



**Telecom Regulatory Authority of India**



**Consultation Paper on  
Review of Mobile Number Portability (MNP) process**

New Delhi, 06<sup>th</sup> April, 2018

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**Stakeholders are requested to furnish their written comments to TRAI by 03<sup>rd</sup> May, 2018 and counter comments by 17<sup>th</sup> May, 2018. The comments may preferably be sent in electronic form to the e-mail-id: [advmn@traigov.in](mailto:advmn@traigov.in).**

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## **CONTENTS**

<b>CHAPTER I: INTRODUCTION</b>	<b>1</b>
<b>CHAPTER II: EXISTING MNP PROCESS AND PROPOSED PROCESS</b>	<b>6</b>
<b>CHAPTER III: ANCILLARY ISSUES RELATED TO MNP PROCESS</b>	<b>27</b>
<b>CHAPTER IV: SUMMARY OF ISSUES FOR CONSULTATION</b>	<b>33</b>

## **CHAPTER -I INTRODUCTION**

- 1.1 The Telecom Regulatory Authority of India issued the Telecommunication Mobile Number Portability Regulations, 2009 (8 of 2009) dated 23<sup>rd</sup> September, 2009 laying down the basic business process framework for implementation of intra-circle Mobile Number Portability (MNP) in the country.
- 1.2 Facility of MNP was launched in Haryana service area on 25<sup>th</sup> November 2010 on pilot basis and the same was extended to the entire country on 20<sup>th</sup> January 2011. Initially, the MNP facility was available within the licensed service area only. However, in accordance with the provisions contained in the National Telecom Policy- 2012 regarding “One Nation – Full Mobile Number Portability”, full MNP was implemented w.e.f. 3<sup>rd</sup> July 2015. Till January, 2018, approximately 344.59 million porting requests have been processed.
- 1.3 TRAI issued the Telecommunication Mobile Number Portability (Second Amendment) Regulations, 2010 (05 of 2010) on 24<sup>th</sup> November 2010 modifying the timeline from 24 hrs to 4 working days for Donor Operator (DO), to verify the details of porting request and communicate acceptance or rejection of the porting request to the Mobile Number Portability Service Provider (MNPSP). The modification in the timelines from 24 hrs to 4 working days in the regulation 10 of the principal regulations had been necessitated due to the request by the Department of Telecommunications (DoT), citing security reasons. With this amendment to the principal Regulations, the maximum time period for porting became seven working days, except in Jammu & Kashmir, Assam and North East licensed service areas, wherein it became fifteen working days.

- 1.4 Subsequent to the Hon'ble Supreme Court's judgment dated 2<sup>nd</sup> February 2012 declaring allocation of spectrum to certain licensees as illegal and quashing their licenses, the Telecommunication Mobile Number Portability (Third Amendment) Regulations, 2012 (16 of 2012) were issued on 8<sup>th</sup> June 2012 to facilitate porting of mobile numbers of subscribers of the quashed licensees. This amendment facilitated porting of such mobile numbers whose age on network was less than 90 days.
- 1.5 The Telecommunication Mobile Number Portability (Fourth Amendment) Regulations, 2012 (19 of 2012) were issued on 19<sup>th</sup> September 2012, to levy financial disincentives on the concerned access service provider for contraventions of the provisions of the regulations as following:-
- (a) In the cases where deviation is noticed by the Authority in the timelines specified in the regulations for Donor Operator (the operator to whose network the mobile number belongs at the time the subscriber makes a request for porting) and Recipient Operator (the operator to whose network the number is sought to be ported) the service provider shall be liable to pay an amount, by way of financial disincentive, not exceeding Rs.5,000/- for each contravention.
  - (b) In the cases where contravention is established in rejection of porting request for an Access Provider acting as DO, the service provider shall be liable to pay an amount, by way of financial disincentive, not exceeding an amount of Rs. 10,000/- for each wrongful rejection.
- 1.6 In order to address issues related to processing of porting requests from the corporate mobile numbers, the Telecommunication Mobile Number Portability (Fifth Amendment) Regulations, 2013 (9 of 2013) were issued on 22<sup>nd</sup> July 2013. Salient features of this amendment are as following:
- (a) Upto 50 corporate mobile numbers of a service provider can be ported to another service provider through letter of authorization from the authorized signatory of the corporate mobile numbers, in a single porting request
  - (b) Considering the activities involved and number of mobiles to be processed in single porting request, vide fifth amendment, 48 hrs

have been allowed for forwarding the porting request by the RO, for corporate mobile numbers whereas 24 hrs remain unaltered for individual porting requests.

- 1.7 The Telecommunication Mobile Number Portability (Sixth Amendment) Regulations, 2015 (03 of 2015) dated 25<sup>th</sup> February 2015 were issued for facilitating inter-service area mobile number portability (Full Mobile Number Portability) in the country. The Full MNP was implemented w.e.f. 3<sup>rd</sup> July 2015.
- 1.8 Upon analysis of the reports on the grounds of rejection of porting requests, it was observed that rejections are centered around Unique Porting Code (UPC). The grounds, 'UPC Mismatch' and 'invalid/expired UPC', jointly constituted around 40% of the total rejection of porting requests. Accordingly, to address the issues faced by the telecom mobile subscribers, draft Telecommunications Mobile Number Portability (seventh amendment), Regulations 2017, were issued on 16<sup>th</sup> August, 2017 for seeking comments of the stakeholders. The stakeholders were requested to submit their comments till 28<sup>th</sup> September 2017.
- 1.9 Through the amendment it was inter-alia proposed to introduce a mechanism for sharing the UPC generated by Donor Operator with MNP Service Provider (MNPSP), which in turn can be approached by the Recipient Operator, to confirm the correctness and validity of the UPC submitted, along with the customer application form by the subscriber, at the point-of-sale of the recipient operator. It was envisaged that the proposed amendment would result in reduction of rejection of porting requests, leading to increased subscriber satisfaction.
- 1.10 The comments received from the stakeholders were studied and analysed. It was observed that in addition to the amendment in MNP process, proposed in the draft regulations, various other issues were also raised and new mechanisms were suggested by stakeholders, which

needed further consultation among all the stakeholders before finalizing the seventh amendment. In view of this, in addition to the issues raised in the draft regulations, a need has been felt to revamp the exiting MNP process. Hence, it has been decided to re-initiate the consultation process so as to have views of the stakeholders on the proposed modifications in the MNP process.

1.11 Further, due to recent closure/ discontinuation of wireless access services by some of the Telecom Service Providers (TSPs) in few or all the Licensed Service Areas (LSAs), substantial number of subscribers have been forced to port their mobile number to other TSPs. Consequent upon closure/ discontinuation of the services, TRAI has received large number of complaints related to the difficulties faced by the subscribers of these service providers in porting their mobile numbers. The major issues are non-generation of UPC by the Donor Operator or non-receipt of UPC by the subscriber, multiple times rejection of porting requests by donor operators on various grounds of rejections available in regulation 12 of the MNP regulations, instances of fraudulent porting, issuance of interim bills for postpaid subscribers, non-refund of the prepaid balance and security deposits of post paid subscribers, which create inconvenience and dissatisfaction to the mobile subscribers. It is worth to mention here that mobile phone has become lifeline of the citizens, as it is being used extensively for banking / non-banking transactions and other online services available to the citizens. Therefore, inability to port the mobile number creates severe difficulties for subscribers.

1.12 Since the inception of MNP in the country, developments in Information Technology (IT) systems used by the TSPs have leapfrogged. IT systems have become more reliable, robust and are able to perform much efficiently. Network Function Virtualization (NFV), being adopted by TSPs has enabled lesser hardware requirement, increased efficiency and faster

roll out. Introduction of Aadhaar based electronic Know Your Customer (eKYC) facility has changed the logistics of the subscriber acquisition. The provisioning of eKYC for the authentication of the subscribers has not only propelled instant provision of services but has also eliminated the possibility of fake/ forged KYC documents to a large extent.

- 1.13 Taking into consideration the various factors and recent developments, the Authority has taken a view that in order to strengthen the MNP process and to make it more efficient for the stakeholders, the entire process of the MNP has to be reviewed in a manner that the issues identified are addressed holistically and porting of mobile number is executed in minimum possible time. Accordingly, the present consultation process has been initiated. Chapter –II details the existing MNP process and the proposed solution/ amendment in the MNP process; in Chapter-III, ancillary issues like number return process, request of nonpayment disconnection of mobile number and applicability of latest technologies etc. have been discussed. Chapter -IV enlists summary of issues for consultation.



## **CHAPTER –II**

### **EXISTING MNP PROCESS AND PROPOSED PROCESS**

2.1 In order to bring greater satisfaction and convenience to the telecom subscribers, the Authority has been focused to consistently improve upon the existing MNP processes to the extent possible. In this way, through the present consultation, the Authority has emphasized on the possible ways to improve MNP process, reduce timeline for porting and reduce wrongful rejections etc. The issues identified in existing process and proposed new process has been discussed in detail in the subsequent paras.

#### **A. Existing process of MNP**

2.2 In the present process of MNP, to initiate MNP, the subscriber sends a request to Donor Operator (DO) through Short Message Service (SMS) to Short Code 1900 in a standardized format along with the mobile number required to be ported. In case of J&K LSA, the subscriber has to call the number '1900'. Upon receipt of the request, DO matches the indicator (mobile number) with the number sought to be ported and sends back a reply message through an automated system generated SMS containing a Unique Porting Code (UPC) immediately. The validity of the UPC is fifteen days, except for the Jammu & Kashmir, Assam and North East licensed service areas, where the validity is thirty days. The subscriber, upon receipt of UPC on his mobile number, has to submit the porting request along with the Customer Acquisition Form (CAF) as specified by the Recipient Operator, accompanied by all the documents as applicable to a new subscriber. In case of a postpaid subscriber, a copy of the last bill, and in case of corporate mobile number, an authorization letter from the authorized signatory is also required to be submitted to the RO. The UPC is filled in the porting form (CAF) and is submitted to the RO. The porting request is forwarded with key details (Mobile number, UPC, date

of receipt of porting request, Donor operator) to the respective MNP Service Provider (MNPSP). As per the scheme for implementing MNP, the two licensed MNPSPs operate the centralized Mobile Number Portability Clearing House (MCH) and logically centralized Number Portability Data Base (NPDB) in the respective MNP zones.

2.3 The concerned MNPSP, upon receipt of porting request from RO performs the following tasks:-

- (a) Verify from its number portability database whether the mobile number has been ported earlier and if so, whether a period of ninety days has elapsed from the date of its last porting;
- (b) verify whether earlier porting request for the same mobile number is not pending.

The request is forwarded to DO only in the cases where both the above mentioned conditions are satisfied. Otherwise, MNPSP rejects the current request for porting and communicates such rejection to the recipient operator which forwarded such request. The latter shall thereupon communicate the same to the concerned subscriber.

2.4 On receiving the porting request forwarded by the MNPSP, the DO, within four working days, verifies for the clearance on nine grounds of rejection. Based on these nine grounds of rejections, clearance/ rejection of porting request is communicated to the MNPSP by DO. The applicable grounds of rejections are as follows :-

- (a) Outstanding payments due for the issued bill (normal billing cycle)
- (b) A period of ninety days has not elapsed from the date of activation of a new connection.
- (c) Change of ownership of mobile number is under process
- (d) The mobile number is sub-judice
- (e) Prohibited by a Court of Law
- (f) UPC mismatch

- (g) Contractual obligation not cleared by the subscriber before porting
- (h) In case of a corporate mobile number, the porting request is not accompanied by authorization letter from authorized signatory
- (i) Validity of UPC has expired

2.5 Upon receipt of communication from the Donor operator the MNPSP --

- (a) Where the donor operator has indicated the grounds for rejection of the porting request, communicate the same to the RO, which further communicates in writing or through SMS to the concerned subscriber along with the grounds for rejection as indicated by the DO; or
- (b) Where DO has indicated its clearance to the porting request, or has failed to communicate either its clearance or rejection within four working days, fix the date and time of porting of such mobile number and communicate along with anticipated 'No Service Period' to the DO and RO simultaneously. The RO in turn communicates the same to the subscriber telephonically or through SMS.

2.6 MNPSP coordinates with DO and RO to execute MNP process. At the predetermined date and time window, MNPSP informs the DO to disconnect the mobile number of the subscriber and upon receiving confirmation of such effect, or expiry of two hours, whichever is earlier, inform the RO to activate the mobile number of the subscriber. Once the mobile number is activated at the RO's end, the MNPSP attaches the corresponding routing number called Location Routing Number (LRN), which is a unique routing number assigned to each operator (technology wise) in a service area by DoT, to the ported mobile number in the centralised Number Portability Database (NPDB). This updated LRN and the ported number is then broadcast to all the all access providers and International Long Distance Operators for updating their respective local Number Portability database. Whenever any call is made to the ported mobile number, the originating network first queries the number

portability database to obtain LRN and then the call is routed directly to the destination mobile network/number.

## **B. Issues observed in the present porting process**

2.7 The major issues observed in the current process of MNP are:-

### **(a) Issues in generation/ delivery and validation of Unique Porting Code**

2.8 On various occasions it has come to notice that UPCs are not issued to the subscribers by DO whereas the charges for the SMS are deducted from the subscriber's account. Upon examination of the complaints and feedback received from various stakeholders it has been noted that many a times the subscribers are either not able to receive the UPC or it is delayed for hours together due to technical issues with Operation Support System (OSS) of the DO.

2.9 It has been observed that in the recent instances of closure of services by some of the operators, large number of requests for porting from subscribers are received simultaneously. In these circumstances, the system of such service providers gets overloaded and is unable to cater to the surge in porting requirement.

2.10 Generation and delivery of UPC to the subscriber intending to port, is the primary requirement to initiate the porting of mobile number. Even if the UPC is generated and porting request is submitted by the subscriber at point-of-sale (PoS) of RO, there are chances of manual error by the subscriber while communicating / entering UPC or by the person at PoS entering the wrong UPC while submitting the request to the concerned MNPSP. In addition to the above, fraudulent requests are also submitted based on false UPC.

2.11 Presently, there is no method available with the RO to confirm the correctness and validity of the UPC entered by the subscriber. The reasons of rejections on the various grounds, including 'UPC Mismatch'

or 'UPC Expiry', are known to the subscriber only after rejection by DO which takes four days or more. From the time of submission of request for porting to the date of rejection, the subscriber has no clue or information regarding status of porting. The figures of percentage of rejections in the categories 'UPC Mismatch' and 'UPC Expiry' are substantial and have been indicated in the para 1.8.

**(b) Rejections of porting requests**

2.12 There are valid grounds for rejection of porting requests provisioned in regulation 12 of MNP, Regulations, 2009. DO can reject porting request on any of the valid grounds as mentioned in para 2.4 above. Besides the valid grounds of rejections, DO often scuttles the porting process by invoking rejection on one or the other pretext. In order to audit the efficacy of the MNP process, samples of rejections on various grounds are examined by TRAI from time to time and financial disincentives as provisioned in MNP Regulations, 2009, are levied on the erring TSP(s) for violation/ contradiction to the MNP regulations. On examination of the facts, it is observed that methods as mentioned below are adopted by DO to retain the subscriber and circumvent the porting:-

- (a) In some cases of postpaid mobile connections, as soon as UPC is generated by a subscriber, DO generates an interim bill and rejects the porting request on the ground of outstanding payments.
- (b) The subscriber is negotiated with special tariffs and plans by DO to retain in the network and once agreed by the subscriber, the rejection is punched falsely in one of the grounds defined for rejection.
- (c) In many cases when a subscriber changes its postpaid connection to prepaid or vice versa, the 'age on network for less than 90 days' reason is cited for rejection by DO.
- (d) Even after completion of 90 days on its network, DO reject the request on the ground of less than 90 days age on network.

(e) Porting requests of the mobile numbers availing 'Closed Used Group' facility or any other facility which does fall under any of the valid grounds of rejection are rejected on the ground on 'contractual obligations'.

2.13 In addition to above, the operator in the role of RO also adopts means to acquire the subscriber in wrongful manner. It is observed that sometimes RO submits the porting request in wrong category to avoid the necessary documentation. For example, corporate category connections are punched in individual category.

**(c) Communication to the subscriber**

2.14 In cases where a porting request is rejected by MNPS or DO, there is no process available in the chain to communicate the same to the subscriber instantaneously. The subscriber gets to know of the rejection, only after lapse of four to seven days of submitting his request; consequently he has to re-initiate the entire process of porting. This causes dissatisfaction to the subscriber, mainly when the subscriber is porting his number due to change in his residence/ office location and is unable to receive network of his current service provider at his new location. The situation becomes grave for senior citizens, people with disabilities and large population living in rural areas. People who have moved to different service areas also face difficulties due to lack of timely communication.

**(d) Withdrawal of porting request**

2.15 As per regulation 13 of the MNP Regulations, provision to withdraw his porting request is available with the subscriber. Under this provision, the subscriber is entitled to withdraw the porting request within twenty four hours of making the request, by informing the RO in writing. Here it may be noted that the action of cancelling the porting request has to be

initiated by the RO and the DO is not permitted to entertain such withdrawal requests. However, practically it looks lucrative on the part of RO to not to process the withdrawal request, since RO is interested in acquiring the new subscriber. It has been reported that in many cases, the RO does not take any action on such requests even if the request is received well in time. As per the information collected by TRAI, it appears that only few operators forward such withdrawal requests. Rest of the operators process negligible number of withdrawal requests.

#### **(e) Fraudulent porting**

2.16 During the process of porting, RO obtains fresh KYC/e-KYC from the subscriber. At this stage there is no mechanism to verify whether the subscriber intending to port his mobile number is genuine and the legitimate owner of the mobile number. It is observed that sometimes retailers and persons at the PoS also get involved in seeking UPC of the subscribers fraudulently and the mobile numbers are ported in other person's name without the knowledge of the rightful owner of the mobile number. This is more rampant in case of vanity mobile numbers. Presently, on complaint by the genuine subscriber, such fraudulent porting cases are examined on case to case basis for appropriate action. Implications of such fraudulent porting can be very serious for the subscriber and can include, but are not limited to access to his personal details, financial loss and emotional stress. Once a subscriber's mobile number is ported into some other person's name, it can be very difficult and time-consuming to reverse it.

#### **C. Proposed process for generation and delivery of Unique Porting Code**

2.17 Keeping in view the existing scenario and the issues observed, it is felt that the process of the generation and delivery of the UPC needs to be reviewed. In response to the consultation on draft Telecommunications

Mobile Number Portability (seventh amendment), Regulations, 2017, some of the stakeholders had suggested to assign the task of UPC generation to MNPSP of the respective zone to which the mobile number originally belongs. It is anticipated that assigning this task to the respective MNPSP shall improve generation and delivery of the UPC without any discrimination. As the data related to UPC viz. UPC content and date of generation shall be readily available with the MNPSP, hence, UPC related issues defined under the categories 'UPC Mismatch' or 'UPC Expiry' will be resolved instantly during the submission of the porting request by the subscriber at RO. Further, it will facilitate analysis and audit of the data from a single source of information for regulatory perspectives.

2.18 In the proposed process, request for generation of UPC, made by the subscriber shall be routed to the MNPSP. Upon receipt of the request for UPC, the concerned MNPSP shall check the two conditions namely completion of 90 days from the last porting and that the earlier porting request is not in the process for the same mobile number. In case either of the two conditions is not satisfied, the MNPSP shall not generate UPC and instead inform the subscriber through return SMS communicating the reason of non-generation of UPC. In case the above two conditions are satisfied, the MNP Service Provider shall check the following on real-time basis from the database of DO (query response mechanism):-

- (a) The number is prepaid or postpaid
- (b) e-KYC is completed
- (c) There are Contractual obligations
- (d) The number is Corporate mobile number
- (e) Age on Network is less than 90 days if no history of the number ported earlier is available with the MNPSP
- (f) Change of ownership of mobile number is under process



- (g) Outstanding payments due for the issued bill (normal billing cycle) in case of postpaid number
- (h) The mobile number is sub-judice
- (i) Prohibited by a Court of Law

If the DO fails to provide response to the queries from MNPSP, the UPC shall be issued by the MNPSP to the subscriber, by default.

2.19 As discussed above, MNPSP may be entrusted to perform additional queries listed above from (a) to (i) from the database of DO before issuing the UPC to the subscriber. The information obtained corresponding to (a) to (d) above are required to ascertain the nature of connection viz. Postpaid/ prepaid, Corporate or contractual obligations and shall be retained by MNPSP for future reference when the porting request is actually received through RO. The information (a) to (d) above shall not be a reason for non-generation of UPC. For the provisions of (e) to (i) above, upon obtaining clearance from DO, the MNPSP shall issue UPC to the subscriber through SMS and record the information received from DO for future reference. Since the status of clearance given by DO for issuing UPC to a subscriber may be valid for shorter time, validity of the UPC, so generated by the MNPSP can be reduced from the current validity of fifteen days to one or two days. The issue of reducing validity period of UPC has been discussed later in the chapter.

2.20 In cases where DO conveys non-clearance on one or more grounds as listed in (e) to (i) para above, the MNPSP shall not generate UPC and instead inform the subscriber of all the applicable ground(s) of rejection, at once. Subsequently, upon fulfilling the requirement of rejection, the subscriber can request for UPC to MNPSP as per the procedure applicable.

2.21 With the UPC received from MNPSP, the subscriber shall submit his request for porting along with CAF and the requisite documents to the RO as per the defined norms of 'Know Your Customer (KYC)'. Upon

receipt of porting request from the subscriber, RO shall submit the porting request along with UPC and his KYC identity document like Aadhaar number and forward the same to MNPSP in the prescribed format. MNPSP upon receipt of the request shall perform the following tasks from within its own database:

- (a) Whether UPC matches with the UPC issued
- (b) Whether UPC is valid

2.22 In cases of UPC mismatch or UPC expiry, the MNPSP shall immediately, on real-time basis inform RO and the subscriber, who can resubmit the MNP request with correct and valid UPC.

2.23 Upon successful validation of the conditions mentioned in 2.21 (a) and (b) above, in all the cases except where at the time of clearance for UPC generation, DO had indicated that the number to be ported is a corporate mobile number or there are contractual obligations, MNPSP shall instantly<sup>1</sup> approve the porting, schedule within the next two hours<sup>2</sup>, deactivation of the mobile number from the network of DO and its activation in the network of RO and inform the subscriber of the status and no service period. In cases of Corporate numbers and those with Contractual Obligations, MNPSP shall forward the request to the DO, which in turn, shall convey its clearance or rejection on the following grounds:

- (a) there are subsisting contractual obligations, in respect of which an exit clause has been provided in the subscriber agreement but the subscriber has not complied with such exit clause.

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<sup>1</sup> It is anticipated that by the time the proposed MNP process is implemented, the Central Monitoring System installed by Department of Telecommunications would be fully operational and all the concerned security agencies would be using the centralized system.

<sup>2</sup> In the proposed process, the deactivation and activation of a mobile number shall be a continuous process and would take place throughout the day.

(b) In case of a corporate mobile number, the porting request is not accompanied by authorisation letter from the authorized signatory of the subscriber.

2.24 If none of the grounds of rejection listed in (a) and (b) above are applicable for the concerned mobile number, DO within 24 hours or one working day of receipt of the request shall communicate its acceptance or rejection to the MNPSF by assigning appropriate reason of rejection. MNPSF in turn shall immediately inform the subscriber through SMS about acceptance and schedule of porting his mobile number or in case DO has rejected his request for porting, shall communicate so to the subscriber along with the reason of rejection, as communicated by DO.

2.25 In view of the above, inputs of stakeholders are solicited on the following issues:

**Q1. Would it be appropriate that MNPSF be assigned the task of generating and communicating the Unique Porting Code (UPC) to the subscriber intending to port his mobile number as proposed in the consultation paper?**

**Q2. If you agree to assign the task of UPC generation to MNPSFs, whether the revised process outlined in the consultation paper is appropriate to address the relevant issues being faced in the existing MNP process?**

**Q3. Do you suggest any other methodology which can address the issues being faced in the existing MNP process? Elaborate your answer.**

#### **D. Verification of KYC information**

2.26 As has been discussed, non verification of customer identity at the time of porting the mobile number leads to fraudulent porting. There is a provision of obtaining an undertaking by the RO, from the subscriber while submitting request for porting his mobile number, declaring that he is the owner of the said mobile number. However, disputes regarding ownership of mobile numbers, after porting from one service provider to

another, have come to the notice of TRAI. It has been reported that false undertaking is submitted by fraudulent subscribers to RO. This can have serious implications and hence needs to be curbed.

2.27 In order to strengthen the process of verification of ownership of the mobile number under porting, a mechanism needs to be put in place at the time of submitting port request to the RO, for the subscribers who have earlier completed e-KYC at DO's end and RO is also using Aadhaar based e-KYC for issuing mobile connections. At the time of forwarding the porting request, there is a need to verify identity credentials of the subscriber through some robust mechanism where information available with DO can be matched with the information submitted by the subscriber at the PoS of RO for porting his mobile number. Upon successful matching of the credentials, the request of porting can be permitted to be processed.

2.28 In view of the foregoing, the following issues are raised for the comments of the stakeholders:-

**Q4. How can KYC information available with DO be verified during the MNP process to avoid fraudulent porting? Please elaborate.**

#### **E. Role of MNPS in the proposed MNP process**

2.29 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. In the MNP process, the role of MNP Service Provider is that of a facilitator, administrator and a referee in the implementation of MNP in its zone and enabling routing of call to the correct mobile network. MNPS 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 manner. This database is used for implementing the All Call Query method by the concerned service providers. (In 'All Call Query method', 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 want to take the services of MNP Service Provider in the implementation of All Call Query method. (Presently, it is optional for the TSPs to avail the facility).

c) process non-payment disconnections as requested by the DO in accordance with regulation 14(5) of MNP regulations,

d) number return process in accordance with regulation 15(5) of MNP regulations,

e) provide bulk downloads of the database to the service providers

(The detailed functions at Sr. No c), d) and e) above are discussed in Chapter 3)

2.30 In the existing MNP process, UPC is allocated and communicated to the subscriber through SMS by the DO, through an automated process, irrespective of the fact whether a subscriber is eligible or not to port his

number. For every UPC generated by any subscriber, the DO receives charge for an SMS message. Further, the recipient operator pays to the MNPSP, the per port transaction charge at the rate specified by the Authority from time to time.

2.31 In the proposed MNP process, UPC will be generated and communicated by the MNPSP of the concerned zone to the subscriber, only after performing certain checks from within its own database and certain queries from the DO's database. Thus UPC will be received by the subscribers based on the mechanism discussed in para 2.17 and 2.18 above.

2.32 The revised process will eventually lead to reduction in rejections of porting requests. MNPSP can directly communicate the status of the porting request to the subscriber at various stages of approval/ rejection. It is envisaged that due to redistributed roles of MNPSP and DO, the proposed process shall facilitate faster porting and the entire process of porting can be completed within one to two working days.

2.33 In view of the proposed MNP process, the modifications as mentioned below will be required in the systems of TSPs and MNPSPs. The list of activities is as below:-

(i) Activities of TSPs:

- (a) To set-up single real-time Query response database
- (b) To perform activation/deactivation on 24x7 basis.

(ii) Activities of MNPSP:

- (a) Receiving UPC request
- (b) Query Response form DO
- (c) Generating the UPC
- (d) Sending the UPC by SMS
- (e) Validating UPC content and validity upon porting request
- (f) Processing the porting requests

2.34 Issues raised for consultation are:

- Q5. What are the challenges in implementing the proposed MNP processes / framework on the part of stakeholders' viz. TSP (as DO and RO) and MNPSP? Elaborate your answer.**
- Q6. Whether MNPSP should be compensated towards the cost of generation and delivery of UPC to the subscriber through SMS? If yes, what mechanism can be adopted?**
- Q7. What would be the appropriate mechanism to reinforce the accountability and role of MNPSP in the proposed scenario?**
- Q8. What could be the mandatory obligations on part of the MNPSP?**

**F. Generation and delivery of UPC in the event of premature closure of services by the TSP**

2.35 For the last couple of years, there have been many instances of discontinuation of mobile services by service providers, mainly for the following reasons:

- (i) Expiry of license
- (ii) Spectrum trading
- (iii) Expiry of technology specific spectrum assigned in a particular band
- (iv) Closure of services of a particular technology
- (v) Closure of services partially or completely
- (vi) Surrender of access spectrum or license

2.36 Due to any of the above reasons, there are disruption/ discontinuation of services by the Service Providers in some or all the Licensed Service Areas (LSAs) and their subscribers are forced to port their mobile number to other TSPs, in order to retain their mobile number. Moreover, under such circumstances, the subscribers face difficulty in requesting and receiving UPC from their service provider, which is essential for porting their mobile numbers.

2.37 In view of the foregoing, the following issues are raised for the comments of the stakeholders:-

**Q9. In the event of large scale disruption or sudden shutdown of network, what could be the appropriate alternative mechanism to ensure delivery of UPC and completion of porting process?**

**G. Process for returning/transfer of balance talktime to prepaid subscribers upon MNP**

2.38 Regulation 14 (2) of the MNP regulations provides that upon disconnection of a mobile number, the Donor Operator shall refund to the subscriber, within such time frame and in such manner as specified in the Standards of Quality of Service of Basic Telephone Service (Wireline) and Cellular Mobile Telephone Service Regulations, 2009 (7 of 2009) as may be amended from time to time, all amounts due to such subscriber on account of refundable payments or deposits made by such subscriber to the Donor Operator. However there is no provision in the MNP regulations for refund of the balance amount of talk time in the case of a pre-paid subscriber.

2.39 The sub-regulation (2)(d) of regulation 7 of the Telecommunication Mobile Number Portability Regulations, 2009 provides that:

*“in the case of a pre-paid subscriber, an undertaking by the subscriber to the effect that he understands and agrees that, upon porting of the mobile number, the balance amount of talk time, if any, at the time of porting shall lapse”*

2.40 Due to occurrence of any of the events mentioned in para 2.35 above, large number of subscribers are affected and eventually forced to port out their mobile number to other operator. The pre-paid subscribers are forced to lose their prepaid balances. The issue has exaggerated in the recent past as some operators have closed their 2G/GSM, CDMA services and discontinued voice services in all the licensed services areas. The Authority has received large number of complaints regarding refund of



the security deposits of postpaid subscribers and recharge balances of the prepaid subscribers and accordingly issued Direction to the concerned service provider to refund unspent balance of pre-paid mobile subscribers in addition to security deposit of the post paid subscribers, through a mechanism prescribed in the Direction.

- 2.41 The Authority is of the view that since no services are being provided by the service provider to the subscriber, who has ported his number, hence, the TSP should not have right to retain the unspent balance of pre-paid mobile subscribers in its account. The Authority also has received suggestions through various channels that there should be mechanism to safeguard the prepaid balances of the mobile subscribers in the event of porting of mobile number.
- 2.42 Keeping in view the aforementioned facts, the Authority is of the view that purpose of refunding the prepaid balances to the subscribers in one or few special circumstances of porting can be addressed by issuing a Direction, however, there should be a permanent mechanism in place to safeguard the refund/ transfer of pre-paid balance of the subscriber, who has ported his mobile number under the normal circumstances too. Keeping aside some threshold value of prepaid balance towards meeting additional administrative expenses for transfer of unspent balance, the balance amount can be transferred/ refunded to the subscriber.
- 2.43 In order to make enabling provision in the regulations to transfer prepaid balances of the ported subscribers by DO, one option could be through transfer of such consolidated amount in a secured batch file to the RO fortnightly or monthly. Upon receipt of such prepaid balances, based on the indicators mentioned, RO can instantly disburse such prepaid balance into the mobile accounts of mobile numbers ported into his network from the DO. In this process of transfer of balances, the purpose/ utility of the instrument remains unchanged hence there is no complexity foreseen. The amount thus transferred by DO to RO, shall be

allowed as pass through charges so that taxes are not levied on such balances.

2.44 In view of the foregoing, the following issues are raised for comments of the stakeholders:-

**Q10. (a) Do you agree with the process for transfer of the prepaid balance to the subscriber's account as described in the consultation paper? What changes do you envisage in licensing/ regulatory framework to enable the provision? Please elaborate your answer.**

**(b) If the above process is not agreeable, please suggest alternate mechanism.**

**Q11. What should be the regulatory requirements to monitor efficacy of the provision of transferring the unspent pre-paid balance? Please elaborate your answer.**

#### **H. Validity of Unique Porting Code**

2.45 With regard to timelines for porting process, it is pertinent to mention that as per regulation 10 of the principal regulations, the maximum time period for porting process is seven working days for all LSAs except J&K, Assam and North East LSAs, where it is 15 days.

2.46 Existing timelines for porting of mobile numbers have been specified keeping in view the requirements and aspect of security agencies. Taking into consideration the implementation of Centralized Monitoring System (CMS) by DoT, the exchange of information among the networks of TSPs and multiple security agencies shall be in secure, efficient and smooth environment, resulting in saving time and multiple efforts of the stakeholders. The smooth functioning of CMS shall provide adequate opportunity to reduce the response time by Donor Operator (presently four days) thereby leading to reduction in overall MNP porting time.

2.47 The reduction of porting time will definitely provide great relief and convenience to the mobile subscribers. In such a scenario, there may not be requirement of keeping the UPC valid for 15 days for all LSAs

excluding J&K and NE LSAs where it is kept valid for 30 days. The validity of the UPC can be redefined accordingly consequent upon reduced timelines.

2.48 As has been detailed in the earlier part of the chapter, in the proposed method of UPC generation by MNPSP, UPC will be generated only after evaluating the eligibility of a subscriber requesting for UPC, with the concerned DO on five grounds of rejection. Since the eligibility of a subscriber to port his number on all the grounds validated by the DO, may not remain valid for longer periods, validity of UPC may also be reduced.

2.49 Accordingly, the following issues are raised for comments of the stakeholders:-

**Q12. In the proposed scenario of reduced MNP timelines, should the validity of the UPC be reviewed? If yes, what should be the period of validity of UPC? Please elaborate your answer with justification.**

### **I. Structure of Unique Porting Code**

2.50 Unique Porting Code is a randomly generated alpha-numeric 8 characters code which is allocated to the subscriber for the purpose of unique identification for porting process. For the non-corporate mobile numbers first character of UPC is service provider's code followed by service area code and last 6 digits of the UPC are any combinations of numeric characters. In case of corporate mobile number, UPC is prefixed with the character 'C' and then followed by seven alpha-numeric characters.

2.51 As per the information available, in India approximately 95% of the mobile subscribers are in prepaid segment. However, the figures may vary slightly from one LSA to other and among the service providers. Identification of separate UPC for post paid subscribers may make it convenient to redefine the required process/query at various stages of

MNP process such as query for payment dues during MNP process and initiation of Non-Payment Disconnection (NPD) request by the DO in case of payment default. In the proposed process for example - numeric code of UPC for postpaid mobile numbers shall be prefixed with the character 'P' to identify it as a postpaid subscriber. This means that 3<sup>rd</sup> character in UPC shall be 'P' for the non-corporate post paid subscribers and for corporate subscribers, the fourth character shall be 'P'.

2.52 In view of the foregoing, the following issues are raised for the comments of the stakeholders:-

**Q13. Whether it would be appropriate to review the existing structure of UPC? Please elaborate your answer with justification.**

**Q14. If you agree to above, does the proposed structure as discussed above adequately serve the purpose or would you suggest any other mechanism? Please elaborate your answer with justification.**

#### **J. Withdrawal of porting requests**

2.53 As per Regulation 13 of the MNP Regulations 2009, *“a subscriber may, within twenty four (24) hours of making a request for porting, withdraw such request by the informing the Recipient Operator in writing.”* Thus the regulation provides an option to the subscriber to withdraw his porting request within twenty four hours of making the request for porting, by informing the RO in writing. If till the receipt of withdrawal request, the RO has not forwarded the request to the MNPSP, it has not to take any action on the porting request. However, if the request has already been forwarded to the MNPSP, RO will inform the MNPSP of the withdrawal request, which in turn informs the DO.

2.54 As discussed earlier, it may be noted that the action of cancelling the porting request has to be initiated by the RO and the DO has not to take any action on such withdrawal requests. However, complaints have been received on various occasions that in many cases, the RO does not take any action on such requests even if they are received within the

permitted time and the subscriber approaches the DO, which in turn rejects such requests for porting on one of the grounds of rejection.

2.55 In the proposed MNP process, since it is envisaged that the entire MNP process shall be completed in a short time, hence provision of withdrawal of porting request would only add to the total porting time. Moreover as the validity of UPC will be shorter as against fifteen days presently and also the MNP process shall complete in a short time, only informed subscriber who is actually interested in porting his mobile number shall initiate porting request. Hence, there may not be any need for provision of withdrawal of porting request.

2.56 In view of the foregoing, the following issues are raised for the comments of the stakeholders:-

**Q15. Should the provision of withdrawal of porting request be done away with in the revised MNP process? Please state your answer with justification.**

**Q16. What additional changes do you envisage in the MNP regulations? Elaborate your suggestions.**

## Chapter-III

### Ancillary issues related to MNP process

- 3.1 In the MNP process, any communication between DO and RO has to be necessarily routed through the MNPSP at various stages of porting and after porting of a mobile number. In the process, since the RO receives a subscriber into its network, stands to gain and hence the only monetary exchange of charges are in the form of per port transaction charge that is paid by the RO to MNPSP at the rate specified by the Authority from time to time. The DO receives the SMS charge for UPC generation from the outgoing subscriber.
- 3.2 Besides porting process, there are many ancillary issues handled by the MNPSPs as detailed below:

#### **A. Non Payment Disconnect (NPD)**

- 3.3 Nonpayment Disconnect Request is initiated by DO when the subscriber has not paid his final bill issued to him by the DO after the porting request, for the services availed till disconnection of the mobile number from network of the DO. MNPSP handles the NPD requests raised by DO and forwards the same to the RO which in turn takes steps as detailed in the MNP regulations to recover the outstanding dues of the DO from the ported subscriber. On completion of the NPD request, the number return process is also handled by the MCH (after the ageing period).
- 3.4 As per sub-regulations 4 and 5 of regulation 14 of the MNP Regulations 2009, “(4) *In case of non-payment of any outstanding bill issued to the subscriber after the porting request, for the services availed till the disconnection of the mobile number from the network of the Donor Operator, within such time as specified in such bill, the Donor Operator shall give a notice of not less than seven days to the subscriber, notifying him that in case of non-payment within the said notice period, the Donor*

*Operator shall request the Recipient Operator to disconnect the ported number.*

*(5) In case after expiry of such period such subscriber fails to make payments as specified in the notice, the Donor Operator shall communicate the details of such outstanding bills to the Recipient Operator through the Mobile Number Portability Service provider with an advice to take action for disconnecting the ported number.”*

- 3.5 Where a request is made by DO for disconnecting the ported number, the RO shall issue a notice in accordance with sub-regulations 3 of regulation 15, calling upon the subscriber to produce evidence of having settled such outstanding dues with the DO within a notice period. In case subscriber fails to make the payment to DO, the RO shall disconnect the mobile number of the subscriber and inform the MNPSP of the action taken by it with request for reversal of such number to the Number Range Holder after expiry of sixty days.
- 3.6 In case, after porting of a mobile number, there is disconnection of the mobile number for any reason other than non payment, the RO shall after sixty days of such disconnection, inform the MNPSP of such disconnection with request for reversal of such number to the Number Range Holder.
- 3.7 Thus the entire transaction related to the disconnection is handled by MNPSP when such disconnection requests are initiated by DO. MNPSPs have devised a mechanism wherein the Operators get regular reports on all the ongoing transactions to ensure that the ongoing number return process gets completed.
- 3.8 The process of NPD enables the DO to collect its outstanding dues and ensures that there is no financial loss to the DO even when the subscriber who has defaulted in paying the outstanding bill(s), has ported out from its network.

3.9 Since the MNP began in India, both MNPSPs together have handled more than 5.26 million nonpayment disconnection cases (cumulative) of all the operators during the last 7 years.

### **B. Number Return Process**

3.10 The number return process is advantageous to the operators as it enables efficient management of unused number blocks by returning the number resources back to the original assignee which can re-use these numbers in future. In case of disconnection of mobile number in the network of RO, it is mandated that such mobile number is returned to the number range holder after expiry of sixty days. Such number return requests are handled by MNPSP.

3.11 In the existing MNP regulations, once the NPD request has been raised due to non payment, in case the subscriber made the payment after disconnection (but before expiry of sixty days ageing), there is no provision for reversing the process. There have been instances, where subscribers have not been able to make the payments within the notice period due to genuine difficulties, and are willing to pay the entire dues to get back their mobile number. But in the existing process, they are unable to get their mobile number back and the number is returned to the number range holder. Given the fact that in the present scenario, mobile number has gained so much importance that losing one's number can have serious personal and financial implications, provision can be made to re-activate subscriber's mobile number.

3.12 During the last 7 years, both MNPSPs together have returned more than 65.13 million mobile numbers to the original Number range holder (all operators).

3.13 In view of the foregoing and given the fact that the operators need to recover their dues from the ported subscriber, comments are solicited from the stakeholders on the following question:-



**Q17. Due to the difficulty envisaged, should the subscriber be allowed to reconnect his mobile number even after number return process is initiated? If yes, what could be the criteria? Please elaborate suitable method.**

### **C. Bulk Downloads of Number Portability Database**

- 3.14 The need for Bulk downloads arise for an existing operator to synchronize their local routing database with that of the MNP database for a specific LSA. This may be done via either a full database download or an incremental download. Complete download of the database is required to be done necessarily by a new operator which has to create a database of its own. Operators have to raise a request through a SOAP message requesting for bulk download file from the MCH which in turn runs a script to gather details in the predefined format. As per the MNPSP license condition, a full download is required only for a new operator entering the industry, which needs to create its local database for the first time. Subsequently, an incremental (delta) download is required by an existing operator. The facility of bulk download is to be utilized only during an outage at the end of existing operator or a new operator is starting its operations.
- 3.15 However, due to operational inefficiencies at operators' end, bulk files are used for reconciliation purpose on a regular basis to correct their database and maintain their local database up to date with the regular broadcast from the MCH.
- 3.16 Such downloads have to be provisioned at the MNPSP end and their resources are required to be diverted from their routine activities in order to cater to this requirement. Presently this service is provided free of cost by the MNPSPs to the operators whenever requested. From the data available with MNPSPs, there have been 34,440 instances of bulk/partial downloads of the NPDB done by all the operators during January 2011 to December 2017.

3.17 In view of the above, comments of the stakeholders are solicited on the following:

**Q18. Should the MNPSPs be allowed to charge for the ancillary services such as number return and bulk database download by TSPs? Please provide your comments with justifications.**

#### **D. Leveraging new technologies in the MNP Process**

3.18 The technological advancement opens new opportunities in improving processes and executing them in an efficient way. The telecom industry infrastructure is currently evolving and the service providers are opting to transition from using proprietary hardware to software based solutions to manage their networks. Introducing blockchain solutions can be one of the options that can benefit telecom management systems.

3.19 Blockchain is a shared ledger that can record each transaction by all the participants in the network and share information as and when required across the network in a transparent way. Every participant in the network can be given access to the information available on the blockchain through the use of 'keys' and 'signatures' associated with their roles in the MNP process, and can control/ validate how the record of information is amended or updated in the centralized server. Every participant can have an identical copy of the ledger, to which the encrypted transactions can be added. Any changes to the ledger are reflected in all the copies at the same time, thus providing transparency in the system. Through the use of requisite permissions, the security and accuracy of assets is maintained cryptographically and are controlled by the participants. The most important advantage of this technology is that the record of transactions is immutable and cannot be changed by any of the participant at any stage.

3.20 If RO shares blockchain with DO and MNPSP, the technology can benefit telecom service providers in a variety of ways and can lead to service

efficiencies and innovation. The technology can aid in making smart contracts between the participants which can be monitored. The delays and lags in the MNP process can be avoided to a great extent and porting of a mobile number can take place faster leading to higher customer satisfaction.

3.21 The database related to parameters as given below, which the MNPS is proposed to query from the DO in the revised MNP process may be made available at the blockchain nodes to make the process efficient:-

- (a) The number is prepaid or postpaid
- (b) e-KYC is completed
- (c) Contractual obligations
- (d) Corporate mobile number
- (e) Age on Network less than 90 days if no history of the number ported earlier is available with the MNPS
- (f) Change of ownership of mobile number is under process
- (g) Outstanding payments due for the issued bill (normal billing cycle) in case of postpaid number
- (h) The mobile number is sub-judice
- (i) Prohibited by a Court of Law

3.22 In view of the potential capabilities of new technologies, comments of the stakeholders are solicited on the following:-

**Q19. Would the new technologies, such as blockchain be helpful for facilitating faster and transparent MNP process? What can be the possible advantages and challenges? Please elaborate.**

**Q20. If there are any other issues relevant to the subject, stakeholders are requested to offer comments along with explanation and justifications.**

**CHAPTER – IV**  
**SUMMARY OF ISSUES FOR CONSULTATION**

- Q1. Would it be appropriate that MNPS P be assigned the task of generating and communicating the Unique Porting Code (UPC) to the subscriber intending to port his mobile number as proposed in the consultation paper?**
- Q2. If you agree to assign the task of UPC generation to MNPS Ps, whether the revised process outlined in the consultation paper is appropriate to address the relevant issues being faced in the existing MNP process?**
- Q3. Do you suggest any other methodology which can address the issues being faced in the existing MNP process? Elaborate your answer.**
- Q4. How can KYC information available with DO be verified during the MNP process to avoid fraudulent porting? Please elaborate.**
- Q5. What are the challenges in implementing the proposed MNP processes / framework on the part of stakeholders' viz. TSP (as DO and RO) and MNPS P? Elaborate your answer.**
- Q6. Whether MNPS P should be compensated towards the cost of generation and delivery of UPC to the subscriber through SMS? If yes, what mechanism can be adopted?**
- Q7. What would be the appropriate mechanism to reinforce the accountability and role of MNPS P in the proposed scenario?**
- Q8. What could be the mandatory obligations on part of the MNPS P?**
- Q9. In the event of large scale disruption or sudden shutdown of network, what could be the appropriate alternative mechanism to ensure delivery of UPC and completion of porting process?**

- Q10. (a) Do you agree with the process for transfer of the prepaid balance to the subscriber's account as described in the consultation paper? What changes do you envisage in licensing/ regulatory framework to enable the provision? Please elaborate your answer.**
- (b) If the above process is not agreeable, please suggest alternate mechanism.**
- Q11. What should be the regulatory requirements to monitor efficacy of the provision of transferring the unspent pre-paid balance? Please elaborate your answer.**
- Q12. In the proposed scenario of reduced MNP timelines, should the validity of the UPC be reviewed? If yes, what should be the period of validity of UPC? Please elaborate your answer with justification.**
- Q13. Whether it would be appropriate to review the existing structure of UPC? Please elaborate your answer with justification.**
- Q14. If you agree to above, does the proposed structure as discussed above adequately serve the purpose or would you suggest any other mechanism? Please elaborate your answer with justification.**
- Q15. Should the provision of withdrawal of porting request be done away with in the revised MNP process? Please state your answer with justification.**
- Q16. What additional changes do you envisage in the MNP regulations? Elaborate your suggestions.**
- Q17. Due to the difficulty envisaged, should the subscriber be allowed to reconnect his mobile number even after number return process is initiated? If yes, what could be the criteria? Please elaborate suitable method.**

- Q18. Should the MNPSPs be allowed to charge for the ancillary services such as number return and bulk database download by TSPs? Please provide your comments with justifications.**
- Q19. Would the new technologies, such as blockchain, be helpful for facilitating faster and transparent MNP process? What can be the possible advantages and challenges? Please elaborate.**
- Q20. If there are any other issue(s) relevant to the subject, stakeholders are requested to offer comments along with explanation and justifications.**