 System Administration

- Provide MCHA Systems administration of logon activation and security for operators, TRAI/DoT and other authorized users.
- Provide access for law enforcement and other security agencies to the porting data.
- Provide logon administration:
 - Assisting with new logon requests;
 - Initialization of logon id, password, and security level;
 - Adding new Service Providers as users to the System;
 - Notifying Service Providers of logon activation; and
 - Resolving problems with existing logon ids or passwords.

34.3.4 Database Backup and Restoration

- Provide for weekly reboots, daily back-ups, and weekly archiving.
- Provide for full MCHA database backups that are automatically performed.
- Perform incremental MCHA database backups each night during business days.
- Perform file system backup and MCHA database backup before and after the initial installation, and before and after each upgrade to the System.
- In case restoration is needed, recover, as appropriate, all data from the media for the last full MCHA database backup and/or data from the media for the last incremental backup.
- Send copies of the backup media to the backup/disaster recovery site and also to an outside storage facility each week.

34.3.5 Hardware & Software Maintenance

- Maintain the hardware and software including third party software at all sites.
- Resolve technical errors in the clearinghouse software, hardware or system design.
- Provide Maintenance Releases whose timing and content shall be determined by the Clearinghouse Provider as deemed needed to keep the MCHA System and services functioning.
- Communicate the features and update schedule of each release to TRAI/DoT prior to general availability in the System.

34.3.6 System & Network Monitoring

- Provide monitoring of the hardware & third party software at both sites on a 24/7 basis.
- Perform complete monitoring of the system, including but not limited to following:
 - Network connectivity
 - Hardware - Memory Usage, CPU usage, Hard Disk Usage (inc. storage array and server internal disks)
 - Third party software
 - Application processes
- Monitor, manage, and maintain connectivity between the operator point of presence and the MCHA system.
- Provide load balancing to distribute Internet traffic between multiple web or database servers.

34.3.7 Performance Engineering

- Monitor and track capacity and throughput characteristics of the MCHA system.
- Compile data continually and analyze how well the system conforms to the requirements from time to time.
- Establish proactive plans to upgrade the system to meet increasing load to maintain service level commitments.

34.3.8 Invoicing, Billing & Collecting

- Generate monthly reports on porting activity for each operator for porting to be billed based on TRAI's regulation/orders/direction in the matter.
- Provide a Monthly Usage Report of the previous month's activity that may include the number of transactions and subscription services per Operator.
- Create operator invoices based on Monthly Report.
- Deliver invoices to operators specifying the payment remittance to the Collection Account.
- Collect and register all operator payments.

34.3.9 Business Continuity Planning

- Develop a Business Continuity Plan based on a disaster recovery strategy.

- Coordinate, if needed, and confirm results of Disaster Recovery dry-run for operator fail-over from Production System to Disaster Recovery System.

34.3.10 Program Management

- Review the decisions and action items arising from post-live and ongoing program management meetings with DOT/TRAI and the Operators.
- Conduct project review meetings with TRAI/DoT and provide status reports at a frequency to be mutually agreed to by the Clearinghouse Provider and TRAI/DoT.
- Attend meetings to review monthly performance reports, proposed changes, operational optimization, new service requirements and outstanding incidents.

35. The Applicable System

35.1 In the process of operating the Services, the Licensee shall be responsible for:-

- (i) the proper upkeep and maintenance of the equipment;
- (ii) maintaining the criteria of performance;
- (iii) maintaining the **QoS as mandated by concerned authority**.

36. Engineering Details

- (a) The Licensee shall furnish to the Licensor or its authorised representative(s), in such manner and at such times as may be required, complete technical details with all **calculations** for engineering, planning and dimensioning of the system/ network, concerned relevant literature, drawings, installation materials regarding the applicable system.
- (b) **List of performance tests shall be furnished by the Licensee to the licensor /TEC three month prior to the date of commissioning of service.**
- (c) Licensee shall supply all tools, test instruments and other accessories to the testing party of Licensor and /or TEC for conducting tests, if it so desires, prior to commissioning of the service or at any time during the currency of the Licence.
- (d) Any delay on part of the LICENSEE in offering the system for conducting performance tests to TEC/ Licensor will not be considered as the valid reason for non-fulfillment of the Roll-out obligations imposed by the terms of this Licence.

37. Network Interconnection

37.1 Interconnection to the networks of telecom service providers shall be provided , within the overall framework of interconnection regulations issued by the TRAI from time to time.

37.2 The Interconnection Tests for each and every interface with any Service provider may be carried out by mutual arrangement between the Licensee and the other party involved. The Interconnection Tests schedule shall be mutually agreed.

38. Interface

38.1 MNP service provider shall be responsible to resolve inter-operability issues with various telecom service providers.

38.2 The LICENSEE shall operate and maintain the licensed Network conforming to Quality of Service standards to be mutually agreed in respect of Network- Network Interface. For the purpose of providing the SERVICE, the LICENSEE shall install his own equipment so as to be compatible with other service providers' equipment to which the licensee's Applicable Systems are intended for interconnection. The Licensee shall be solely responsible for attending to claims and damages arising out of his operations.

38.3 The additional telecommunication resources for the provision of the service and networking the geographically dispersed equipment of the LICENSEE shall be leased/rented on mutually agreed terms from service providers including BSNL, MTNL or authorised Telecom Service Providers.

38.4 The interconnection and technical interfaces between networks of MNP service provider(s) and Telecom service provider(s) shall be governed by the orders/notifications of the TRAI issued from time to time on interconnection/access charges.

38.5 The network resources including the cost of upgrading/modifying interconnecting networks to meet the service requirements of the licensee shall be mutually negotiated keeping in view the orders and regulations issued by the TRAI from time to time.

38.6 MNP licensee shall be responsible to successfully inter-connect, inter-work and inter-operate their NPDB, QRDB, MCH system with NP Gateway and Local DB network/ system at Telecom service provider end through sharing of information, modification in system or interfaces, and inter-action, coordination with the telecom service providers as detailed in the tender.

39. Quality of Service

39.1 The LICENSEE shall ensure the Quality of Service (QoS) as prescribed by the LICENSOR or TRAI. The LICENSEE shall adhere to such QoS standards and provide timely information as required therein.

39.2 The Licensee shall be responsive to the complaints lodged by his subscribers. He shall rectify the anomalies within the MTTR specified and maintain the history sheets for each installation, statistics and analysis on the overall maintenance status.

39.3 MTBF: The Licensee shall deploy an applicable system to meet MTBF specified by TRAI/DOT for provision of MNP services.

39.4 The LICENSOR or TRAI shall carry out performance tests on Licensee's network and also evaluate Quality of Service parameters in licensee's network prior to grant of permission for commercial launch of the service after successful completion of interconnection tests and/or at any time during the currency of the Licence to ascertain that the network meets the specified standards

on Quality Of Service (QOS). The licensee shall provide ingress and other support including instruments, equipment etc., for such tests.

PART-V OPERATING CONDITIONS

40. Customer Service

40.1 The LICENSEE shall be bound to interconnect in order to provide MNP service to all the licensed telecom service providers (Basic Service, UAS, CMTS, NLD and ILD licensees) without any discrimination, unless directed otherwise by the LICENSOR in writing.

40.2 It shall be the responsibility of the Licensee to issue or cause to be issued bills to the **UAS/CMTS licensees** for use of the service. The Licensee shall maintain such records so as to produce itemised billing information. The billing system of the licensee shall be able to generate the billing information, in adequate details, to ensure satisfaction to the access services licensees i.e. UAS/CMTS licensees, about the genuineness of the bill. The directions of TRAI, from time to time, in this regard shall apply.

40.3 The LICENSEE's contractual obligations to various Telecom Service Providers will include terms and conditions under which the SERVICE may be obtained, utilised and terminated.

40.4 The LICENSEE shall notify in writing all the arrangements with respect to repair, fault rectification, compensation or refunds. All complaints in this regard will be addressed / handled as per the guidelines, order or regulation or direction issued by the LICENSOR or TRAI from time to time.

40.5 Any dispute, with regard to the provision of SERVICE shall be a matter only between the aggrieved party and the LICENSEE, who shall duly notify this to all before providing the SERVICE. And in no case the LICENSOR shall bear any liability or responsibility in the matter.

41. Roll-out Obligations

41.1 LICENSEE shall ensure the commissioning of MNP service as per **condition 18**, failing which liquidated damages will be levied as per **condition 42**.

42. Liquidated Damages

42.1 The time period stipulated in the **condition 18** regarding 'Delivery of Service' in this Licence shall be deemed as the essence of the contract and the service must be brought into commission not later than such specified time period. No extension in delivery date will be granted. If the Service is brought into commission after the expiry of the due date of commissioning, without prior written concurrence of the licensor and is accepted, such commissioning will entail levy of Liquidated Damages (LD) under this Condition.

42.2 In case the LICENSEE fails to bring the Service or any part thereof into commission (i.e., fails to deliver the service or to meet the required roll out obligations) within the period prescribed for the commissioning, the Licensor shall be entitled to recover LD charges for failure of delivery of Service/ Roll Out obligations. The applicable LD charges shall be Rs.10,000 (Rupees ten thousand) per fortnight for the first 3 months, Rs. 50,000 (Rupees fifty thousand) per fortnight for the next 3 months and Rs.1 lakh per fortnight for the further 6 months delay. Part of the fortnight is

to be considered as a full fortnight for the purpose of calculating the LD charges. For delay of more than 12 months the Licence may be terminated under the terms and conditions of the Licence agreement. The fortnight shall mean 15 Calendar days.

42.3 The Liquidated Damages (LD) under this Condition shall be imposed separately against failure of compliance of **condition 41**.

43. Obligations imposed on the Licensee

43.1 The provisions of the Indian Telegraph Act 1885, Indian Wireless Telegraphy Act, 1933, Information Technology Act, 2000 and the Telecom Regulatory Authority of India Act, 1997 as modified from time to time or any other statute on their replacement shall govern this LICENCE.

43.2 The LICENSEE shall furnish all necessary means and facilities as required for the application of provisions of Section 5(2) of the Indian Telegraph Act, 1885, whenever occasion so demands. Nothing provided and contained anywhere in this Licence Agreement shall be deemed to affect adversely anything provided or laid under the provisions of Indian Telegraph Act, 1885 or any other law in force.

44. Inspection and Testing of Installations.

44.1 The Licensor / TRAI may also carry out all performance tests required for checking Quality of Service, if it so desires. The LICENSEE shall supply all necessary literature, drawings etc. regarding the equipment installed and shall also supply all the tools, test instruments and other accessories to the testing party of the LICENSOR / TRAI for conducting the tests. The list of performance tests will be furnished by the LICENSEE three month prior to the date of commissioning to the Licensor. In case the Licensor chooses to conduct performance test and some deficiency is found therein by the licensor, the delay caused for rectification of the deficiencies, if any, will be entirely on account of the LICENSEE.

44.2 The testing for each and every interface with the telecom service providers may be carried out by mutual arrangements between the LICENSEE and the other party involved. The Test schedule shall be mutually agreed.

PART-VI SECURITY CONDITIONS

45. Right to inspect.

45.1 The LICENSOR or its authorised representative shall have right to inspect the sites used for extending the Service and in particular but not limited to, have the right to have access to leased lines, junctions, terminating interfaces, hardware/software, memories of semiconductor, magnetic and optical varieties, wired or wireless options, distribution frames, and conduct the performance test including to enter into dialogue with the system through Input/output devices or terminals. The LICENSEE will provide the necessary facilities for continuous monitoring of the system, as required by the LICENSOR or its authorised representative(s). The Inspection will ordinarily be carried out after reasonable notice except in circumstances where giving such a notice will defeat the very purpose of the inspection.

45.2 Wherever considered appropriate LICENSOR/TRAI may conduct any inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of terms & conditions of the LICENCE by the LICENSEE and for such inquiry the LICENSEE shall extend all reasonable facilities without any hinderance.

46. Location of MNP Systems:

46.1 The LICENSEE shall provide to the LICENSOR location details of MNP systems (Main and DR), location of telecom service providers systems connected with Main and DR systems of the licensee, including routing details etc., and location of these centres shall not be changed without prior approval of the LICENSOR.

46.2 In issues which are sensitive from security point of view, as may be notified from time to time by the LICENSOR, implementation / provisioning of MNP service in such cases shall be taken up only after the LICENSOR's approval.

47. Confidentiality of information:

47.1 The licensee shall not employ bulk encryption equipment in its network. Any encryption equipment connected to the LICENSEE's network for specific requirements has to have prior evaluation and approval of the LICENSOR or officer specially designated for the purpose.

47.2 Subject to conditions contained in these terms and conditions, the LICENSEE shall take all necessary steps to safeguard the privacy and confidentiality of any information about a third party and its business to whom it provides the SERVICE and from whom it has acquired such information by virtue of the SERVICE provided and shall use its best endeavors to secure that :

- a) No person acting on behalf of the LICENSEE or the LICENSEE divulges or uses any such information except as may be necessary in the course of providing such SERVICE to the Third Party; and
- b) No such person seeks such information other than is necessary for the purpose of providing SERVICE to the Third Party.

Provided the above para shall not apply where:

- a) The information relates to a specific party and that party has consented in writing to such information being divulged or used, and such information is divulged or used in accordance with the terms of that consent; or
- b) The information is already open to the public and otherwise known.

47.3 The LICENSEE shall take necessary steps to ensure that the LICENSEE and any person(s) acting on its behalf observe confidentiality of customer information.

47.4 The LICENSEE shall, prior to commencement of SERVICE, confirm in writing to the LICENSOR that the LICENSEE has taken all necessary steps to ensure that it and its employees shall observe confidentiality of customer information.

- (i) In the interests of security, suitable monitoring equipment as may be prescribed for each type of system used will be provided by the LICENSEE for monitoring as and when required by LICENSOR. The specific orders or directions from the Government, issued under such conditions, shall be applicable.
- (ii) LICENSEE will ensure that the installation carried out by it should not become a safety hazard and is not in contravention of any statute, rule or regulation and public policy.

48. Prohibition of certain Activities by the Licensee.

48.1 The LICENSEE shall not engage on the strength of this LICENCE in the provision of any other Service other than the SERVICE as defined in this Licence Agreement.

48.2 To remove any doubt, it is, hereby, clarified that nothing contained in condition in Para above shall preclude the LICENSEE from engaging in advertising and promotional activities relating to MNP service.

48.3 The LICENSEE shall take necessary measures to prevent objectionable, obscene, unauthorised or any other content, messages or communications infringing copyright, intellectual property etc., in any form, from being carried on his network, consistent with the established laws of the country. Once specific instances of such infringement are reported to the LICENSEE by the enforcement agencies, the LICENSEE shall ensure that the carriage of such material on his network is prevented immediately. Any damages arising out of default on the part of LICENSEE in this regard shall be borne by the LICENSEE.

48.4 The LICENSEE is obliged to provide, without any delay, tracing facility to trace nuisance obnoxious or malicious calls, messages or communications through his equipment and network from one access services operator to other operator. Any damages arising out of default on the part of LICENSEE in this regard shall be borne by the LICENSEE.

48.5 In case any confidential information is divulged to the LICENSEE for proper implementation of the Agreement, it shall be binding on the Licensee and its employees and servants to maintain its secrecy and confidentiality.

49. Information on Ported Numbers to Security Agencies:

49.1 MNP Licensee shall provide updated database of ported numbers or other details as may be required by the Licensor/designated security agencies in the format required by them as per directions issued by the Licensor from time to time.

50. Security Conditions:

50.1 The LICENSEE shall provide necessary facilities depending upon the specific situation at the relevant time to the Government to counteract espionage, subversive act, sabotage or any other unlawful activity.

50.2 All foreign personnel likely to be deployed by the LICENSEE for installation, operation and maintenance of the LICENSEE's network shall be security cleared by the Government of India prior to their deployment. The security clearance will be obtained from the Ministry of Home Affairs, Government of India, who will follow standard drill in the matter.

50.3 The LICENSEE shall ensure protection of privacy of communication and ensure that unauthorized interception of messages does not take place.

50.4 LICENSOR reserves the right to modify these conditions or incorporate new conditions considered necessary in the interest of national security and public interest or for proper provision of TELEGRAPH.

50.5 In the interests of security, suitable monitoring equipment as may be prescribed for each type of system used will be provided by the LICENSEE for monitoring as and when required by LICENSOR. The specific orders or directions from the Government, issued under such conditions, shall be applicable.

50.6 The designated person of the Central/State Government as conveyed to the Licensor from time to time in addition to the Licensor or its nominee shall have the right to monitor the transactions and installations or any other technically feasible point in the network set up by the licensee. The hardware at licensee's end and software required for such monitoring shall be engineered, provided/installed and maintained by the Licensee at licensee's cost. However, the respective Government instrumentality shall bear the cost of user end hardware and leased line circuits from the MNP Licensee's installations to the monitoring centres to be located as per their choice in their premises or in the premises of the licensee. In case the security agencies intend to locate the equipment at licensee's premises for facilitating monitoring, the licensee should extend all support in this regard including Space and Entry of the authorised security personnel. The Interface requirements as well as features and facilities as defined by the Licensor should be implemented by the licensee. The Licensee should ensure suitable redundancy in the complete chain of Monitoring equipment for trouble free operations of monitoring as may be notified from time to time.

50.7 LICENSOR shall have the right to take over the SERVICE, equipment and networks of the LICENSEE (either in part or in whole of the MNP Zone) in case any directions are issued in the public interest by the Government of India in the event of a national emergency / war or low intensity conflict or any other eventuality. Any specific orders or directions from the Government of India issued under such conditions shall be applicable to the LICENSEE and shall be strictly

complied with. In case equipment/ services are taken over by the Licensor after 5 years from effective date of the Licence, no compensation shall be payable.

50.8 In such case, compensation, if any, including the charges for taking over the equipment, if these are taken would not be more than amortized value of the equipment and net profit calculated at the rate of the net profit of the previous quarter (loss, however, will be ignored) for the balance period of time i.e. period between time taken over and five years when the exclusive right otherwise would have been completed.

50.9 The Licensor or its representative(s)/ designated security agencies will have an access to the Database, transactions / messages relating to the porting of mobile subscribers, on-line / off-line access to Licensee's network and other facilities as well as books of accounts etc.

50.10 The Licensee shall maintain all commercial records with regard to the messages exchanged on the network. Such records shall be archived for at least three year for scrutiny by the Licensor for security reasons and may be destroyed thereafter unless directed otherwise by the licensor.

50.11 The Licensee company shall take adequate and timely measures to ensure that information transacted through its network is secure and protected. The Licensee company has to ensure that the system has security management process and control for a number of different roles ranging from system administrators, government and for the operators. The Licensee company shall ensure that the network/system is protected from unauthorized access. The data and system integrity should be ensured. The data centres should conform to the highest industry norms and necessary ISO certifications.

50.12 Remote access of the system for the purpose of operation, maintenance & monitoring will be as per the Licensor's orders in force from time to time.

50.13 Active support must be extended by the service providers to the respective Telecom Enforcement, Resource & Monitoring (TERM) cells of DoT or any authorized agency of DoT for detection of any clandestine / illegal telecommunications activity. For this purpose, names of the Nodal officers & alternate Nodal Officers in respect of licensed MNP Zone as communicated to the Intelligence/security Agencies should also be forwarded to respective TERM cell of DoT, DDG(Security) DoT and Access Services Cell of DoT. The TERM Cell of DoT or any other designated officer of DoT will contact the Nodal Officer / alternate Nodal officer, and till the time such nomination is received or in case of non-availability of such officer, the TERM Cell will contact the Chief Executive Officer of the licensee, for such support / coordination.

50.14 The LICENSEE shall also ensure compliance of the following conditions:

- (i) The Chief Officer in charge of technical network operations and the Chief Security Officer should be a resident Indian citizen.
- (ii) Details of infrastructure/ network diagram (technical details of the network) could be provided on a need basis only to telecom equipment suppliers/manufacturers and the affiliate/parents of the licensee company. Clearance from the licensor (Department of Telecommunications, Government of India) would be required if such information is to be provided to anybody else.

- (iii) The licensee company shall take adequate and timely measures to ensure that the information transacted through a network by the subscribers is secure and protected.
- (iv) The officers/officials of the licensee companies dealing with the lawful interception of messages will be resident Indian citizens.
- (v) The majority Directors on the Board of the Licensee company shall be Indian citizens.
- (vi) The positions of the Chairman, Managing Director, Chief Executive Officer (CEO) and/or Chief Financial Officer (CFO), if held by foreign nationals, would require to be security vetted by Ministry of Home Affairs (MHA). Security vetting shall be required periodically on yearly basis. In case something adverse is found during the security vetting, the direction of MHA shall be binding on the licensee.
- (vii) The Licensee shall not transfer the following to any person/place outside India:-
 - (a) Any accounting information relating to the customers (Note: it does not restrict a statutorily required disclosure of financial nature) ; and
 - (b) User information
- (viii) The Licensee shall familiarize/ provide training to the Telecom Enforcement, Resource & Monitoring (TERM)/ security agency officers/ officials in respect of relevant operations/ features of their systems.

51. Application of Indian Telegraph Act

51.1 The LICENSEE shall adopt all means and facilitate in every manner the application of the Indian Telegraph Act, 1885 as modified or replaced from time to time. The Service shall be provided in accordance with the provisions of Indian Telegraph Rules as modified and amended from time to time.

51.2 As per the provision of Section 5 of Indian Telegraph Act, the licensee will provide necessary facilities to the designated authorities of Central/State Government as conveyed by the Licensor from time to time for interception of the messages passing through its network.

Section 5 (2) of the Indian Telegraph Act 1885 reads as under:

“On the occurrence of any public emergency or in the interest of public safety, the Central Government or a State Government or any officer specially authorised in their behalf by the Central Government or a State Government may, if satisfied that it is necessary or expedient to do so in the interest of the sovereignty and integrity of India, the security of the State, friendly relations with foreign states or public order or for preventing incitement to the commission of an offense for class or messages to or from any person or class of persons or relating to any particular subject, brought for transmission by or transmitted or received by any telegraph, shall not be transmitted or shall be intercepted or detained or shall be disclosed to the Government making the order or an officer thereof mentioned on the order:

Provided that press messages intended to be published in India of correspondents accredited to the Central Government or a State Government shall not be intercepted or detained, unless their transmission has been prohibited under this subsection.”

Glossary and Definition of Terms and Expressions**A. Glossary**

S.No.	Abbreviation	Expansion
1.	CEO	Chief Executive Officer
2.	CFO	Chief Financial Officer
3.	CH	Clearing House
4.	CMSP	Cellular Mobile Service Provider
5.	DNS	Domain Name System
6.	DoT	Department of Telecommunications, Govt. of India
7.	DR	Disaster Recovery
8.	ENUM	E Number
9.	FCCBs	Foreign Currency Convertible Bonds
10.	FDI	Foreign Direct Investment
11.	FII	Foreign Institutional Investors
12.	FIPB	Foreign Investment Promo
13.	GDRs	Global Depository Receipts
14.	GSM	Global System for Mobile Communication
15.	ILDO	International Long Distance Operator
16.	LRN	Locational Routing Number
17.	MCHA	Mobile Number Portability Clearing House
18.	MHA	Ministry of Home Affairs
19.	MMS	Multimedia Messaging Service
20.	MNP	Mobile Number Portability
21.	NLDO	National Long Distance Operators
22.	NP	Number Portability
23.	NPDB	Number Portability Database
24.	PBG	Performance Bank Guarantee
25.	QNPDB	Network Portability database query response system
26.	QoS	Quality of Service
27.	RDB	Reference Database
28.	RFP	Request for Proposal
29.	SIP	Session Initiation Protocol
30.	SLA	Service Level Agreement
31.	SMS	Short Message Service
32.	TEC	Telecom Engineering Center
33.	TRAI	Telecom Regulatory Authority of India
34.	UASL	Unified Access Service License

Note: All definitions like telecom service provider, access service provider, etc., in the document may be taken from the existing service licenses issued by the DoT, a copy of the same is available on the DoT's website.

B. Definition of Terms and expressions

Unless the context otherwise requires, the different terms and expression used shall have the meaning assigned to them in the following paragraphs:

1. **APPLICABLE SYSTEMS:** The "applicable system" means all the necessary equipment/ sub-systems engineered to provide MNP SERVICE in accordance with operational/technical and quality requirements and other terms and conditions of the Licence agreement.
2. **Auditor** means the Licensee's auditor for the time being appointed for the purpose and in accordance with the provisions of the Companies Act, 1956.
3. **Cellular Mobile Telephone Service Provider (CMSP)** means a licensee authorised to provide cellular mobile telephone service under a licence, to provide the service in a specified service area.
4. **Connectable System** means a telecommunication system which is authorised to be run under a Licence to provide public telecommunications service and is authorised to be connected to the Applicable system.
5. **DIRECT EXCHANGE LINE (DEL):** A telephone connection between the subscriber's terminal equipment and the terminal exchange.
6. **DOT** means Department of Telecommunications, Government of India who is also the **Licensor**. DoT & Licensor, wherever used in the Licence agreement are inter-changeable.
7. **EFFECTIVE DATE:** The effective date is the date which is so specified in this license agreement.
8. **Emergency** means an emergency of any kind, including any circumstances whatever resulting from major accidents, natural disasters and incidents involving toxic or radio-active materials.
9. **Emergency Services** in respect of any locality means the relevant public, police, fire and ambulance services for that locality.
10. **ENGINEERING:** The technical application of the dimensioning rules and results thereof in order to provide network resources to meet specified Grade of Service (GOS).
11. **LICENCE:** Licence means a Licence granted or having effect as if granted under section 4 of the Indian Telegraph Act 1885 and Indian Wireless Act 1933.

12. **LICENSEE:** A Company registered under the Companies Act, 1956 and the bidder that has been awarded Licence to provide the MNP service in India.
13. **Message** means anything falling within sub-section (3) of section 3 of the Indian Telegraph Act 1885.
14. **“Mobile Switching Centre, also known as MSC”** means the switching equipment installed as a part of the network which performs all switching functions of calls for providing various services under the scope of this Licence. All the commercial information and data bases reside in the MSC.
15. **“Operator”** means any person who is Licensed to run a Relevant Connectable System;
16. **OR/QR Specifications** means technical and quality requirements contained in the OR/QR Specifications of Telecom Engineering Centre, Department of Telecommunications unless otherwise specified.
17. **Public Switched Telephone Network (PSTN)** means a fixed specified switched public telephone network. A two-way switched telecommunications service to the general public.
18. **Public Land Mobile Network (PLMN)** means land based mobile network e.g. Cellular Mobile Telephone Service being operated within the country under Licence from Telecom Authority on non-exclusive basis.
19. **QUALITY OF SERVICE:** "Quality of Service" is evaluated on the basis of observable measure on the grade of service, Calls lost due to wrong processing, the bit error rate or the response time and also includes acceptable grade of number of faults per unit population of the subscriber served, the mean time to restore (MTTR), faults carried over beyond the MTTR and the satisfactory disposal thereof.
20. **Subscriber:** Subscriber means any person or legal entity, which avails of the Mobile Telecom Service from the Licensed telecom access service providers.
21. **TELECOM AUTHORITY:** The Director General, Telecommunications, Government of India and includes any officer empowered by him to perform all or any of the functions of the Telegraph Authority under the Indian Telegraph Act, 1885 or such authority as may be established by law.
22. **TRAI** means Telecom Regulatory Authority of India constituted under the TRAI Act, 1997 as amended from time to time.

ANNEXURE-II

(Performa for Affidavit regarding details of calculation of “Revenue” and “Licence Fee”)

AFFIDAVIT

I, aged about years son of Shri, resident of, do solemnly affirm and state as under:

2. That I amof (Name of the Company), LICENSEE of Service inService Area and I am duly authorised by the resolutions dated passed by Board of Directors of the Company to furnish affidavit on behalf of(Name of the Company).
3. That in compliance of **Condition** No.. Of Schedule.....Part and **Annexure**.....of the Licence Agreement No. signed between the Company and the Department Of Telecommunications, for payment of Licence fee, a payment of Rs. (Rupees is being made for the period to The details of calculation of ‘revenue’ and Licence fee is as per **Appendix-II** (attached).
4. That the contents in para 2 & 3 and Statement made in **Annexure** ___ are true and correct to the best of my knowledge, based on the records of the company.

Deponent.

VERIFICATION:

Verified at _____ on _____ that the contents of paragraphs 1 to 3 of this Affidavit and attached ‘Statement of Revenue and Licence Fee’ as Annexure are true and correct to the best of my knowledge, no part of it is false and nothing has been concealed therefrom.

Deponent.

APPENDIX –I TO ANNEXURE-II

Format of Auditor’s Report On Statement Of Revenue And Licence Fee

To
The Board of Directors
.....
.....

We have examined the attached Statement of Revenue and Licence Fee of(the name of the operators) for the quarter(s) ending _____ . We have also examined the reconciliation of the cumulative figures for the quarter(s) ending _____ appearing in the Statement of Revenue and Licence Fee of the company with the figures appearing in the profit and loss account of the company for the year ended _____ which was audited by us. We understand that the aforesaid statement(s) (and the reconciliation) is /are to be furnished to the Central Government for assessment of the Licence fee payable by the company to the Government, in terms of the Licence agreement No..... signed between the company and the Department of Telecommunications.

We report that:

1. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit.
 2. In our view, the company has an adequate internal control system in relation to revenues which is commensurate with its size and the nature of its business. The system, in our opinion, provides reasonable assurance that there is no unrecorded revenue and that all revenue is recorded in the proper amount and in the proper period.
 3. No amounts payable in respect of sales tax, service tax or PSTN/toll/roaming charges were outstanding at the last day of the quarter(s) for a period of more than two months from the date they became payable, except for the following:.....
 4. In our opinion and to the best of our knowledge and belief and according to the explanations given to us, the Statement has been prepared in accordance with the norms/guidelines contained in the said Licence agreement in this behalf and gives a true and fair view of the revenue and Licence fee payable for the period computed on the basis of the aforesaid guidelines except for the following:
- * Strike off wherever not applicable.

(SIGNATURE)

APPENDIX-II TO ANNEXURE-II

Format of Statement of Revenue and Licence Fee
_____ (Name and address of operator)
Mobile Number Portability in _____ (MNP Zone)
Statement of Revenue and Licence Fee for the Quarter
of the financial year.....

The Gross Revenue shall be inclusive of revenue from services, Porting fees, sale proceeds of any software & hardware items, revenue on account of interest, dividend, capital gains, value added services, supplementary services, access or interconnection charges, revenue from permissible sharing of infrastructure and any other miscellaneous revenue etc., without any set-off from related items of expense.

(Please note that mere mention of certain activities in this proforma does not explicitly permit the licensee such activities)

(AMOUNT IN RUPEES)

S.N.	PARTICULARS	ACTUALS FOR THE PREVIOUS QUARTER	ACTUALS FOR THE CURRENT QUARTER	CUMULATIVE UPTO THE CURRENT QUARTER.
1.	Revenue from services			
(i)	Revenue from Mobile Number Porting fees			
(ii)	Revenue from Bureau/ Outsourcing/ Support services			
2.	Revenue from other services			
(i)	sale proceeds of any software items			
(ii)	sale proceeds of any hardware items			
(iii)	Charges on account of any value added services, Supplementary Services etc.			
(iv)	access or interconnection charges			
(v)	any other revenue			
3.	Sales tax			
4.	Service tax			

5.	Service charges			
6.	Income from investments			
(i)	Interest income			
(ii)	Dividend income			
(iii)	Any other miscellaneous receipt from investments.			
7.	Non-refundable deposits			
8.	Revenue from franchisees /resellers including all commissions and discounts etc.			
9.	Revenue from sharing/ leasing of infrastructure			
10.	GROSS REVENUE OF THE LICENSEE COMPANY:			
11.	DEDUCT:			
(i)	Service Tax actually paid to the Government			
(ii)	Sales Tax actually paid to the Government			
12.	TOTAL DEDUCTIBLE REVENUE			
13.	ADJUSTED GROSS REVENUE (AA-BB)			
14.	REVENUE SHARE @ ----- OF ADJUSTED GROSS REVENUE			

NORMS FOR PREPARATION OF ANNUAL FINANCIAL STATEMENTS

- Accounts shall be maintained separately for the MNP Zone operated by the LICENSEE company.
- Any category of accrued revenue, the amount of which exceeds 5% of the total accrued revenue, shall be shown separately and not combined with any other item/category.
- Accrued Revenue shall indicate:
 - (a) All amounts billable for the period.
 - (b) Any billings for previous years that had been omitted from the previous years' P&L Accounts.
 - (c) Any non-refundable deposits collected from the customers/franchisees to the extent these are credited to P&L Account for the year.
- Subsidiary registers/ledgers shall be maintained for each item given above so as to enable easy verification.
- Service revenue (amount billable) shall be shown gross and details of discount/rebate indicated separately.
- Security or any other Deposits taken from the subscriber shall be shown separately, for each category, and the amount that has fallen due for refund but not yet paid also disclosed under two categories, namely:
 - Up to 45 days
 - More than 45 days.
- Service Tax billed, collected and remitted to the Government shall be shown separately.
- Sales Tax billed, collected and remitted to the Government shall be shown separately.
- Details of Income from sales of goods shall be furnished indicating the income and number of items sold under each category. Method of inventory valuation used shall also be disclosed along with computation of cost of goods sold.
- Sales shall be shown gross and details of discount/rebate allowed and of sales returns shall be shown separately.
- Income from interest and dividend shall be shown separately, without any related expenses being set-off against them on the income side of the P&L Account.
- Increase/decrease of stock shall be shown separately.
- Details of reversal of previous years' debits, if any, shall be shown component-wise, under the miscellaneous head (eg. Bad debts recovered etc.)
- Item-wise details of income that has been set off against corresponding expenditure.

Proforma for Financial Bank Guarantee

To

The President of India

In consideration of the President of India (hereinafter called 'the Authority') having agreed to grant a Licence to M/s _____ of _____ (hereinafter called 'the LICENSEE') to establish, maintain and operate MNP Service (hereinafter called 'the SERVICE') in _____ Zone (Name of MNP Zone) in accordance with the Letter of Intent/ Licence No. _____ dated _____ (hereinafter called 'the Licence') on the terms and conditions contained in the said Licence, which inter-alia provides for production of a Bank Guarantee to the extent of Rs. _____ (in words _____) under the said Licence by way of security for payment of the said Licence fee as well as such other fees or charges required to be paid by the LICENSEE under the Licence. We _____ (indicate the name and address and other particulars of the Bank) (hereinafter referred to as 'the Bank') at the request of the LICENSEE hereby irrevocably and unconditionally guarantee to the Authority that the LICENSEE shall pay all the dues, including but not limited to, the Licence fee etc. to the Authority.

2. We, the Bank, hereby undertake to pay the Authority an amount not exceeding Rs.....(Rupees.....only) against any loss or damage caused to or suffered or would be caused to or suffered by the Authority by reason of any failure of the LICENSEE to extend the validity of the guarantee or give a fresh guarantee in lieu of existing one in terms of the Licence Agreement, pay all the above mentioned fees, dues and charges or any part thereof within the periods stipulated in the Licence.

3. We, the Bank, hereby further undertake to pay as primary obligor and not merely as surety to pay such sum not exceeding Rs. _____ (Rupees _____ Only) to the Authority immediately on demand and without demur stating that the amount claimed is due by way of failure of the LICENSEE to pay any fees or charges or any part thereof in terms of the said Licence.

4. WE, THE BANK, DO HEREBY DECLARE AND AGREE that the decision of the Authority as to whether LICENSEE has failed to pay the said Licence fees or any other fees or charge or any part thereof payable under the said Licence and as to the amount payable to the Authority by the Bank hereunder shall be final and binding on us.

5. WE, THE BANK, DO HEREBY DECLARE AND AGREE that the

(a) Guarantee herein contained shall remain in full force and effect for a period of Three Years from the date hereof and that it shall continue to be enforceable till all the dues of the Authority and by virtue of the said Licence have been fully paid and its claims satisfied or discharged or till Authority satisfies that the terms and conditions of the said Licence have been fully and properly carried out by the said LICENSEE and accordingly discharged this guarantee.

(b) The Authority shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Licence or to extend time of performance of any obligations by the said LICENSEE from time to time or to postpone for any time or from time to time any of the powers exercisable by the Authority against the said LICENSEE and to forbear or to enforce any of the terms and conditions relating to the said Licence and we shall not be relieved from our liability by reason of any variation or extension being granted to the said LICENSEE or forbearance act or omission on the part of the Authority or any indulgence by the Authority to the said LICENSEE or to give such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

(c) Any claim which we have against the LICENSEE shall be subject and subordinate to the prior payment and performance in full of all the obligations of us hereunder and we will not without prior written consent of the Authority exercise any legal right or remedy of any kind in respect of any such payment or performance so long as the obligations of us hereunder remains owing and outstanding.

(d) This Guarantee shall be irrevocable and the obligations of us herein shall not be conditional of any prior notice by us or by the LICENSEE.

6. We, the BANK, undertake not to revoke this Guarantee during its currency except with the previous consent of the Authority in writing.

7. Notwithstanding anything contained above, our liability, under the Guarantee shall be restricted to Rs..... and our Guarantee shall remain in force until Three years from the date hereof. Unless a demand or claim under this Guarantee is made on us in writing within this date i.e. all your rights under the Guarantee shall be forfeited and we shall be released and discharged from all liabilities thereunder.

Dated _____ day _____ for _____
(Name of the Bank)

Witness:

1..... 2.....
.....
.....

.....
.....

.....
.....

PROFORMA FOR PERFORMANCE BANK GUARANTEE

To

The President of India

In consideration of the President of India (hereinafter referred to as 'the Authority') having agreed to grant a Licence to M/s

_____ of _____
_____ (hereinafter called 'the LICENSEE') to establish, maintain and operate MNP Service (hereinafter called 'the SERVICE') in MNP Zone as per Letter of Intent/ Licence No. _____ dated _____ (hereinafter called 'the said Licence') on the terms and conditions contained in the said Licence, which inter-alia provides for production of a Bank Guarantee to the extent of Rs. _____ (in words _____) for the service by way of security for the due observance and performance of **condition 41** of the terms and conditions of the said Licence. We _____ (indicate the name and address and other particulars of the Bank) (hereinafter referred to as 'the Bank') at the request of the LICENSEE hereby irrevocably and unconditionally guarantee to the Authority that the LICENSEE shall render all necessary and efficient services which may be required to be rendered by the LICENSEE in connection with and/or for the performance of **condition 41** of the said LICENSEE and further guarantees that the service which shall be provided by the LICENSEE under the said Licence, shall be actually performed in accordance with **condition 41** of terms & conditions of the LICENCE to the satisfaction of the Authority.

2. We, the Bank, hereby undertake to pay the Authority an amount not exceeding Rs...(Rupees...only) against any loss or damage caused to or suffered or would be caused to or suffered by the Authority by reason of any breach by the said LICENSEE of **condition 41** of the terms and conditions contained in the said Licence including failure to extend the validity of this guarantee or to give a fresh guarantee in lieu of the existing one.

3. We, the Bank hereby, in pursuance of the terms of the said Licence, absolutely, irrevocably and unconditionally guarantee as primary obligor and not merely as surety the payment of an amount of Rs. _____ (Rupees _____ Only) to the Authority to secure due and faithful performance by the LICENSEE of all his/their obligations under **condition 41** of the said Licence.

4. We, the Bank hereby also undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Authority stating that the amount claimed is due by way of loss or damage caused or would be caused to or suffered by the Authority by reason of breach by the said LICENSEE of any of the terms or conditions contained in the said Licence or by reason of the LICENSEE's failure to perform any of it's obligations under **condition 41** of the said Licence."

5. We, the Bank, hereby agree that the decision of the Authority as to whether the LICENSEE has failed to or neglected to perform or discharge his duties and obligations under **condition 41** as aforesaid and/or whether the service is free from deficiencies and defects and is in accordance with or not of the **condition 41** of terms & conditions of the said Licence and as to the amount payable to the Authority by the Bank hereunder shall be final and binding on the Bank.

6. WE, THE BANK, DO HEREBY DECLARE AND AGREE that:

- (a) the Guarantee herein contained shall remain in full force and effect for a period of Two Years from the date hereof and that it shall continue to be enforceable till all the dues of the Authority and by virtue of the said Licence have been fully paid and its claims satisfied or discharged or till Authority satisfies that the **condition 41** of terms and conditions of the said Licence have been fully and properly carried out by the said LICENSEE and accordingly discharged this guarantee.
- (b) the Authority shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Licence or to extend time of performance of any obligations by the said LICENSEE from time to time or to postpone for any time or from time to time any of the powers exercisable by the Authority against the said LICENSEE and to forbear or to enforce any of the terms and conditions relating to the said Licence and we shall not be relieved from our liability by reason of any variation or extension being granted to the said LICENSEE or forbearance act or omission on the part of the Authority or any indulgence by the Authority to the said LICENSEE or to give such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.
- (c) any claim which we have against the LICENSEE shall be subject and subordinate to the prior payment and performance in full of all the obligations of us hereunder and we will not without prior written consent of the Authority exercise any legal right or remedy of any kind in respect of any such payment or performance so long as the obligations of us hereunder remains owing and outstanding.
- (d) This Guarantee shall be irrevocable and the obligations of us herein shall not be conditional of any prior notice by us or by the LICENSEE.

7. We the BANK undertake not to revoke this Guarantee during its currency except with the previous consent of the Authority in writing.

8. Notwithstanding anything contained above, our liability, under the Guarantee shall be restricted to Rs..... and our Guarantee shall remain in force until Two years from the date hereof. Unless a demand or claim under this Guarantee is made on us in writing within this date i.e. all your rights under the Guarantee shall be forfeited and we shall be released and discharged from all liabilities thereunder.

Dated _____ day _____ for _____
(Name of the Bank)

Witness: 1.....
2.....

LICENSED SERVICE AREAS OF MNP SERVICE ZONE – 1

Sr. No.	Name of Licensed Service Areas	Category of Licensed Service Areas
1.	Delhi	Metro
2.	Mumbai	Metro
3.	Maharashtra	A
4.	Gujarat	A
5.	Haryana	B
6.	Punjab	B
7.	Rajasthan	B
8.	Uttar Pradesh (E)	B
9.	Uttar Pradesh(W)	B
10.	Himachal Pradesh	C
11.	Jammu & Kashmir	C

LICENSED SERVICE AREAS OF MNP SERVICE ZONE – 2

Sr. No.	Name of Licensed Service Areas	Category of Licensed Service Areas
1.	Kolkata	Metro
2.	Tamil Nadu including Chennai	A
3.	Andhra Pradesh	A
4.	Karnataka	A
5.	Kerala	B
6.	Madhya Pradesh	B
7.	West Bengal	B
8.	Assam	C
9.	Bihar	C
10.	North East	C
11.	Orissa	C

ANNEXURE-VII**DETAILS OF LICENCED SERVICE AREA IN THE COUNTRY UNDER UASL / CMTS
LICENCE**

Sl. No.	Name of Service Area	Areas covered	Category
01.	West Bengal Service Area	Entire area falling within the Union Territory of Andaman & Nicobar Islands and area falling within the State of West Bengal and the State of Sikkim excluding the areas covered by Kolkata Metro Service Area.	B
02.	Andhra Pradesh Service Area	Entire area falling within the State of Andhra Pradesh.	A
03.	Assam Service Area	Entire area falling within the State of Assam.	C
04.	Bihar Service Area	Entire area falling within the re-organised State of Bihar and newly created State of Jharkhand pursuant to the Bihar Reorganisation Act, 2000 (No.30 of 2000) dated 25 th August, 2000.	C
05.	Gujarat Service Area	Entire area falling within the State of Gujarat and Union Territory of Daman and Diu, Silvassa (Dadra & Nagar Haveli).	A
06.	Haryana Service Area	Entire area falling within the State of Haryana except Panchkula town and the local areas served by Faridabad and Gurgaon Telephone exchanges.	B
07.	Himachal Pradesh Service Area	Entire area falling within the State of Himachal Pradesh	C
08.	Jammu & Kashmir Service Area	Entire area falling within the State of Jammu & Kashmir including the autonomous council of Ladakh.	C
09.	Karnataka Service Area	Entire area falling within the State of Karnataka	A
10.	Kerala Service Area	Entire area falling within the State of Kerala and Union Territory of Lakshadweep and Minicoy.	B
11.	Madhya Pradesh Service Area	Entire area falling within the re-organised State of Madhya Pradesh as well as the newly created State of Chattisgarh pursuant to the Madhya Pradesh Reorganisation Act, 2000 (No:28 of 2000) dated 25 th August, 2000.	B
12.	Maharashtra Service Area	Entire area falling within the State of Maharashtra and Union Territory of Goa, excluding areas covered by Mumbai Metro Service Area.	A
13.	North East Service Area	Entire area falling within the States of Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Manipur and Tripura.	C
14.	Orissa Service Area	Entire area falling within the State of Orissa.	C
15.	Punjab Service Area	Entire area falling within the State of Punjab and Union territory of	B

	Area	Chandigarh and Panchkula town of Haryana.	
16.	Rajasthan Service Area	Entire area falling within the State of Rajasthan.	B
17.	Tamilnadu Service Area (including Chennai Service Area)	Entire area falling within the State of Tamilnadu and Union Territory of Pondichery including Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges	A
17A	Tamilnadu Service Area (excluding Chennai Service Area)*	Entire area falling within the State of Tamilnadu and Union Territory of Pondichery excluding Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges	A
17B	Chennai Service Area*	Local Areas served by Chennai Telephones, Maraimalai Nagar Export Promotion Zone (MPEZ), Minzur and Mahabalipuram Exchanges	A
18.	Uttar Pradesh (West) Service Area	Entire area covered by Western Uttar Pradesh with the following as its boundary districts towards Eastern Uttar Pradesh : Pilibhit, Bareilly, Badaun, Etah, Mainpuri and Etawah. It will exclude the local telephone area of Ghaziabad and Noida. However, it will also include the newly created State of Uttaranchal pursuant to the Uttar Pradesh Re-organisation Act, 2000 (No.29 of 2000) dated 25 th August, 2000.	B
19.	Uttar Pradesh (East) Service Area	Entire area covered by Eastern Uttar Pradesh with the following as its boundary districts towards Western Uttar Pradesh : Shahjahanpur, Farrukhabad, Kanpur and Jalaun.	B
20.	Delhi Service Area	Local Areas served by Delhi, Ghaziabad, Faridabad, Noida, and Gurgaon Telephone Exchanges	Metro
21.	Kolkata Service Area	Local Areas served by Calcutta Telephones.	Metro
22.	Mumbai Service Area	Local Areas served by Mumbai, New Mumbai and Kalyan Telephone Exchanges	Metro

*** No new UAS licence is being issued for Sl. No. 17A and 17B after 15.09.2005.**

NOTE:

1. Yenum, an area of Union Territory of Pondicherry is served under Andhra Pradesh Telecom Circle in East Godavari LDCA.
2. The definition of Local areas of exchanges will be as applicable to the existing cellular operators, i.e. at the time of grant of cellular Licences in Metro cities.
3. The definition of local areas with regard to the above service area as applicable to this Licence is as per definition applicable to Cellular Mobile Service Licences as in the year 1994 & 1995, when those Licences were granted to them. This is in accordance with respective Gazette Notification for such local areas wherever issued and as per the statutory definition under Rule 2 (w) Indian Telephones Rules, 1951, as it stood during the year 1994/1995 where no specific Gazette Notification has been issued.

Annex - D

No. 20-201/2008-AS-I
Government of India
Ministry of Communications & IT
Department of Telecommunications
(Access Services-I Division)
1203, Sanchar Bhavan, Ashok Road, New Delhi-110001

6th May, 2009

To
All Unified Access Services (UAS) Licensees

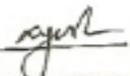
Subject: Amendment of UAS Licence Agreement with respect to Provisioning of Mobile Number Portability (MNP) Service.

In pursuance of Condition 5.1 of the UAS licence agreement, inter-alia, reserving the right of Licensor to modify at any time the terms and conditions of the LICENCE, in public interest or for the proper conduct of the SERVICE, the LICENSOR hereby insert following Condition(s) in the UAS licence agreement with immediate effect:-

"30.11 The LICENSEE shall facilitate timely implementation of Mobile Number Portability (MNP) Service in the Licensed Service Area as per the Regulations/ Orders made or directions issued by TRAI under TRAI Act, 1997 or any Instructions issued by the Licensor from time to time."

"38A in Annexure – I. Mobile Number Portability (MNP) Service means a service which allows subscribers to retain their existing telephone number when they switch from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider."

2. All other terms and conditions of the licence agreement including amendments and instructions issued from time to time shall remain unchanged.
3. Please acknowledge receipt.


(R. K. Gupta)
Director (AS-I)
For and on behalf of the President of India
Ph.No.2303 6284

Copy To:

1. Secretary, TRAI
2. Sr.DDG(TEC)/DDG(Security)/DDG(AS-II)/DDG(CS)/DDG(DS)/DDG(LF)
3. COAL/AUSPI
4. Director (IT) may kindly arrange to upload this letter on DoT's website.

Annex - E

No. 20-201/2008-AS-1
Government of India
Ministry of Communications & IT
Department of Telecommunications
(Access Services-I Division)
1203, Sanchar Bhavan, Ashok Road, New Delhi-110001

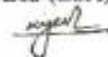
6th May, 2009

To
All the Basic Service, CMTS, UAS, NLD and ILD Licensees

Subject: Instructions regarding provisioning of Mobile Number Portability (MNP).

Mobile Number Portability (MNP) allows subscribers to retain their existing telephone number when they switch from one access service provider to another irrespective of mobile technology or from one technology to another of the same or any other access service provider. Mobile Number Portability (MNP) Systems viz. MCH, NPDB and QRDB, shall 'build, operate and be owned' by the Neutral Third Parties (herein after called 'MNP service licensee') who have been issued a separate Licence for MNP service w.e.f.20-03-2009. Copy of the Licence Agreement for MNP service is available on DoT's website viz. www.dot.gov.in. Definition/Meaning of all the 'Terms and Expressions' used in respect of MNP service shall be as detailed in the Licence Agreement for MNP service. Details of the Companies who have been granted licence(s) for MNP service are as below:

- (i) M/s. Syniverse Technologies (India) Pvt. Ltd., First India Palace, IInd Floor, Block-B, Sushant Lok-1, Mehrauli-Gurgaon Road, Gurgaon (Haryana) for MNP Service Zone-1 (containing Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Maharashtra, Punjab, Rajasthan, Uttar Pradesh (E), Uttar Pradesh (W), Delhi and Mumbai Service Areas).
 - (ii) M/s. MNP Interconnection Telecom Solutions India Pvt. Ltd., A-404, Gulmohar Apartments, Plot No.81, Sector-56, Gurgaon (Haryana) for MNP Service Zone-2 (containing Andhra Pradesh, Assam, Bihar, Karnataka, Kerala, Madhya Pradesh, North East, Orissa, Tamil Nadu including Chennai, West Bengal and Kolkata Service Areas).
2. MNP is to be implemented in Delhi, Mumbai, Maharashtra & Gujarat Service Areas of Zone-1 and Kolkata, Tamil Nadu including Chennai, Andhra Pradesh & Karnataka Service Areas of Zone-2 within six months of the award of the licence i.e. by 20-09-2009 and in rest of the service areas within one year of the award of the licence i.e. by 20-03-2010 by the above companies in their respective MNP Service Zones.
3. For the proper conduct of the telegraph services, the LICENSOR hereby issues following instructions to all the Basic Service, CMTS, UAS, NLD and ILD Licensees regarding provisioning of Mobile Number Portability (MNP) Service with immediate effect:-
- (i) It is mandatory to facilitate timely implementation of Mobile Number Portability (MNP) Service in the respective Licensed Service Area by upgradation, operation and maintenance of his networks/systems to support MNP service operation at his own costs. MNP is to be implemented in each intra Licensed Service Area (LSA) as per



the schedule notified by the Licensor from time to time. As per the present schedule, MNP is to be implemented in Delhi, Mumbai, Maharashtra & Gujarat Service Areas of Zone-1 and Kolkata, Tamil Nadu including Chennai, Andhra Pradesh & Karnataka Service Areas of Zone-2 within six months from the effective date of the MNP service licence and in rest of the service areas within one year from the effective date of the MNP service licence.

- (ii) Following activities related to the Mobile Number Portability (MNP) service shall be governed by the Regulations/ Orders/ Directions/ Determinations as may be issued from time to time by the TRAI:
- (a) Business Process Flow among the Customer, the telecommunication service providers (i.e. Basic, CMTS, UAS, NLD and ILD Licensee(s)) and the MNP service Licensee, on various issues including the issues of:
 - i) Eligibility criteria for subscribers to avail the MNP service,
 - ii) Rights and Obligations of Subscribers, Donor Operators and Recipient Operators,
 - iii) Procedure for Porting,
 - iv) Reconciliation mechanism in case of dispute between donor and recipient operators,
 - v) Method of Tariff transparency for on-net and off-net calls considering the cost aspects of different solutions and porting fee etc.;
 - (b) Call Process Flow among the Basic, CMTS, UAS, NLD & ILD Licensee(s) and the MNP service Licensee (if applicable);
 - (c) Interconnection and Technical Interface issues among the telecommunication service providers (i.e. Basic, CMTS, UAS, NLD and ILD Licensee(s)) and the MNP service Licensee;
 - (d) Parameters for Quality of MNP Service & Service Level Agreement(SLA) and;
 - (e) All kind of Tariff charges including:
 - i) the per port transaction fees to be charged by the LICENSEE from the customer(s) and
 - ii) the per port transaction fees to be charged by the MNP service Licensee from the UAS/CMTS Licensees.
 - iii) the per call dipping charges (if applicable) to be charged by the MNP service Licensee from the UAS/CMTS Licensees.
- (iii) The LICENSEE shall have a mutual commercial agreement with the MNP service Licensee for the terms and conditions of interconnection, standard interfaces, network resources including the cost of upgrading/modifying interconnecting networks to meet the service requirements of the LICENSEE, points of interconnection and technical aspects, subject to compliance of prevailing Regulations/ Orders/ Directions/ Determinations/ Instructions issued by DoT/TRAI from time to time.



- (iv) For processing and managing MNP port transactions with the centralized clearinghouse MCH and Operator back-end systems, e.g. order and provisioning systems, the LICENSEE shall own a Number Portability Gateway which shall be connected to the MNP centralized Clearing House (MCH) and logically centralized Number Portability Data Base (NPDB) of the Main as well as the Disaster Recovery (DR) sites at their own cost.
- (v) All Basic service/CMTS/UAS licensees, International and National Long Distance Operators that deliver calls to a LSA shall implement direct routing i.e., All Call Query method, to route calls to ported numbers. Department of Telecommunications shall provide unique Routing Number (RN) to each Access Services operator to enable routing to ported number. For querying routing information, the LICENSEE may have option to either maintain its own local Number Portability Database or use shared local Number Portability DataBase with other telecom service providers or may take services of MNP service Licensee's centralised MNP Query Response DataBase (QRDB) System.
- (vi) Customer shall approach the recipient operator for porting his/her number. Donor operator shall not use ported out numbers till such time it is in use by the ported subscriber. After the surrendering of number by ported subscriber the number shall revert back to the original donor operator. While accepting the application of a subscriber to avail MNP service, the Recipient operator shall get from the subscriber a fresh Customer Acquisition Form (CAF) filled alongwith all the documents as applicable for a new subscriber and as specified by the Licensor from time to time.
- (vii) Where the LICENSEE is not supporting MNP service implementation/operation, the LICENSOR may take action against the LICENSEE under the provisions of the licence agreement.

4. Please acknowledge receipt.



(R. K. Gupta)
Director (AS-I)

For and on behalf of the President of India
Ph.No.2303 6284

Copy To:

1. Secretary, TRAI
2. Sr. DDG(TECY)/ DDG(Security)/ DDG(AS-II)/ DDG(CS)
3. COAI/AUSPI
4. Director (IT) may kindly arrange to upload this letter on DoT's website.

Questionnaire on Implementation of Mobile Number Portability to Successful bidders

Architectural Details

1. Please provide the network diagram along with various elements of MCHA, NPDB & query response system as per Clause 52, Technical Conditions of the Tender document.
2. Give the routing diagrams with the various elements involved in carrying out porting request and dipping process and routing of voice call and SMS / MMS. Also indicate the type of resources required from the Numbering administrator (Viz Routing Numbers). How routing of SMS / MMS will take place in case of NLDO / ILDO/ Access Service Provider is dipping from query database?
3. Clause 53.4 envisages that MCH shall support both synchronization and command level update with both push and pull mechanism i.e. the porting database can be send to all concerned operators OR it can be downloaded by them as desired by the concerned operators. Please explain in what manner do you propose to implement this condition?
4. What will be the guaranteed uptime to NLDO/ILDO/Access Providers for dipping from query data base? Also specify maximum response time for dipping from query data base?

Relevant Cost details

In the tender documents (also in the clarifications) it is stated that ‘per port transaction fee’ and dipping charges will be determined by the TRAI under Section 11 (2) of TRAI Act 1997 as amended time to time. In this context the following details may be provided for estimating the above charges

5. Give us the detailed Flow diagram of a typical porting process in line with the terms and conditions of tender document

6. Estimated setup cost of MCHA, NPDB, Query response system (indicate separately) and annual operational cost (including man power cost) for one zone of implementation?

7. The components involved in implementing the process given for Sl. No. 2, its element-wise estimated cost for MNP Service Provider for one zone of implementation? Give us cost calculations to determine the 'per port transaction fee' including detailed justification (**Detailed worksheet of your estimate of port transaction fee, its assumptions / projections viz number of mobile subscribers requesting for porting per month and any other parameter assumed for carrying out porting request**)

8. What are the estimated number of portings per month for next 5 years and estimated number of dippings per day for next one year? Give reasons and details to support your estimation

9. The components involved in the routing of a)voice calls b)SMS / MMS when an operator uses your dipping services and its element wise cost details and cost calculation to determine the dipping charge for each dip? (**Detailed worksheet of your expected dipping charges along with assumptions / projections for arriving at the same.**)

10. Please explain your proposed business plan for recovery of capital and operational expenditure?

11. What is the time frame for implementing MNP solution in a zone in India to meet the tender conditions/DoT directive? Complete roadmap of implementation in the assigned zone may be provided?

Details of your experience in other countries:

12. Name the countries where you are providing MNP services by managing the clearing house / Database / Query response system?

13. The number of portings taken place in the initial three years of MNP implementation in countries where you are providing MNP service, Give details year- wise? Wherever it is less than three years, you may provide data for the years it has worked.

14. What is the break even period for the clearing house / Database / Query response system set up in the country you are operating as MNP Service Provider?
15. Whether any charges are passed on to donor operators? Give us the name of countries and details of such charges
16. Details of countries where dipping charges are regulated / fixed by regulator (the details of charges may also be given)
17. What are the QoS parameters being maintained in the country you are operating as MNP Service Provider? Send details of at least 2 counties?
18. Whether you have signed any service level agreements (SLAs) with regulators / licensors & service providers. If so, kindly attach copies of two such SLAs of regulators / licensors / service providers?

Annex - G

Number of Service providers in both the MNP Zones

Zone-1			Zone-2		
Service Area	As on 31st March 2009		Service Area	As on 31st March 2009	
	Number of Licensed SPs	Operational SPs		Number of Licensed SPs	Operational SPs
Delhi	13	7	Kolkata	12	7
Mumbai	12	7	Andhra Pradesh	13	7
Maharashtra	13	6	Karnataka	13	7
Gujarat	12	6	TN including Chennai	12	6
Punjab	13	7	Kerala	12	7
Haryana	13	6	Madhya Pradesh	12	7
Uttar Pradesh - West	12	7	West Bengal	12	7
Uttar Pradesh - East	12	7	Bihar	13	8
Rajasthan	12	7	Orissa	13	7
Himachal Pradesh	13	8	Assam	12	6
Jammu & Kashmir	12	6	North East	12	6
Total	137	74	Total	136	75