

Consultation Paper No. 2/2013

**CONSULTATION PAPER
ON
National Numbering Plan of Nepal**

Nepal Telecommunication Authority

October, 2013

PREFACE

The numbering is very important and limited national resource in telecommunication sectors. Its role is to permit and support telecommunications growth and development. So it should be managed effectively and efficiently. Nepal Telecommunication Authority (NTA) intends to review the existing numbering plan and to formulate a plan which will be futuristic, flexible and could cater to numbering needs in respect of existing and likely new services. The Authority has received report on “Review the existing National Numbering Plan and Formulate a New National Numbering Plan” along with the recommendations on new NNP from the working committee formulated by the Authority.

NTA has issued this consultation paper to request concerned stakeholders, experts, researchers and any other interested parties to send their comments/ suggestions or inputs either in electronic form or in written form on the various issues raised in consultation paper within 30 days from the date of the publication of this consultation paper. The comments and inputs provided by the stakeholders will enable the Authority in formulating the new National Numbering Plan of Nepal. The consultation paper shall be available on NTA's website (www.nta.gov.np). In case any further clarification or information is needed, please write to ntra@nta.gov.np or contact Mr. Min Prasad Aryal, Deputy Director, NTA (Email: mparyal@nta.gov.np, Tel: 977-1-4101030) or Mr. Binod Chandra Shrestha, Assistant Director, NTA (Email: bcshrestha@nta.gov.np, Tel: 977-1-4101030)

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October, 2013

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1. Background

The numbering plan for telecommunication services is part of a country's essential telecommunications resources. Its role is to permit and support telecommunications growth and development. The numbering plan should therefore be arranged in such a manner as to ensure efficient utilization of numbering space, promote competition, availability of adequate numbers and facilitate new innovative services. The numbering plan has never been a hindrance to the development of the Telecommunication sector as yet; however, there are areas where an effective numbering plan in place can help foster the growth of Telecommunication sector that is not explored at present as well as make people aware of the service they are using or accessing by simply analysing the numbers of such services.

The last few years have seen tremendous growth all around and particularly in the field of cellular mobile services. In most of the countries, these services have already exceeded the traditional basic services. In Nepal too, the cellular mobile services have seen a tremendous growth leaving behind the traditional fixed services by huge margin. The introduction of several telecom operators in basic, Cellular, International Long Distance (ILD) Services, Rural Telecom Service etc. has introduced competition and opened up a new horizon for varieties of services that can be offered to the public. As such, it was felt to review the existing Numbering Plan and to formulate a plan, which will be futuristic, flexible and could cater to the numbering needs for about next decade or two in respect of the existing and likely new services.

The new National Numbering Plan will be able to meet the challenges of multi-operator, multi-service environment and will be flexible enough to allow for scalability for a decade or two without any change in its basic structure.

2. Objective

The main objective of this study is to review the existing Numbering Plan and to formulate a plan, which will be futuristic, flexible and could cater to the numbering needs in respect of the existing and likely new services.

3. Scope

In order to achieve the aforementioned objective, the scopes of the project are:

- a. Study the international practices for national numbering plan.
- b. Study the existing national numbering plan of Nepal.
- c. Feasibility study on the implementation of new/ revised national numbering plan.
- d. Create a new numbering plan, whilst defining a new numbering scheme and Identifying new leading digits, where applicable, for the following category of services:
 - a. Fixed services
 - b. Mobile services
 - c. Free-phone services (Toll free)
 - d. Premium rate services/Special number services
 - e. Any other category of services of importance for the future
- e. Identify the cost associated with the implementation of the new numbering plan;
- f. Propose a framework for migration/parallel running of the current numbering system to the proposed one, including appropriate timeframes;
- g. Determine what order of digit should be used to identify operators/networks. i.e. 2nd digit, 3rd digit, etc.
- h. Determine whether there is still a need for leading digits of fixed services to indicate geographic information;
- i. Identify the current limitations in the current allocation policy & mechanism, and propose a revised allocation policy and mechanism consistent with the new numbering plan, which will encompass the following:
 - a. Fairness and equitability to all applicants;

- b. Efficiency in the use of numbers;
- c. Easy to implement and manage;
- d. Have a relatively fast administrative procedure;
- j. Determine the management mechanism of NSPC/ ISPC in the new numbering plan;
- k. Propose a proper mechanism to manage and re-use numbers by all operators e.g. defining the period for quarantine and different status categories of allocated numbers, such as reserved, allocated, quarantine, etc.;
- l. Define the use and restrictions of the dial buttons '*' and '#' in the new numbering plan;
- m. Define the minimum and maximum digit length for access codes.
- n. Any other relevant issues regarding numbering plan

4. Current Scenario

NTA has allocated different numbering ranges to different telecom services. The different area codes have been defined based on the district for fixed telephony services. For fixed telecommunication services 1 digit is used for area code, 1 digit is for operator code and remaining 6 digits is used for subscriber number totaling altogether 8 digits inside the Kathmandu valley. Outside the Kathmandu valley 2 digits is allocated for area code, 1 digit for operator code, and 5 digits is allocated for subscriber number comprising altogether 8 digits fixed telecommunication services.

For cellular mobile communication, 10 digits numbering is allocated out of which 98 is used for GSM system code, 1 digit for operator code, and remaining 7 digits is for subscriber number. There are two licensees who have been assigned the cellular operator numbering range. 9 digits numbering range is allocated for Rural Telecommunication service(RTS) out of which 2 digits-99 is allocated for system code, 1 digit is allocated for operator code, 2 digits are allocated for area code and remaining 4 digits are allocated for subscriber number. Two operators namely STM Telecom

Sanchar Pvt. Ltd. and Smart Telecom Pvt. Ltd have been assigned the aforementioned RTS numbering scheme.

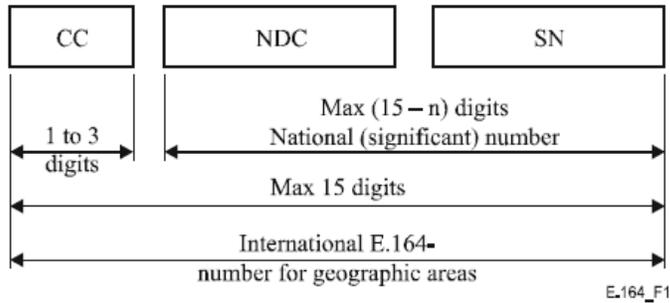
For limited Mobility services 10 digits numbering scheme is allocated out of which 2 digits system code (96 and 97), 1 digit is allocated for operator code, 1 digit is allocated for area code and remaining 6 digits are allocated for subscriber number inside the Kathmandu valley and 2 digits system code (96 and 97), 1 digit is allocated for operator code, 2 digits are allocated for area code and remaining 5 digits are allocated for subscriber number outside the Kathmandu valley. Altogether 14 bits - 24 ISPCs have been already assigned for Nepal by ITU till date. Among them 16 ISPCs have been assigned to the different operators in ILD communication. Some of 16384-14 bits- NSPCs have been assigned to the different operators. 3 or 4 digits with leading digit 1 are assigned as short codes for emergency numbers, toll free numbers and access codes to different operators.

A further detail on existing national numbering plan is attached herewith in Appendix 2.

5. Structure of the international E.164-number as per ITU Standards

5.1 E.164 – International E.164-number structure for geographic areas

The international E.164-number for geographic areas is composed of a variable number of decimal digits arranged in specific code fields. The international E.164-number code fields are the Country Code (CC) and the National (Significant) Number N(S)N. Fig. 6.1 shows the international E.164-number structure for geographic areas.



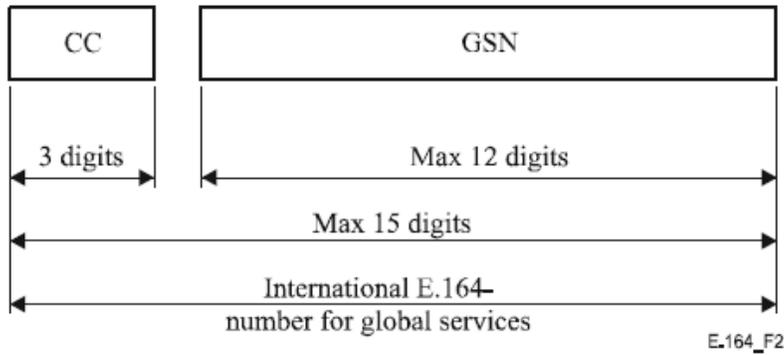
CC Country Code for geographic area
 NDC National Destination Code
 SN Subscriber Number
 n Number of digits in the country code

NOTE – National and international prefixes are not part of the international E.164-number for geographic areas.

Fig.6.1 E.164 – International E.164-number structure for geographic areas

5.2 The international E.164-number for global services

The international E.164-number for global services is composed of decimal digits that vary depending on the specific service. The international service number code fields are the 3-digit country code for global services and the Global Subscriber Number (GSN). Fig. 6.2 shows the international E.164-number structure for global services. The use of this format is service specific and is dependent on the numbering requirements as detailed in the appropriate Recommendation, e.g., ITU-T Rec. E.169 – Application of Recommendation E.164 numbering plan for universal international freephone numbers for international freephone service.



CC Country Code for global services

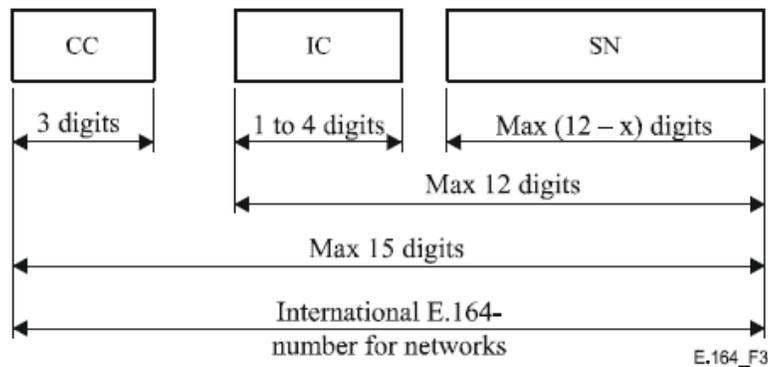
GSN Global Subscriber Number

NOTE – National and international prefixes are not part of the international E.164-number for global services.

Fig. 6.2 : E.164 – International E.164-number structure for global services

5.3 The international E.164-number for Networks

The international E.164-number for Networks (Fig. 6.3) is composed of decimal digits arranged in three code fields. The code fields are the three-digit Country Code (CC) for Networks field, the IC field, which varies in length from one to four digits, and the Subscriber Number (SN), which can be up to 15 minus the number of digits in the CC and IC fields.



CC Country Code for Networks

IC Identification Code

SN Subscriber Number

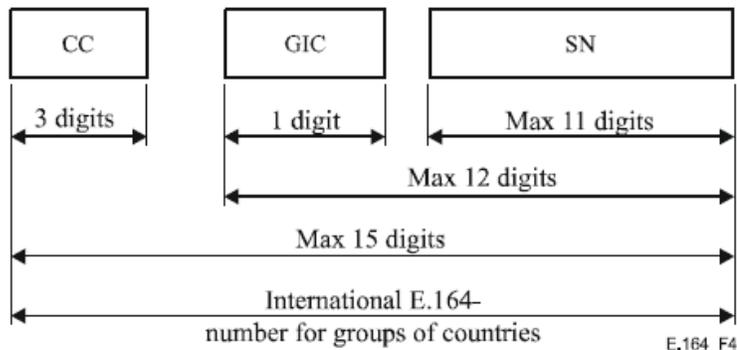
x Number of digits in Identification Code

NOTE – National and international prefixes are not part of the international E.164-number for Networks.

Fig. 6.3: E.164 – International E.164-number structure for Networks

5.4 E.164 – International E.164-number structure for Groups of Countries

The international E.164-number for Groups of Countries (Fig. 6.4) is composed of decimal digits arranged in three code fields. The code fields are the three-digit Country Code (CC) for Groups of Countries field, the Group Identification Code (GIC) field, which is fixed at one digit, and the Subscriber Number (SN) field which can be a maximum of 11 digits.



CC Country Code for Groups of Countries
 GIC Group Identification Code
 SN Subscriber Number

NOTE – National prefixes are not part of the international E.164-number for Groups of Countries.

Fig. 6.4: E.164 – International E.164-number structure for Groups of Countries

6. International Practices

During the study the international practices of some of the countries has been assessed and explored. The practices of India, Pakistan, Bangladesh, Qatar, UK and Singapore have been assessed. The summary of the international practices in the aforementioned countries is mentioned hereunder.

6.1 India

The key features regarding the numbering scheme in India is given below:

- Dialling procedure as per ITU-T E.164 has been followed.
- Short Distance Charging Area (SDCA) based Linked Numbering scheme for basic services.
- National (Significant) Number [N(S)N] is 10 digit for both the basic as well as cellular mobile services.
- The subscriber number (SN) for basic services will be 6, 7 or 8 digits depending upon the SDCA code.
- Levels 0, 1, 7, 8 and 9 shall not be used as first digit for exchange codes.
- Carrier Access Code (CAC) for National Long Distance (NLD) and International Long Distance (ILD) has been defined as '10'.
- Separate Carrier Identification Codes (CIC) have been earmarked for toll and non-toll quality NLD and ILD services.
- All the service providers shall use 100, 101 and 102 for Police, Fire and Ambulance uniformly.
- '107' has been allotted for 'Natural Calamities, Emergency Information & Accident Related services' like earth quake, floods, air and train accidents etc.
- IN service access, codes are shifted from 16XX to 18XX.
- Trunk services codes are shifted from 18X to 150X.
- Certain level 1 codes are earmarked for all service providers to offer various subscriber related services as per their wishes.
- Voice Mail services access code is shifted from 93 to 170.
- Enough spare levels/ codes are reserved for future needs.

6.2 Pakistan

- It has adopted the numbering capacity for fixed line and mobile sectors with 10 digits, 2 digit network access code and 8 digit for subscriber number .

- The Plan is intended to fuel the growth of competitive telecommunications services in Pakistan and prepare ground for the introduction of IP based services in the sector.
- The structure of the national numbering plan complies, as far as possible, with ITU-T Recommendations E.164.
- Numbers beginning with the digit '0' are reserved for national and international services. Level "0" is used as escape code for long distance (national) dialing and for access to other networks i.e. mobile, IP based services while "00" is assigned to international direct dialing for all telecommunication users in the country irrespective of their service provider and as such shared by all the service providers.
- Numbers starting with leading digit "1" are reserved for short codes and access to intelligent network based services. Short codes for emergency services, customer services and carrier selection also start with digit "1". Some short codes are 3-digit long while others are 4-digit long depending on their use.
- Country is divided in two geographic areas and leading digits "02" and "04" are assigned to these geographic areas where second/third or fourth digit leads to complete national destination code. Subscriber number consists of eight/seven/six digits. National Significant Number is ten digits long in all cases.
- Leading digit "01" and "03" is assigned to cellular mobile operations with 2- digit network access code and 8-digit subscriber number. *Twenty mobile operators can launch their services while each operator can hold a theoretical base of 100 million customers.*
- Leading digits "05" and "06" are reserved for future services.
- Leading digit "07" is reserved for IP based services while leading digit "08" is assigned to Freephone and new non geographic services.
- Leading digit "09" is assigned to Premium Rate Services and new non geographic services.
- Overall length of national significant number is ten digits.
- The plan in its proposed form has a theoretical capacity of 800 million PSTN customers in one geographic area while the country is divided into two

geographic regions and host of fixed line operators can share an overall resource of 1600 million numbers in the foreseeable future. Besides above capabilities the Plan has two national levels in reserve for future services and networks not yet discovered.

- Scheme of NDC assignment at district level has been retained, however, with the reduction of national levels allocated to geographic numbers from the current 7 to 2 has led to change of area code for some districts. The change has been contained to minimal level i.e. the one absolutely necessary to spare five national levels for more productive use.
- Short codes allocated to emergency services have been retained and space created for more short codes for future use through shifting of two digit codes for Speaking Clock, Directory Enquiry and Telephone Complaint etc. to four digit codes. Space for five hundred short codes has thus been created.

Short Codes -Summary

| Name of Service | Short Code | Number of Digits |
|---|-------------------|-------------------------|
| Customer Services (Calling Card, Customer Services) | 10XX | 3/4 digits |
| UAN, Emergency Services (Fire, Ambulance, Various Enquiries) | 11X | 3 digits |
| Access Code for various customer services (VMS, Calling Cards) | 12XX | 3/4 digits |
| Internet Access & Various helplines | 13X | 3 digits |
| Reserved for Future Use | 14XX | 4 digits |
| Emergency Police | 15 | 2 digits |
| Reserved for Future Use | 16XX | 4 digits |
| Reserved for Future Use | 17XX | 4 digit |
| Reserved for Future Use | 18XX | 4 digits |
| Carrier Selection | 19XX | 3/4 digits |

- Separate paper on ENUM has been included in this document with a concrete proposal for preliminary steps to be taken to prepare the grounds for the implementation of ENUM in the country when market is ready to deploy the technology gainfully.
- It benchmarks for golden number declaration and the procedure for charging of ordinary number, the short codes and the golden numbers.
- PTA has adopted following Number Charging policy:
 - Fair and non-discriminatory access to numbers is important for fair competition. While a number of countries set the level of charges for numbers based on a cost recovery basis, an important consideration in charging numbers is that it promotes efficient use of numbers by service providers in a fair and equitable manner.
 - If no cost is imposed on holding assigned numbers without actually using them there is no economic incentive for operators to be more efficient in the use of assigned numbers. Number charge provides economic cause for service providers to use finite national resource efficiently.
 - Efficient use of numbers carries long term benefit for the society in minimizing numbering plan changes which result in disruption, additional cost and inconvenience to customers and the industry.
 - Numbers hold a value to industry above the level of administrative costs being a finite national resource. A reasonable portion of this national value is normally collected by the regulator on behalf of the Government. This has the economic effect on industry of setting an appropriate cost level for the numbering resource in business decisions, such as the evaluation of new products and services.
 - Short codes have a special significance and carry a special price
 - Golden numbers are preferred for the ease to remember and carry special appeal for some customers who are willing to pay premier on such numbers, regulators around the world place premier on such numbers.
- PTA incurs an expense in development of a National Numbering Plan and manages it in a fair and transparent manner. PTA allocates numbers to telecom

operators for launch of their services as also for the expansion of their networks and services. This section examines various possibilities to recover the expense in a fair, equitable and transparent manner.

- Numbers are normally categorized under three heads.
 - Ordinary numbers:
 - Short codes or special numbers, and
 - Golden numbers

6.3 Qatar

- Dialling procedure as per ITU-T E.164 has been followed
- The minimum number length (excluding the country code) is 3 digits
- The maximum number length (excluding the country code) is 8 digits
- Detail of numbering scheme:

| (1) <i>Leading digits of N(S)N (National (Significant) Number)</i> | (2) <i>N(S)N number length</i> | | (3) <i>Usage of E.164 number</i> |
|---|-----------------------------------|---------------------------|--|
| | <i>Maximum length</i> | <i>Minimum length</i> | |
| 1 | 3 | 3 | Non-geographic number – Short Codes |
| 20 | 4 | 4 | Non-geographic number – Short Codes |
| 21 | 7 | 7 | Non-geographic number – Paging |
| 22 | 7 | 7 | Non-geographic number – Paging |
| 23 | 7 | 7 | Fixed telephony Services |
| 261 | 7 | 7 | Non-geographic number – Paging |
| 3 | 8 | 8 | Mobile telephony services |
| 4 | 8 | 8 | Fixed telephony Services |

| | | | |
|-----|---|---|--|
| 5 | 8 | 8 | Mobile telephony services |
| 6 | 8 | 8 | Mobile telephony services |
| 7 | 8 | 8 | Mobile telephony services |
| 800 | 7 | 7 | Non-geographic number – Freephone |
| 900 | 7 | 7 | Non-geographic number – Audiotext |
| 92 | 5 | 5 | Non-geographic number – SMS services |
| 97 | 5 | 5 | Non-geographic number – SMS services |
| 99 | 3 | 3 | Non-geographic number – Emergency Short Codes |

- All Qatari eight digit numbers starting with the digits 3 (mobile), 4 (fixed-line), 5 (mobile), 6 (mobile) and 7 (mobile) are valid number ranges in Qatar’s National Numbering Plan.

6.4 Bangladesh

Only the decimal character set 0-9 has been used for all number allocations. Letters and other non-decimal characters shall not form part of the National (Significant) Number (N(S)N). Dialing procedure as per ITU-T Recommendation E.164 has been followed. Some of the salient features of the National Numbering Plan (NNP) are as follows:

- N(S)N is ten digits for both the basic as well as the cellular mobile services.
- Basic to cellular mobile service calls shall use prefix “0”.
- Basic services shall be accessed by cellular mobile using “0”.
- Carrier Access Code (CAC) for ILD has been reserved as “10” to cater for multiple ILD Scenario in coming years.
- Separate Carrier Identification Codes (CIC) has been earmarked for toll and non-toll quality ILD services.

- All the service providers shall use “100“, “101“ and “102“ for Police, Fire and Ambulance services respectively.
- Intelligent network service access codes shall be available on “08“ series.
- Certain level “1“ codes are earmarked for all service providers to offer various subscriber related services, as per their choice, within their network.
- Enough spare levels/codes are reserved for future needs.

6.5 Singapore

The national numbering plan describes how numbers are administered and managed. It also sets out the usage, eligibility & assignment criteria and application & assignment procedures for the various number resources.

- Numbers with Leading Digit 0

Numbers beginning with the digit „0“ are reserved for international services such as prefixes for International Direct Dial (IDD) service, Subscriber Trunk Dial (STD) service to Malaysia and Border Town Call service to Indonesia. The length of these prefixes is standardised at three digits. They are referred to as Level „0“ short codes.

FBO licensees are eligible for 3-digit access codes provided that they commit an overall investment in infrastructure of an amount not less than S\$150 millions over the first 3 years from date of licensing. In addition, FBO licensees must use the access codes to provide service for the mass consumer market, an example of which is the offering of international public switched services to the general public.

- Numbers with Leading Digit 1

Numbers beginning with the digit „1“ are reserved for special services which includes calls for operator assistance, service enquiry, Internet dial-up, voice information, IN services and access code IDD type of services. Their length generally ranges from four to five digits. They are referred to as Level „1“ short codes.

Generally, only FBO licensees are eligible for Level „1“ short codes. However, Service-based Operator (SBO) (Individual) licensees who propose to deliver International Simple Resale (ISR) service (excluding solely wholesale service) -

where customers can have one stage IDD dialling through PSTN and where access is not via card mode nor Personal Computer-based, are eligible for allocation of codes from the „15XX“ level.

- Numbers with Leading Digit 3

Numbers beginning with the digit 3 are reserved for use for IP Telephony (IPT) service. The length of these numbers is standardised at eight digits. Licensees offering IPT service are eligible for IPT numbers.

- Numbers with Leading Digit 6 Numbers beginning with the digit „6“ are reserved for use for PSTN service and IP Telephony (IPT) service. The length of these numbers is standardised at eight digits. FBO licensees offering domestic telephony services (including Public Switched Telephone Services, PSTN and Integrated Services Digital Network Services) and IPT service meeting the licensing obligations imposed by IDA are eligible for level „6“ numbers.

- Numbers with Leading Digit 8 and 9 Numbers beginning with the digit „8“ and „9“ are reserved for eight digit Radio Network numbers. In addition, numbers beginning with the digit „99“ are reserved for three digit emergency services. FBO licensees offering Radio Network services including Public Cellular Mobile Telephone Services, Public Radio Paging Services and Public Trunk Radio Services are eligible for Radio Network numbers.

6.6 UK

Almost all geographic numbers and most non-geographic numbers have 9 or 10 national (significant) numbers after the "0" trunk code. All mobile telephone numbers have 10 national (significant) numbers after the "0" trunk code. The overall structure of the UK's National Numbering Plan is:

| Prefix | Service type |
|--------|---|
| 01 | Geographic area codes. |
| 02 | Geographic area codes (introduced in 2000). |

| | |
|-----------|--|
| 03 | Nationwide non-geographic code, charged to caller at geographic area code rates (introduced 2007). These calls are included free in plans with "inclusive minutes", unlike 08 numbers, most of which can incur extra charges, depending on the operator. |
| 04 | Reserved. |
| 05 | Corporate numbering and VoIP services (note: some VoIP services use 08 or geographic numbers). Freephone (toll free) on 0500. |
| 06 | Was reserved for possible use by Personal Numbering (PNS) instead of 070 following consumer confusion with mobile phones. |
| 07 | Mostly for mobile (cell) phones on 074xx, 075xx, 07624, 077xx, 078xx, and 079xx. WiFi numbers on 079112 and 079118. Personal Numbering on 070. Pagers on 076xx. |
| 08 | Freephone (toll free) on 080, and Special Services (formerly known as local and national rate) on 084 and 087. |
| 09 | Premium Rate services (PRS). |

In the United Kingdom, area codes are two, three, four, or, rarely, five digits long (after the initial zero). Regions with shorter area codes, typically large cities, permit the allocation of more telephone numbers as the local number portion has more digits. Four-digit area codes have either six-digit subscriber numbers or a mix of five- and six-digit subscriber numbers. Geographic telephone numbers in the UK always have nine or ten digits. 07xxx xxxxxx is allocated for mobile phones and WiFi numbers.

On 27 July 2006, Ofcom announced that companies will soon be able to use an "03" non-geographic number, in place of other non-geographic numbers (such as 0870 or 0845numbers).

Followings are allocation for different type of services:

- 0800 xxxxxx, 0800 xxx xxxx and 0808 xxx xxxx—Freephone services.
- 084x xxx xxxx and 087x xxx xxxx—Non-geographic fixed-rate, or special-rate services.
- 08xx xxx xxxx—Internet for schools and Inbound routing codes.
- 09xx xxx xxxx—Premium Rate Content Services

The UK has two free emergency numbers—the traditional 999, which is still widely used, and the EU standard 112, which can be used in all member states of the European Union.

Both 999 and 112 are used to contact all emergency services: Police, Fire Service, Ambulance Service, Mountain Rescue, Coastguard and Cave Rescue.

The chargeable number 101 was introduced for non-urgent crime and community safety calls on a trial basis in 2006. In Wales, the scheme was taken forward by all four police forces, who adopted the number for non-emergency calls on a permanent basis in early 2009. In England the scheme was on trial until 2012, when it was adopted nationwide and the cost to call changed from 10p per call to 15p per call.

The operator is obtained via 100 from landlines, while directory enquiries, formerly 192, is now provided in the 118xxx range, e.g. 118 212, 118 800, 118 500, 118 118, by different companies. International Operator assistance is reached through 155.

From early 2010, the pan-European 116 number range came into use for social helplines. The first three numbers allocated were Missing People using 116 000 for a missing children helpline, the NSPCC ChildLine on 116 111, and Samaritans using 116 123 for an emotional support helpline. A recent consultation for the numbers 116 106 and 116 117 has yet to see any result.

The National Health Service (NHS) can be reached on 111 for non-emergency calls. In other European countries the number 116 117 is used for a similar purpose.

Two telephone helplines within the regular code space have only seven digits, namely 0800 1111 for ChildLine and 0845 4647 for NHS Direct in England and Wales.

7. ENUM

ENUM is a function for mapping E.164 numbers into Uniform Resource Identifiers (URIs) corresponding to communication applications associated with those numbers. ENUM utilises the protocol developed by the Internet Engineering Task Force (IETF), specified in RFC 2916 that first transforms E.164 numbers into ENUM domain names and then uses the DNS-based architecture to access records from which the URIs are derived. ITU-T Rec. E.164, titled "The international public telecommunications numbering plan," describes the format and types of use of public E.164 numbers. Through the ENUM function, E.164 numbers can be used to provide

calling users with a variety of addresses, including those used for phone, fax and e-mail, by which the called user can be contacted. This enables the called user to tailor the manner in which they are contacted through a single number. Contact information can also be easily amended, added to, or updated without changing the number used for access.

When using ENUM in the specific implementation proposed in this Supplement, E.164 numbers are inserted within a single, carefully defined and structured domain of the DNS system. In a purely IP environment, ENUM will allow end users to use their E.164 number as a commonly used ENUM domain name for a variety of applications. It does not change the E.164 numbering plan in any way. This initiative can also facilitate both-way interworking between the SCN and IP-based networks. Sample call flows from an SCN to an IP-based network, and from an IP-based network to an SCN, are shown in the following figures (8.1 and 8.2).

Although use of ENUM is not required for IP-to-SCN interworking, ENUM records can be established for E.164 numbers without IP connectivity. In Fig 8.1 the call set-up is shown from an IP-based terminal to the SCN. The IP-based terminal related to the E.164 number (+44 113 496 0000) formats the called user's E.164 number (+1 908 555 1234) into an ENUM domain name (4.3.2.1.5.5.5.8.0.9.1.e164.TLD) and forwards this to the DNS. This returns the URI (Tel: +1 908 555 1234), which initiates the call set-up to the gatekeeper using the 'tel' URI. The gatekeeper then routes the call to the responsible gateway. The call is then routed through that gateway and delivered via the SCN.

It can be seen from Fig. 8.2 that an SCN-based user (E.164 number: +1 908 555 1234) can contact a customer on an IP-based network through the use of the called user's E.164 number (+44 113 496 0000). When the SCN-initiated call reaches an ENUM enabled gatekeeper, it formats the number into the ENUM domain name 0.0.0.0.6.9.4.3.1.1.4.4.e164.TLD and the DNS returns the URI related to the required H.323 user (h323:user@gk.foo). Another look-up in the Back-End service is then required to look up the IP address for the subscriber's terminal. The call can then be completed to the H.323 client (terminal) related to the E.164 number (+44 113 496 0000). In the H.323 environment, a gatekeeper is the controlling element within a specific H.323 environment and it controls a number of gateways in this H.323 domain.

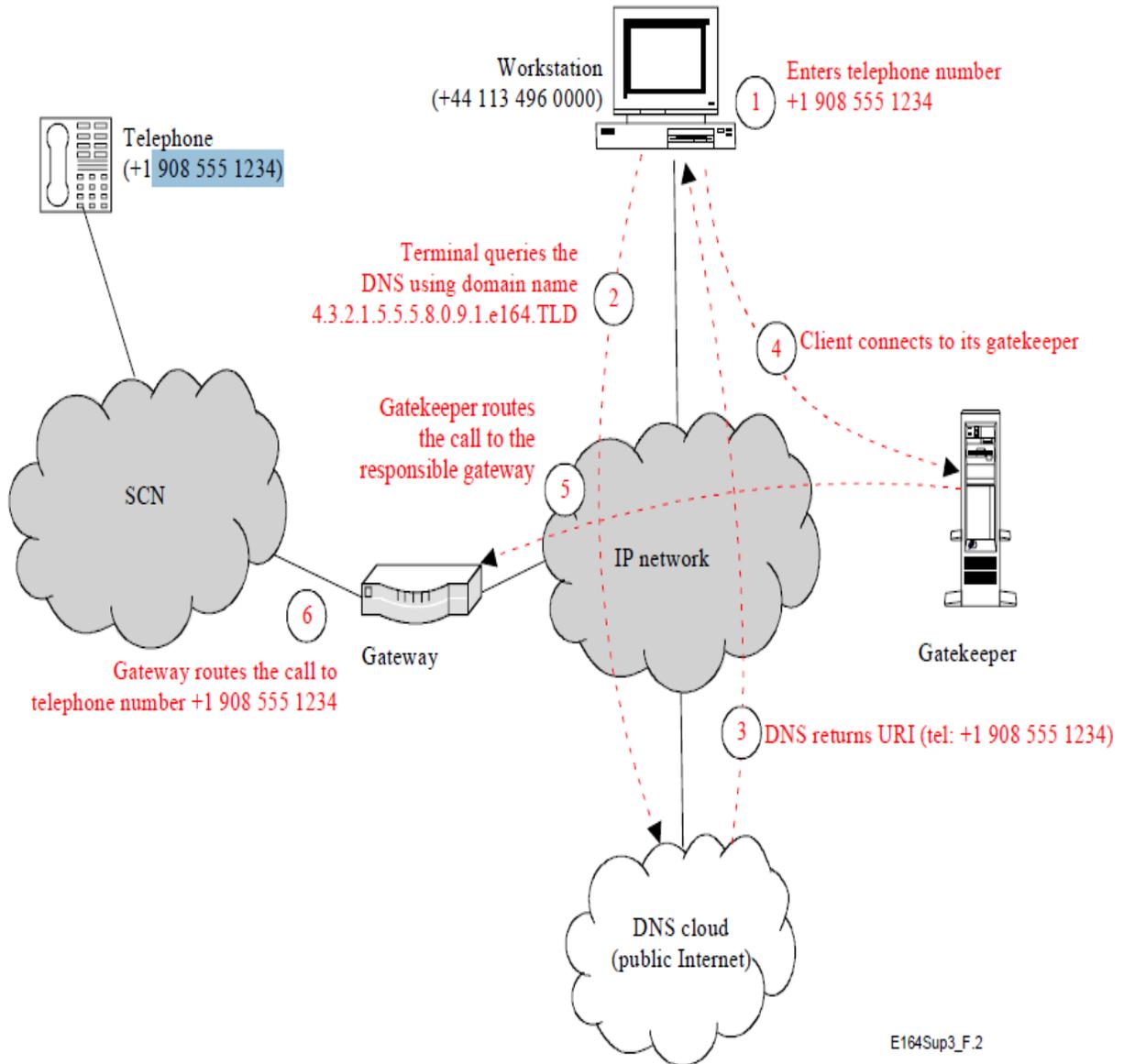


Fig. 9.1: Sample call flow from switched circuit network to IP-based network

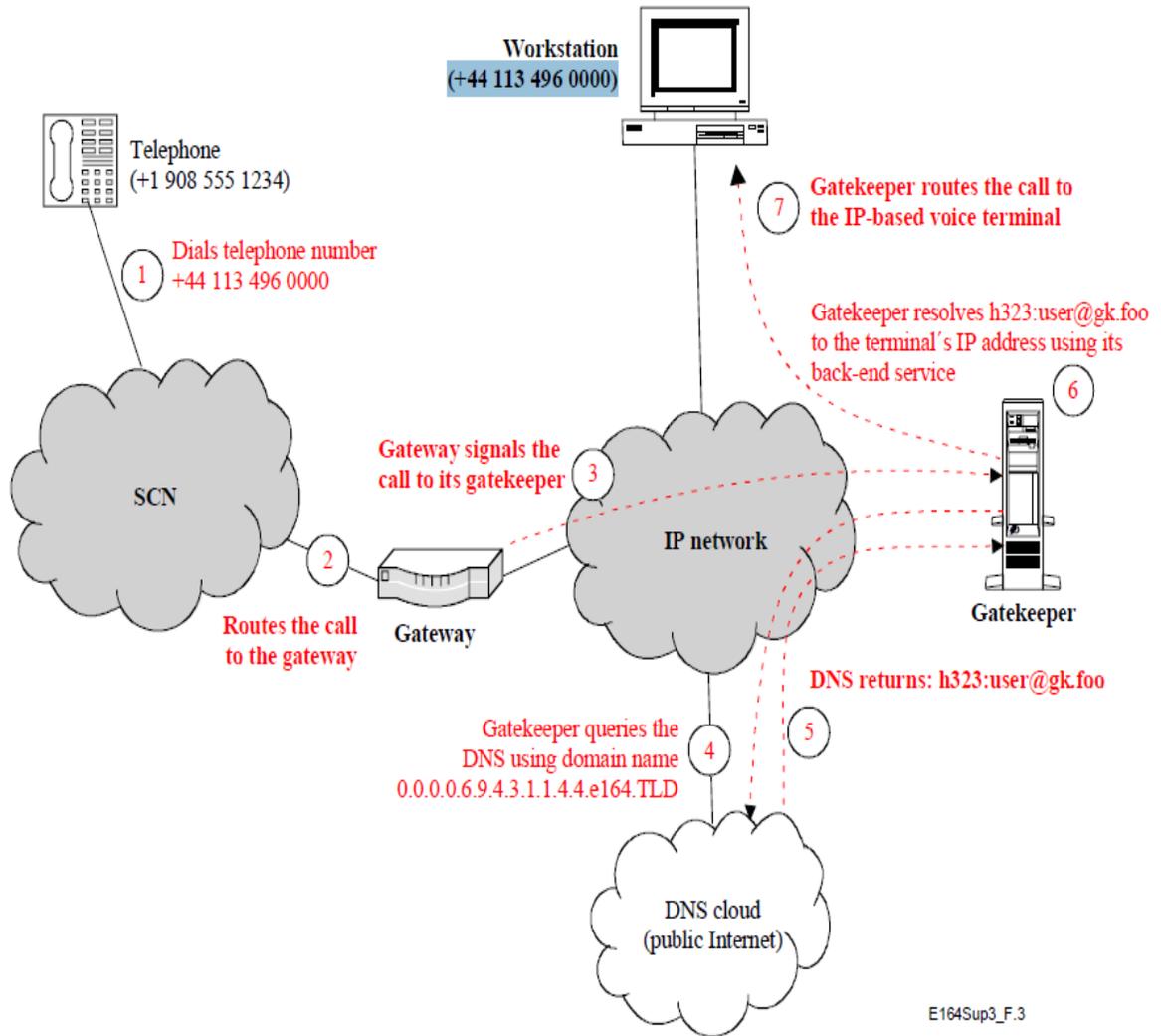


Fig. 9.2: Sample call flow from IP-based network to switched circuit network

ENUM is an opt-in capability developed to take advantage of the hierarchical nature of E.164 numbers and to use that structure to discover IP-based applications that can be used to communicate with end users. This opt-in characteristic is exhibited at two levels:

- the Member State; and
- the end user.

Once a Member State decides to opt-in to ENUM, a set of implementation and provisioning processes should be developed.

Second, end users can decide whether to opt-in to ENUM and provision their contact information within the DNS. These users will want to feel that their contact information is both safe and secure before they will want to participate in ENUM. The security and privacy issues, discussed in previous clauses, are probably the most important aspects of ENUM to end users.

In addition, ENUM relies on applications and services. Application software must become ENUM enabled for users to be able to access the capability. In some cases, software (e.g., e-mail programs) must be changed to use the ENUM capability when an end user supplies an E.164 number to be translated into the appropriate URI (e.g., mailto:user@host) for the application. In other cases, service providers will need to update software or add new equipment (e.g. IP gateways) to access the DNS for ENUM. Market forces may influence the speed and penetration of such changes within the industry. It is only after all three pieces of the ENUM puzzle fall into place that the capabilities of ENUM can be realized.

8. Pricing of numbers

It is apparent that numbers are an extremely valuable public resource. After the analysis of the international practices and the present state of utilization of numbers, the study team is of the view that charging a reasonable amount for each number allocated would encourage the service providers for a more efficient utilization of numbers.

At present the service providers do not pay for the numbering resources allocated to them in Nepal. In international practices, it has been observed from some websites and paper reports that most of the service providers charge their subscribers for allocating preferred numbers or 'vanity numbers'. Some service providers even resort to auction of

numbers for higher revenue. It has been seen that most regulators in Europe put a modest charge on the numbers. *Charging for the numbers allocated to operators may also be used as a tool to encourage efficient use of numbering resources.* It was felt that charging for the numbers allocated to operators may be used as a tool to encourage efficient use of numbering resources and would also be in line with practices followed internationally regarding charging of numbers. In Australia, the “rights of use” of numbers have been defined and are not seen in conflict with the numbers as a whole remaining a national resource. The charging for the numbers is being in practice in different countries like Australia, UK, Pakistan, Hongkong.

The stringent criteria laid down for allocation of numbering resources alone may not justify the free allocation of numbers. *The numbering space belongs to the government. The service providers are given usage rights over the assigned number ranges during the tenancy of the license.* Though service providers may argue that they are not marketable commodity yet it cannot be denied that most service providers charge for numbers that may have higher demand.

These codes are of minimum 3 digits and maximum of 5 digits depending upon service.

The services given using short code are broadly categorized as follows:

- Commercial Service.
- Non-commercial Service.

In non-commercial service, short code will be used for giving utility/information service on public interest and subscribers/users pay existing normal call/SMS charges.

If the call/SMS charge for any service is more than normal charge then it would be considered as commercial service.

It seems necessary to categorize different short digit codes and applications based on their usage as commercial or non-commercial and free or paid numbers and defined the charging scheme accordingly in Nepal.

The following different forms of charging are possible:

- A one-time charge per number
- A one-time charge per block of numbers
- An annual charge per number held
- An annual charge per block of numbers held
- An annual charge per active number held

9. Analysis of Existing Scenario relating to National Numbering Plan

From the statistics of central bureau of statistics, it seems that the current population (2013) of Nepal is 29,673,825. And it is estimated the country population will be by 33,594,985 by 2021 (Source: statistics of central Bureau of Statistics). In order to address the numbering for the projected population, it is necessary to plan the numbering scheme accordingly to make the usage of the numbering resources effectively and efficiently.

As per the MIS information published by NTA in Shrawan, 2070 (July, 2013), the total voice teledensity is 78.85 percent. It seems that the Fixed Telephony penetration rate is 3.15 percent, while Mobile Telephony penetration is 70.04 percent, and the teledensity of the market share of the others (LM, GMPCS) is 5.66 percent. It seems that the mobile penetration is increased tremendously while the fixed line penetration growth is quite low.

There are altogether six voice operators in operation. Nepal Telecom is providing the both basic/Fixed and mobile telephone services. Currently NT has deployed the PSTN, CDMA, GSM, WCDMA/IMT-2000/3G and VSAT technologies for the provision of the voice service. Ncell Pvt. Ltd is providing the mobile telephone service through the GSM and IMT-2000/UMTS/3G technologies. UTL is providing the basic telecommunication

services and Limited Mobility service using CDMA technology. Smart Telecom Pvt. Ltd (STPL) is providing the Rural Telecommunications services and Limited Mobility services using the VSAT and GSM Technologies. Recently the license of the basic telephone has been granted to the STPL by the NTA; however the Supreme Court has given interim stay order not to implement the decision of the NTA regarding the issuance of license of basic telephone service.

Nepal Satellite Telecom Pvt. Ltd is providing the basic telecommunication service using the GSM technologies. STM Telecom Sanchar Pvt. Ltd is providing the Rural Telecommunications Services using VSAT and MF-TDMA/GSM technologies.

Recently Government of Nepal has made Gazetted notice stating the provision for the basic telephone service to the basic telecom service providers, Rural Telecommunications Services. Under this provision, the existing basic telecommunication service operators (UTL, NSTPL) and Rural Telecommunication Service Operator (STM Telecom Sanchar Pvt. Ltd.) are possibly migrating to the basic telephone service. So it seems necessary to plan the national numbering to cater the possible situation of migration.

9.1 Need of revision of Existing National Numbering Plan

It is necessary to identify the current limitations in the existing national numbering plan, and propose a revised allocation policy and mechanism consistent with the new numbering plan, which will encompass the following:

- Fairness and equitability to all applicants;
- Efficiency in the use of numbers;
- Easy to implement and manage;
- Have a relatively fast administrative procedure;

To overcome the limitations of the existing national numbering plan, it is necessary to modify in the existing allocation, assignment policy to cater the *additional operators, to cater the additional customers, to manage the limited numbering resource efficiently and effectively*. In this context , the existing numbering plan of *Fixed/LM/RTS and mobile telephony services is proposed to modify as mentioned hereunder:*

9.2 Fixed/LM/RTS telephony services

The numbering allocation for provision of Fixed/LM/RTS telephony services is as follows:

| | | | |
|-------------|-------------------|--------------------------|---------------------------|
| Prefix="2Y" | Area Code="AA" | OC="X" Where X=2 to 9 | SN="ZZZZZ" Where Z=0-9 |
| NDC | | | |

Allocation of Fixed Numbers outside the Kathmandu Valley

| | | | |
|-------------|------------------|--------------------------|----------------------------|
| Prefix="2Y" | Area Code="A" | OC="X" Where X=2 to 9 | SN="ZZZZZZ" Where Z=0-9 |
| NDC | | | |

Allocation of Fixed Numbers inside the Kathmandu Valley

Where

NDC=National Destination Code (Prefix+Area Code)

OC=Operator Code

SN=Subscriber's Number

Y=currently, allocated Code for Technology/Service (e.g. PSTN, RTS, VSAT)

Y=0 for PSTN, Y=1 for IP phone, Y=2 for Wireless Fixed, Y=4 for LM Service, Y=9 for VSAT

9.3 Mobile services

| | | |
|-----------------|---|---|
| Leading Digit=9 | Operator Code OC= XX Where X=0 to 9 | Subscriber Number SN=ZZZZZZZ Where Z=0 to 9 |
| NDC | | |

Format of Mobile number

9.4 Rationale for the proposed fixed/LM/RTS Numbering plan

2 Y A X ZZZZZZ (in Kathmandu Valley)

2Y AA X ZZZZZZ (Outside Kathmandu Valley)

Where X: operator code 0 to 9

A or AA : Area code as per existing area code

ZZZZZ or ZZZZZZ: subscriber number

Since altogether ten lakhs numbers are possible from the 6 digit fixed/LM/RTS subscriber number and the growth rate of number of fixed subscribers is quite low, it is felt that 6 digit subscriber numbers is sufficient for next 10 years. The different aspect for the usage of the aforementioned numbering is analyzed in terms of merits and demerits hereunder:

Merits:

1. **Possibility of additional operators:** It facilitates for the **release of additional number series for additional fixed operators such as numbers** with operator code/ leading digit 0, 1, 8, 9. At this moment the operator code 1 cannot be assigned since it is being used for emergency services, toll free services, access code. In the existing numbering scheme, the operator code 8 cannot also be used since this number is being used international free services worldwide and it seems appropriate to allocate the numbers for the free services.

2. **Uniformity:** The 10 digit fixed numbering scheme makes the **uniformity in total number of digit for both fixed (including VSAT, RTS) and mobile/LM numbering scheme**. Currently the no. of digits varies in different services such as 9 digits for VSAT, 9 digits for PSTN, and 10 digits for Mobile and LM.
3. **Easy interface with ENUM:** It is assumed that the proposed 10 digit Fixed numbering scheme would be more applicable for new numbering scheme **for ENUM** for the future telecommunication technologies and applications
4. **Addressable for state restructuring:** The proposed numbering scheme can be used appropriately for the possible new provinces of Nepal which is assumed to be applicable in the near future after the restructuring of the state. The Other leading can also be used (except 1,3, 8, 9) with second highest leading digit 0, 1,9 so that It is also possible to use the existing Area code as the possible province code in future.
5. **Capacity Enhancement:** It is possible to cater additional subscriber in the aspect either by the means of additional operators or the assignment of the proposed numbers among the existing operators.

Demerits:

1. **Prone to mistake in dialing number:** The total number of digits in the proposed numbering scheme is more than the existing total number of digits. Thus more time is taken to dial a number by a subscriber to make a call. Consequently there are more chances of making mistake while dialing a number with comparison to the existing number dialing due to the longer no. of digits.
2. **Impossible in Parallel running of existing and proposed plan:** Since the operator code 2 is assigned to UTL in the existing numbering plan. It is mandatory to implement the proposed new numbering scheme simultaneously from all the operators. Since UTL is using the numbers with leading digit 2 and the proposed numbering

scheme for all fixed operators starts with two, it is not possible to implement the plan of the existing and proposed plan in parallel.

3. ***Necessity of enough public/customer awareness program:*** It is necessary to aware the public regarding the changes in the numbering scheme to inform them on the changes in the dialing pattern as per the revised numbering plan through different customer/public awareness program.

9.5 Rationale for the proposed mobile numbering plan

9 XX ZZZZZZZ where XX is operator code and ZZZZZZZ is subscriber number

The current numbering scheme with 10 digits numbering scheme for mobile is enough to cater the market need. It seems appropriate to use the current trends in the mobile numbering scheme. Since the three operator codes are already assigned for Nepal Telecom and two for Ncell. And it is possible to have one crore mobile lines using an operator code. Right now the Basic Telephone license is opened for the existing voice operators (Basic Telecommunications Services and Rural Telecommunications Services) with the right of operation of mobile service. One of the RTS providers has already obtained license to operate the mobile service based on the provision made by the GoN/NTA. Although the current trends in the telecom business is technology neutrality, it is recommended to allocate different system code for the 3GPP application and non-3GPP applications to make recognizable of the technology trends in the numbering for the time being. For example 98 can be used for GSM and its evolution while 97 can be used for CDMA and its evolutions.

It is also recommended to use additional numbering ranges for additional operators since there are possibilities for using additional mobile system code.

The merits and demerits while implementing the new proposed numbering plan is explored hereunder:

Merits:

Possibility of additional operators: It facilitates for the **release of additional mobile operators such as numbers** through the usage of two digit operator code

Capacity Enhancement: It is possible to cater additional subscriber in the aspect either by the means of additional operators or the assignment of the multiple operator code to the existing operators.

Demerits:

Variation of operator code: It seems that the different operator code is to be assigned to a operator who operate both Fixed/LM/RTS and Mobile Telephony service, Since 1 digit operator code is applicable for Fixed/LM/RTS while 2 digits operator code is proposed for the mobile telephony services.

Migration: It is necessary to migrate the existing 10 digit LM numbering code to the new revise proposed numbering scheme under the Fixed/LM/RTS scheme. Similarly existing 9 digits VSAT numbering scheme is to be changed to the new proposed scheme.

Necessity of enough public/customer awareness program: It is necessary to **aware the public regarding the changes** in the numbering scheme of LM/RTS/VSAT to inform them on the changes in the dialing pattern as per the revised numbering plan through different customer/public awareness program.

9.6 Short Code

Short code is a combination of digits that forms a special number with significantly fewer digits than the National (Significant) Number length or than a subscriber number that can be dialed independent of a NDC to achieve a telephone connection or access an application. It is necessary to manage the short code effectively and efficiently for its optimum utilization. The detail new proposed numbering scheme for the short code is described in Appendix -1. The Arrangement of Existing Numbering with the new proposed short digit codes is shown below in line with the New revised National Numbering Plan mentioned in the Appendix-1.

Arrangement of Existing Numbering with the new proposed short digit codes

| S. No. | Existing Numbering | Proposed Numbering | Name of Service/Allottee | Remarks Change? |
|--------|--------------------|--------------------|---|-----------------|
| 1. | 100 | 100 | Police | No |
| 2. | 101 | 101 | Fire Brigade | No |
| 3. | 102 | 102 | Ambulance | No |
| 4. | 103 | 103 | Traffic Police | No |
| 5. | 104 | 104 | Balbalika Khojtalas Samanwoya Kendra | No |
| 6. | 105 | 1050 | Valley Pritana | Yes |
| 7. | 106 | 1051 | Military Police | Yes |
| 8. | 1113 | 1052 | Police Headquater | Yes |
| 9. | 1114 | 1053 | Arm Police Force | Yes |
| 10. | 1098 | 1098 | Child Helpline | No |
| 11. | 1100 | 1100 | Office of Prime Minister and Council of Ministers | No |
| 12. | 1111 | 1111 | Office of Prime Minister and Council of Ministers | No |
| 13. | 1112 | 1112 | Ministry of Home Affairs | No |
| 14. | 1115 | 1115 | Ministry of Health, Department of Health Service | No |
| 15. | 1116 | 1116 | Ministry of Labour and Employment | No |

| | | | | |
|-----|------------------------|-------------|--|-----|
| 16. | 1130-1135 | 17100-17105 | Short Code for Promotion/Campaign of Ncell | Yes |
| 17. | 12XY | 1200-1204 | Carrier Access Code UTL | Yes |
| 18. | 1315, 1325, 1335, 1345 | 1210-2114 | Carrier Access Code STM | Yes |
| 19. | 1350, 1355 | 1220-1224 | Carrier Access Code Smart Telecom | Yes |
| 20. | | 1240-1244 | Carrier Access Code Ncell | Yes |
| 21. | | 1250-1254 | Carrier Access Code Nepal Satellite | Yes |
| 22. | 1415 | 1615 | CDMA Prepaid Recharge | Yes |
| 23. | 1424 | 17000 | Budget Call for ISD/Special Rate PCC card | Yes |
| 24. | 1425 | 17001 | Budget Call for ISD (Inc. PSTN) | Yes |
| 25. | 1444 | 1230 | Carrier Access Code for Subs. Of other Opt. to call via NT | Yes |
| 26. | 1445 | 17002 | Budget Call for ISD (Inc. PSTN) | Yes |
| 27. | 1498 | 1998 | Mobile Complain | Yes |
| 28. | 15000 | 15000 | ISP: Nepal Telecom | No |
| 29. | 15020 | 15020 | ISP: Nepal Telecom | No |
| 30. | 15030 | 15030 | ISP: Nepal Telecom | No |
| 31. | 15040 | 15040 | ISP: Nepal Telecom | No |
| 32. | 15050 | 15050 | ISP: Nepal Telecom | No |
| 33. | 15060 | 15060 | For NT Staff Internet Dialup No. | No |
| 34. | 15099 | 15099 | ISP: WLINK | No |
| 35. | 15100 | 15100 | ISP: Vianet | No |
| 36. | 15111 | 15111 | ISP: Global Internet Service | No |
| 37. | 15112 | 15112 | ISP: IMAX Pvt. Ltd. | No |
| 38. | 15113 | 15113 | ISP: Fewa Net | No |
| 39. | 15114 | 15114 | ISP: Netlink | No |

| | | | | |
|-----|-------|-------|---|----|
| 40. | 15115 | 15115 | ISP: Global Net | No |
| 41. | 15116 | 15116 | ISP: Himal Technology | No |
| 42. | 15117 | 15117 | E1 Access: Rastriya Samachar Samiti | No |
| 43. | 15119 | 15119 | ISP: Sailung.com, Dharan | No |
| 44. | 15120 | 15120 | ISP: Buddha Net, Pokhara | No |
| 45. | 15121 | 15121 | E1 Access: Napi Bivag, NGIIP | No |
| 46. | 15122 | 15122 | E1 Access: Nepal Rastra Bank | No |
| 47. | 15123 | 15123 | E1 Access: Agricultural Dev. Bank | No |
| 48. | 15124 | 15124 | National Planning Commission (Dialup No.) | No |
| 49. | 15200 | 15200 | ISP: HTP Comm | No |
| 50. | 15208 | 15208 | ISP: Health Net | No |
| 51. | 15209 | 15209 | ISP: Ministry of S & T | No |
| 52. | 15300 | 15300 | ISP: Everest Net | No |
| 53. | 15400 | 15400 | ISP: Network Tech | No |
| 54. | 15500 | 15500 | ISP: Mercantile | No |
| 55. | 15555 | 15555 | ISP: Nepal Army | No |
| 56. | 15600 | 15600 | ISP: Infocom | No |
| 57. | 15700 | 15700 | ISP:CCSL | No |
| 58. | 15800 | 15800 | ISP: Nepal Gateway Comm | No |
| 59. | 15900 | 15900 | ISP: Himalaya Online | No |
| 60. | 1600 | 1600 | SLC Result Enquiry | No |
| 61. | 1601 | 1601 | Result Enquiry service other than SLC | No |
| 62. | 1603 | 1603 | CRBT Service in GSM | No |
| 63. | 1604 | 1604 | VAS: INARA Entertainment Pvt. Ltd. | No |
| 64. | 1605 | 1605 | VAS: INARA Entertainment Pvt. Ltd. | No |

| | | | | |
|-----|-------------------------------------|-----------|---|-----|
| 65. | 1606 | 1606 | Billing Enquiry for PSTN | No |
| 66. | 1607 | 1607 | PUK notification through IVR | No |
| 67. | 1608 | 1608 | GSM VAS Services | No |
| 68. | 1609 | 1609 | GSM CRBT IVR | No |
| 69. | 1610 | 1610 | PSTN Indirect Retrieval | No |
| 70. | 1611-1619 | 1611-1619 | VMS | No |
| 71. | 16250 | 1625 | NT Payphone & VozBBG "Blue Phone" | |
| 72. | 1640 | 1640 | Result Enquiry for Student Financial Assistance Scheme | No |
| 73. | 1641 | 1641 | IVR for Highlights Nepal Pvt. Ltd. | No |
| 74. | 1642 | 1642 | Employee Provident Fund IVR Service | No |
| 75. | 1650 | 1650 | Prepaid Calling Card(PCC) | No |
| 76. | 1660 | 1660 | Advanced Free-Phone Service (AFS) | No |
| 77. | 1670 | 1670 | Universal Access Number Service (UAN) | No |
| 78. | 1680 | 1680 | PSTN Credit Limit (PCL) | No |
| 79. | 1681 | 1681 | PSTN Credit Limit (PCL) Management | No |
| 80. | 1690 | 1690 | Prepaid Home Country Direct (HCD) | No |
| 81. | 1698 | 1698 | Enquiry/Complain for IN Services (will remove after implementation of complain) | No |
| 82. | 14XY, 15XY, 16XY (Except above all) | 1230-1234 | Carrier Access Code Nepal Telecom | Yes |
| 83. | 191 | 1910 | Info/Complain Desk for CDMA | Yes |

| | | | | |
|-----|-----|------|-------------------|-----|
| 84. | 197 | 1970 | Enquiry | Yes |
| 85. | 198 | 1980 | PST/ADSL Complain | Yes |

10. Migration Plan

One of the primary considerations in preparing the Plan has been to minimise the impact, and hence cost, both to the incumbent and to users of migrating from the current plan to the new one. Migration to the new numbering scheme is relatively simple technically and users have little to learn to be able to translate the old numbers into the new ones. The Authority believes that users will still be able to operate the new numbering Plan even before businesses have completed the updates to their signage and stationery.

The approach to be taken to migration to the new numbering Plan will be consistent throughout the number range and will follow six stages:

- **The pre-announcement stage:** In this period, the incumbent and the Authority will co-operate to publicise the new numbering system and to make subscribers aware of what is happening and when it will take place.
- **Cutover 1 – within 6 months from first date of publication of notice:** At this point, the new numbers will go live and will operate in parallel with the old numbering scheme.
- **Parallel running – within 6 months from Cutover 1:** In this period, both the old and the new numbers will work for subscribers
- **Cutover 2 – within 6 months from Cutover 2:** At this point, the old numbers will be disabled and be released for re-allocation and only the new numbers will work for subscribers
- **The post-announcement stage:** In this stage, if a subscriber tries to dial an old number, they will receive a recorded announcement that the number has changed, together with instructions on how to derive the new number
- **The steady-state:** As the old numbers are re-allocated, the post-announcement will be discontinued until eventually there are no post-announcements and the Plan is fully implemented

11. Recommendations

Followings are the recommendations to be adapted:

- a. It is hereby recommended to have further consultation with the stakeholders regarding the implementation of the proposed new numbering plan.
- b. It is recommended for the approval of the revised numbering plan attached herewith in Appendix 1 of this report.
- c. Implement the new proposed numbering plan with smooth phase wise Migration scheme as aforementioned.
- d. It is recommended to review the Plan at least every five years and adjustments made to address fresh demand for numbering resource allocation from the reserve numbering ranges against new services appearing on the telecommunication horizon.
- e. It is recommended to develop set of implementation and provisioning processes in case of opt-in to ENUM. It is also necessary to make necessary provision regarding the security and privacy issues
- f. It is recommended to arrange study on numbering Allocation & Pricing to formulate/develop necessary legislative provision/Regulation. It seems necessary to categorize different type of number/s based on their usage as commercial or non-commercial and free or paid numbers and defined the charging scheme accordingly in Nepal.

Appendix 1: Revised National Numbering Plan of Nepal

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1. Introduction

Nepal Telecommunications Authority (NTA) has amended and enforced a national numbering plan. National Numbering Plan has been lined up with various ITU-T Recommendations (such as ITU-T E.164) and international best practices in this sector. These amendments in the Numbering Plan take into account the developments in the industry which include emergence of new technologies for provision of the various services as well as an increase in variety of application services. This document describes the National Numbering Scheme and the associated requirements for the allocation and use of the numbers and codes.

2. Definitions

- a) **Act:** Act means the Telecommunications Act, 2053 (1997 AD).
- b) **Allocation:** Designation of a number, number block or code for different type of services/applications by the NTA.
- c) **Basic Telephone Service:** The service licensed by the NTA to operate the specified service including fixed and mobile services.
- d) **LM:** Limited Mobility Service licensed by the NTA to operate the specified service under the provision of the Telecommunications Act and Regulation.
- e) **Area Code:** The code referred to the particular specified area defined by the Authority
- f) **Assignee:** A legal person to whom a number, number block or code has been assigned
- g) **Assignment:** permitting the use of the respective number, number block or code by the assignee (service provider/operator, application provider or end-user)
- h) **Mobile Network Code:** A 2 digit code that uniquely identifies a mobile network within a country.

- i) **Mobile service:** A service that provides a user of the service with continued connection to the service provider's network while the user moves from one location to another within the service provider's coverage area.
- j) **National Destination Code:** A decimal digit or combination of decimal digit that identifies networks or services.
- k) **National (Significant) Number:** Consists of the National Destination Code (NDC) followed by the Subscriber Number
- l) **Network Colour Code:** A three bit code that enables a mobile terminal to distinguish between two GSM networks operating on the same frequency.
- m) **Number block:** A range of numbers grouped together into a unit of allocation
- n) **The Authority** means the Nepal Telecommunications Authority
- o) **Prefix:** A digit or combination of digits that allows the selection of different types of networks and/or services as a destination
- p) **Regulation:** Regulation means the Telecommunications regulation, 2054 (1998 AD).
- q) **Short Code:** a combination of digits that forms a special number with significantly fewer digits than the National (Significant) Number length or than a subscriber number that can be dialled independent of a NDC to achieve a telephone connection or access an application.
- r) **Signalling point:** A node in a signalling network that originates and receives signalling messages, or transfers signalling messages from one signalling link to another, or both.
- s) **Signalling Point Code:** A code used to identify a signalling point
- t) **The Authority:** means the Nepal Telecommunications Authority
- u) **Toll Free Number:** Means the number which is operated in the principle of called party pays.

3. Role of NTA

The Authority is responsible for developing and managing the Plan Numbers and codes as a national resource and the following guiding principles will be taken

into account by the Authority when allocating, assigning, reserving or managing numbers:

- The Authority will manage the Plan to ensure that there are sufficient numbers available to meet all reasonable demands that end users, operators and service providers might have.
- The Plan will, where applicable, be compatible with relevant international agreements, standards and recommendations.
- The Plan will, wherever possible, seek to ensure that numbers of different types give a broad indication of service type and/or tariff so that end users can be aware of the service type they are using, and its likely cost.
- The Authority will assign or reserve numbers in a fair and equitable manner. The Authority will only assign or reserve numbering capacity to operators who meet the eligibility criteria as decided by the Authority.
- The Authority will take into account the need to anticipate growth and innovative services in demand for telecommunications services and, when assigning numbers. In particular, the utilization of previous numbering assignment will be taken into account when considering new requests for number assignment.

4. Assignment Procedures

4.1 Applications

Numbering resources are assigned to any person/organization/company who provides or intends to provide telecommunications networks or services, and who requests to be assigned numbering resources. Applications requesting assignment of numbering resources should be addressed to:

Nepal telecommunication Authority
Blue Star Office Complex, 5th Floor
Tripureshwor, Kathmandu, Nepal

To apply for numbering resources, an application form may be obtained from the Authority or be downloaded from the Authority's website <http://www.nta.gov.np> under Numbering. The duly filled application form in the format specified in Annex 2 is to be submitted to the Authority relating to the Fixed/LM/RTS/Mobile including basic telephone service. The duly filled application form in the format specified in Annex 3 is to be submitted to the Authority relating to the short codes. Similarly, The duly filled application form in the format specified in Annex 4 is to be submitted to the Authority relating to the NSPC/ISPC. Any assignment will be decided by the the Authority within the specified duration as set out in section 4.2.1 of this National Numbering Plan.

4.2 Information to be given

The applicant shall submit application for numbering to the Authority in the prescribed Form duly filled in, signed and sealed, together with all the necessary documents and information indicated in the specified Application Form. As per the type of numbering, the applicant should provide the information as mentioned in specified application form. The format of the application form is provided as specified in Annexes of this numbering plan for different types of numbering. It is the duty of the applicant to provide/submit the additional information if the Authority asks the applicant to submit the additional information relating to the application.

4.2.1 Putting into use

The assigned numbering resources shall be put into use by the assignee not later than 6 months from the date of assignment.

4.3 Assignment and Terms

4.3.1 Assignment

In general, any assignment will be decided by the Authority not later than four weeks after the submission of application, subject to the necessary information being available. However, the Authority may ask to the applicant to submit the additional information relating to the application if deemed necessary. In case of such additional information, the authority shall decide relating to numbering Assignment within the four weeks from the date of submission of such additional information by the applicant. As soon as the application has been fully considered and the number lists have been updated, the applicant will be notified in writing of the assignment.

Likewise, the Authority will notify the ITU of the assignment of numbers and number series for the purpose of insertion and announcement in the ITU's Operational Bulletin. Other operators will not automatically receive notification of assignments from the Authority. If necessary, the operators who are assigned numbering resources must therefore contact the other operators themselves to inform these of the assignment. The current assignment will appear from the National numbering plan, which is also available on the Authority's website <http://www.nta.gov.np>.

4.3.2 Terms relevant to assignment

The Authority may lay down specific terms for assigning numbers or number series including the following:

- Assigned short code numbering resource is not transferable and any such transfer of the numbering resource shall be void and the numbering so transferred shall stand cancelled.
- Assigned numbering resource can be surrendered to the authority.
- The service provider/assignee shall furnish necessary information, statement of accounts regarding use of numbering from time to time as prescribed by the Authority.

- The Authority reserves exclusive right and authority to change the numbering and allocation/assignment procedure from time to time.
- All deed agreement in relation to the use of numbering with other parties must be submitted to the Authority.
- The Authority will reserve exclusive right to decide on the eligibility and allocation/assignment of numbering.
- Assigned numbering resources may be cancelled, but not limited to, under followings:
 - If any assignee fails to use the number/s within 6 (six) months after assignment of the number/s.
 - If the information service provided against the national security and interest.
 - If the assignee is engaged in any unfair competition.
 - Violation of any of the terms and conditions mentioned in the allocation/assignment procedure.
 - Violation of Rules, Regulations and Laws of the Land.
- Definition of the service for which number/s or number series may be used as well as any requirements associated with the provision of such service.
- Actual and effective use of number/s or number series
- The latest date on which these shall be put into use
- Maximum period of validity, subject to possible modifications of the national numbering plan.
- Obligations according to international agreements for the use of number/s or number series.

4.3.3 Payment for assigned numbering resources

The number charges to be paid by the service provider/assignee shall be as determined by the Authority. The Authority may formulate separate Pricing Policy/ Regulation/Bylaw regarding the pricing of the different types of numbering resources.

4.4 Return, withdrawal, modification or replacement

A service provider/assignee may at any time return the numbering resources that the Authority has assigned to him. However, a service provider/assignee may only return complete number series to the same extent as these were assigned. Thus it will not be possible to return parts of number series assigned. Such return may take effect, at the earliest, from the date as decided by the Authority.

The Authority may withdraw numbering resources if this is necessary as a result of modifications in the national numbering plan. Furthermore, withdrawal may be affected if assigned number resources have not been taken into use or are no longer in use or in case of violation of terms set out by the Authority, and if it is deemed necessary for capacity or planning reasons.

The Authority may modify or replace already assigned number resources with others if it is deemed necessary for capacity reasons or for reasons concerned with general number planning. Numbering resources may also be modified or replaced if, based on an overall assessment, it is deemed expedient for the purpose of ensuring efficient utilization of the overall numbering capacity.

Modification or withdrawal or replacement of numbering resources already taken into use is subject to a notice of six months.

4.5 Procedure for considering applications

In considering the application, the Authority will take account of the service provider's/assignee's wishes to the possible extent. And if any questions in connection with the application need clarification, the Authority will ask the applicant to clarify before making any decision. On the basis of the application, the Authority will decide the extent, to which the application may be met, and the specific numbers and number series that may be assigned. In choosing the specific numbers and

number series in the numbering plan, it will be an important consideration that the national numbering plan be valid.

4.6 Refusal of applications and complaints procedure

The Authority may refuse an application if the necessary information cannot be made available, or in order to ensure that sufficient overall numbering resources are available within the range of numbers allocated, or any other valid reason decided by the Authority. The Authority may also refuse an application for numbering resources if the service provider/assignee is planning to undertake his own segmentation of such resources, for example according to product types or geographical areas.

4.7 Penalty provisions

Penalties may be imposed for violation of the legislation or terms laid down in pursuance thereof, and also for failure to supply the necessary information to the Authority as per provision of Act and Regulation.

5. The National Numbering Scheme

The National Numbering Plan is categorized in terms of service or application. The outline of the revised National Numbering Scheme is attached in annex 1.

5.1 Numbering scheme with Prefixes

The leading digit is the first number dialed or entered prior to an access code and subscriber number. The different numbering schemes with leading digits and format are mentioned hereunder for different type of services or applications.

Table 5.1: Numbering Scheme with leading digits

| Leading Digit | Format | Designation |
|---------------|--------|---|
| 0 | 00 | Prefix for international calling (Fixed and Mobile), e.g. |

| | | |
|---|---|---|
| | 01-09 | 0091 for india Reserved for future use |
| 1 | 100 101 102 103 104 105X 106XX 107XX 108 109X 112 11XX (Except 112X) 12XX 13XX 14XX 15XXX 16XX 17XXX 1800 1801 1802 1803-1899 19XX | 3 digit Emergency Numbering for Police 3 digit Emergency Numbering for Fire Brigade 2 digit Emergency Numbering for Ambulance 3 digit Emergency Numbering for Traffic 3 digit Emergency Numbering for Balbalika Khojtalas Samanwoya Kendra 4 digits Short codes for Security Related Services 5 digits Short codes for Hospital Related Services (e.g. Heart Related, AIDS related, Blood Bank, Eye Bank, Specialized Hospitals) 5 digits Short codes for Travel/Tourism Related Services Reserved for future use Children/Woman/Human Right Related Services Short Code for Emergency Service 4 digits Short codes (Toll Free Numbering for Government Entities) Carrier Selection/Access Code Reserved for future use 4 digit Short codes for Emergency Information Services like Natural Disaster, Air accident, Road accident etc. ISP and E1 Connection IN and IVR/Recharge Special Rate Services/Promotional services/Campaign/Budget Call International Toll Free Number Domestic Toll Free Number Domestic Toll Free Number (intra operator network) Reserved for future use Enquiry/Complain/Information |
| 2 | 2-Y-AA-X-ZZZZZ | Basic (Fixed) Telephony, Limited Mobility (LM) and |

| | | |
|---------|---|--|
| | (Outside Kathmandu Valley) 2-Y-A-X-ZZZZZZ (In Kathmandu Valley) | RTS AA: Area Code outside Kathmandu(2 digits) A: Area Code inside Kathmandu Y: Code for Technology (e.g. PSTN, RTS, VSAT) Y=0 for PSTN, Y=1 for IP phone, Y=2 for Wireless Fixed, Y=4 for LM Service, Y=9 for VSAT X: Operator code except 0 and 1 ZZZZZZ: Subscriber number inside Kathmandu Valley ZZZZZZ: Subscriber number outside Kathmandu Valley |
| 3 | 3-Y-ZZZ | SMS/MMS Related Services Y for Type of Service and ZZZ for service provider number |
| 4,5,6,7 | | Reserved for future use |
| 8 | 800-Country Code | Home Country Direct Dialing (HCD) |
| 9 | 9-XX-ZZZZZZZ | Mobile Telephony XX: Operator code; ZZZZZZZ: Subscriber number for Mobile |

The elaborative description regarding the national numbering scheme along with the format and applicable eligibility criteria is mentioned hereunder for the different services or applications.

a. Fixed/LM/RTS telephony services

The numbering allocation for provision of Fixed/LM/RTS telephony services is as follows:

| | | | |
|-------------|----------------|--------------------------|---------------------------|
| Prefix="2Y" | Area Code="AA" | OC="X" Where X=2 to 9 | SN="ZZZZZ" Where Z=0-9 |
| NDC | | | |

Table 5.2(a): Allocation of Fixed Numbers outside the Kathmandu Valley

| | | | |
|-------------|---------------|--------------------------|----------------------------|
| Prefix="2Y" | Area Code="A" | OC="X" Where X=2 to 9 | SN="ZZZZZZ" Where Z=0-9 |
| NDC | | | |

Table 5.2(b): Allocation of Fixed Numbers inside the Kathmandu Valley

NDC=National Destination Code (Prefix+Area Code)

OC=Operator Code

SN=Subscriber's Number

Y=Currently, allocated Code for Technology/Service (e.g. PSTN, RTS, VSAT)

Y=0 for PSTN, Y=1 for IP phone, Y=2 for Wireless Fixed, Y=4 for LM Service, Y=9 for VSAT

Only existing and future licensed voice operators relating to Fixed/LM/RTS telephony services including basic telephone services are eligible for assignment of the numbers. Additional blocks of numbers to any applicant shall only be allocated upon demonstration of at least 75 percent usage of the last assigned block.

b. Mobile services

following numbering format is applicable for mobile services number range:

| | | |
|-----------------|---|---|
| Leading Digit=9 | Operator Code OC= XX Where X=0 to 9 | Subscriber Number SN=ZZZZZZZ Where Z=0 to 9 |
| NDC | | |

Table 5.3 Format of Mobile number

Only licensed existing mobile operator or future mobile operators including the basic telephone service are eligible for assignment of mobile numbers. Additional blocks of the mobile numbers to any applicant shall only be allocated upon demonstration of at least 75 percent usage of the last assigned block by the respective applicant.

c. '*' AND '#' KEYS

Apart from digits '0' to '9' on the keypads of the current tone dialling telephones, there are two remaining dial buttons '*' and '#'. These keys are presently widely used for the activation and deactivation of various value-added services such as call transfer, call waiting etc. The use of these codes for value added services should be switch-based. These codes should terminate at the local switches (or nearest switches in the case of Radio Network) within the network of an operator connected to the subscriber unit and should not be passed from one switch to another. In other words, instructions initiated by these codes are to be executed at the local switch level (or nearest switch in the case of Radio Network). The use of such codes should not cause conflict to the National Numbering Plan number ranges.

d. Short Code Numbering

These codes are of minimum 3 digits and maximum of 5 digits depending upon service.

The services given using short code are broadly categorized as follows:

- Commercial Service.
- Non-commercial Service.

In non-commercial service, short code will be used for giving utility/information service on public interest and subscribers/users pay existing normal call/SMS charges.

If the call/SMS charge for any service is more than normal charge then it would be considered as commercial service.

Some of 3/4 digit numbering with leading digit 1 is allocated for emergency services like ambulance, fire, police etc. They are to be used to access national services associated with emergency and safety service. All voice operator licensees are obligated to provide access to emergency services free of charge. The condition associated with these codes is that the same number must be used across all the networks to access the same service.

As per ITU recommendation (E.161.1), A Member State that is planning to introduce an emergency number could use either 112 or 911, in adherence with applicable regulations concerning emergency numbers (e.g. the usage of 112 for EU Member States [EU 91/396/ECC]). In Nepal it is necessary to define *national emergency number* and arrange the same for national emergency situations. The three digit numbering 112 is allocated as national emergency number. Either emergency number will be made available to users and subscribers and therefore the mapping of these numbers to technology requirements is to be considered. The detail plan and procedure for the usage for the national emergency number would be as prescribed by the Authority.

The 4 digit numbering (11XX except 112X) is allocated as toll free numbering for government/public welfare. The numbering is to be operated under the principle of called party pays.

The 4 digit numbering 12XX is allocated as access code. These codes are of 4 digits long and used by subscriber of one operator to access the service provided by the other operator. Only licensed voice operator are eligible for allocation of this type of code.

The 4 digit numberings 13XX are reserved for future use. The 4 digit numberings 14XX allocated for for Emergency Information Services like Natural Disaster, Air accident, Road accident etc. The 5 digit numbering 15XXX is allocated for ISP and E1 connection. The 4 digit numbering 16XX is allocated for IN and IVR services.

The 5 digit numbering 17XXX is assigned as Special Rate Services/Promotional Services/Campaigns Numbering. The range of numbering should be approved by the Authority prior to use. The 4 digit numbering 19XX is allocated for enquires/Complains/Information.

e. International Toll Free Numbering

The prefix 1800 is assigned as access code for international toll free number. The range of numbering should be approved by the Authority prior to use.

f. SMS/MMS Service

The 5 digit numbering (3YZZZ) is allocated for SMS/MMS services. In the numbering, Y denotes types of services e.g. government welfare, education, news, entertainment, health, banking, Agriculture etc. and ZZZ represents service provider number.

| Leading Digit | Format | Service Type Designation |
|---------------|--------|----------------------------|
| 3 | 30XXX | Government welfare |
| | 31XXX | News |
| | 32XXX | Health |
| | 33XXX | Entertainment |
| | 34XXX | Education |
| | 35XXX | Banking |
| | 36XXX | Travel/Tourism |
| | 37XXX | Children/Women/Human Right |
| | 38XXX | Agriculture |
| | 39XXX | Reserved for future use |

Table 5.4: Format of SMS/MMS Code

5.2 Routing codes

a. Mobile Network Code (MNC)

429 has been assigned to Nepal as Mobile Country Code. The Authority assigns a two digit MNC between 00 and 99 to each telecommunication operator that offers mobility services.

b. Network Colour code (NCC)

The Network Colour Code is a part of the Base Station Identity Code (BSIC). This code is used in GSM to uniquely identify a base station within a particular geographic area. The NCC is the part of the BSIC that identifies the operator. The NCC is also called the Public Land Mobile Network (PLMN) colour code.

The BSIC is needed to identify a base station, because more than one base station can use the same frequency for their broadcast channel. This is especially the case in border areas, where operators at both sides of the border might use the same frequencies for their base station broadcasting channel.

The NCC is a 3 bit code (with a value of 0 up to 7).

c. Signalling Point Codes (SPC)

A node in a signalling network that either originates and receives signalling messages, or transfers signalling messages from one signalling link to another, or both. SPC is a code used to identify a signalling point and processed within the Message Transfer Part (MTP) of each signalling point and within users of the MTP. SPCs are signalling addresses used in a signalling network employing common channel Signalling System No.7 (SS7) for call set-up. SPC is needed for establishing interconnection between two SS7 switches.

The SPC codes are divided into the international and the national SPC codes. The international SPC codes are used in the international traffic over international SS7 Signaling links and they are allocated and administered for each country/international exchange by the ITU-T Secretariat. The national SPC codes have been left by the ITU-T Secretariat to be defined in the national level. As the national telecommunication networks in the Nepal consist of several operator networks, it is the responsibility of the Authority, to assign and administer the national SPC codes to enable interworking between the networks in the country. The

confirmed international SPC code formats and as well as the national SPC code formats are specified hereunder. The SPC codes assigned to various operators in Nepal along with the spare codes are mentioned in Annex 1- National Numbering Scheme of this national numbering plan.

National Signalling Point Codes:

National Signalling Point Codes (NSPCs) are 14-bits binary codes used to establish direct SS7 signalling links and interconnection with local networks. The following structure is recommended for the use of the 14-bits in the Signaling Point Code for the exchanges in the national networks:

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N | M | L | K | J | I | H | G | F | E | D | C | B | A |
| Operator Identification Codes (4 bits) | | | | Signalling Point Identification (10 bits) | | | | | | | | | |
| National Signalling Point Codes (14 bits) | | | | | | | | | | | | | |

Table 5.5: National Signalling Point Code (NSPC) format

Operator Identification Code

The 4-bit sub-field ‘NMLK ‘shall define the network (operator) in which the exchange is located in.

Signalling Point Identification

The first sub-field to be transmitted (‘JIHGFEDCBA’) shall define the exchange, i.e. the Signaling Point within a geographical area defined in the sub-field ‘JIH’.

International Signalling Point Codes

ITU-T has specified in the Recommendation Q.708 the following 14-bit binary format for the identification of the International Signaling Point Codes (ISPC) to be used in the international SS7 Signaling links:

| N | M | L | K | J | I | H | G | F | E | D | C | B | A |
|--|---|---|------------------------------|---|---|---|---|---|---|---|--|---|---|
| Operator Identification Codes (3 bits) | | | Area/ Network Codes (8 bits) | | | | | | | | Signalling Point Identification (3 bits) | | |
| Signalling Area Network Code (SANC) | | | | | | | | | | | | | |
| International Signalling Point Codes (14 bits) | | | | | | | | | | | | | |

Table 5.6: International Signalling Point Code (ISPC) format

Operator Identification Codes

The 3-bit sub-field ‘NML’ defines the world geographical zone where the network is located in.

Area/ Network Codes

The 8-bit sub-field ‘KJIHGFED’ identifies the geographical area or network within a specific world zone.

Signalling Point Identification

The 3-bit sub-field ‘CBA’ identifies the Signaling point (international exchange) within a specific geographical area or network.

The combination of sub-fields ‘NML-KJIHGFED’ is defined as a Signaling Area /Network Code (SANC). Each country shall be assigned at least one SANC code.

The allocation of the codes in the first sub-field ‘CBA’ in this 3-8-3 bit structure is left for the Authority with the responsibility to notify the ITU-T Secretariat on the codes used. The 3-bit structure of the ‘CBA’ sub-field allows 8 International Signaling Point Codes to be used for each SANC code.

Signalling point operator responsibilities

The major responsibilities of the operator relating to SPC are listed below. It is noted that the additional terms and conditions are also applicable as prescribed by the Authority.

- The signalling point operator should inform the Authority of any change of information
- The signalling point operator should inform the Authority about any changes such as its name, its registered office, the name of its contact person or the location where the signalling point is in operation, etc.
- NSPC assigned to the signalling point operator is not allowed to be handed-over or sold or traded to other operators, signalling point operators or other part.

6. Repeal and Saving

- a. Previous National Numbering Plan is hereby repealed.
- b. All the procedures and actions done and carried out pursuant to the previous National Numbering Plan before the commencement of this National Numbering Plan shall be deemed to be done and carried out pursuant to this National Numbering Plan.

Annex 1: National Numbering Scheme

Country Level Numbering Plan

| | |
|---------------------|-----|
| Country Code | 977 |
| Mobile Country Code | 429 |

Area Codes of Nepal

| Region | Zone | District | AREA CODE |
|----------------------------|------------|----------------|-----------|
| Eastern Development Region | Mechi | Jhapa | 23 |
| | | Taplejung | 24 |
| | | Panchthar | 24 |
| | | ILam | 27 |
| | Koshi | Morang | 21 |
| | | Sunsari | 25 |
| | | Tehrathum | 26 |
| | | Dhankuta | 26 |
| | | Bhojpur | 29 |
| | | Sankhuwasabh | 29 |
| | Sagarmatha | Saptari | 31 |
| | | Siraha | 33 |
| | | Udaypur | 35 |
| | | Khotang | 36 |
| | | Okhaldhunga | 37 |
| | | Solukhumbu | 38 |
| Central Development Region | Janakpur | Dhanusa | 41 |
| | | Mahottari | 44 |
| | | Sariahi | 46 |
| | | Sindhuli | 47 |
| | | Dolakha | 49 |
| | | Ramechhap | 48 |
| | Bagmati | Kat-Pat-Bhak | 1 |
| | | Rasuwa | 10 |
| | | Dhading | 10 |
| | | Nuwakot | 10 |
| | | Sindhupalchowk | 11 |
| | | Kavre | 11 |
| | Narayani | Parsa | 51 |
| | | Bara | 53 |
| | | Rautahat | 55 |
| | | Chitwan | 56 |
| | | Makawanpur | 57 |

Z= 2,3,4,5,6
X= 2,3,4,5,6
B= 0-9
Y= 0-9

| Region | Zone | District | AREA CODE |
|-------------------------------|-------------|-------------|-----------|
| Western Development Region | Lumbini | Rupandehi | 71 |
| | | Palpa | 75 |
| | | Kapilbastu | 76 |
| | | Arghakhachi | 77 |
| | | Nawalparasi | 78 |
| | | Gulmi | 79 |
| | Gandaki | Kaski | 61 |
| | | Syangja | 63 |
| | | Gorkha | 64 |
| | | Tanahu | 65 |
| | Dhawalagiri | Manang | 66 |
| | | Lamjung | 66 |
| | | Parbat | 67 |
| | | Baglung | 68 |
| Midwestern Development Region | Karnali | Myagdi | 69 |
| | | Mustang | 69 |
| | | Mugu | 87 |
| | | Dolpa | 87 |
| | | Humla | 87 |
| | | Jumla | 87 |
| | Rapti | Kalikot | 87 |
| | | Dang | 82 |
| | | Rolpa | 86 |
| | | Pyuthan | 86 |
| | Bheri | Rukum | 88 |
| | | Salyan | 88 |
| | | Banke | 81 |
| | | Surkhet | 83 |
| Bardia | | 84 | |
| Jajarkot | | 89 | |
| Far-western Development | Seti | Dailekh | 89 |
| | | Kailali | 91 |
| | | Achham | 92 |
| | | Bajura | 92 |
| | Mahakali | Baihang | 92 |
| | | Doti | 94 |
| | | Darchula | 93 |
| | | Baitadi | 95 |
| | | Dadeldhura | 96 |
| | | Kanchanpur | 99 |

Fixed/LM/RTS Telephony Services

| | | |
|-------------------------|---------------------------|---|
| Inside Kathmandu Valley | 2-Y-A-X-ZZZZZZ (10 Digit) | A= Area Code for Kathmandu Y= 0 for PSTN, 1 for IP Phone, 2 for Fixed Wireless, 4 for LM, 9 for VSAT X=Operator code Z=Subscriber Number |
|-------------------------|---------------------------|---|

| | | |
|--------------------------|---------------------------|--|
| Outside Kathmandu Valley | 2-Y-AA-X-ZZZZZ (10 Digit) | A=Area Code for Outside Kathmandu Y=0 for PSTN, 1 for IP Phone, , 2 for Fixed Wireless, 4 for LM,9 for VSAT X=Operator code Z=Subscriber Number |
|--------------------------|---------------------------|--|

| Operator | Operator Code | Subscriber Number |
|--------------------------------|---------------|--------------------------------------|
| NDCL | 4,5,6 | 0-9 |
| UTL | 2 | 0-9 |
| Nepal Satellite Telecom P. Ltd | 3 | 00000-09999 in each area code (VSAT) |
| Smart Telecom P. Ltd. | 7 | 0000-9999 in each area code (VSAT) |
| STM | 8 | 0000-9999 in each area code (VSAT) |

Mobile Services

| | |
|--------------|---|
| 9-XX-ZZZZZZZ | XX=Operator Code Z=Subscriber Number |
|--------------|---|

Mobile Telephony

| Operator | Operator Code | Subscriber Number |
|---------------------------------|------------------|-------------------|
| NDCL | 74, 75, 84,85,86 | 0-9 |
| Ncell | 80,81 | 0-9 |
| UTL | | |
| Smart Telecom P. Ltd. | | |
| Nepal Satellite Telecom P. Ltd. | | |
| STM | | |

Mobile Code

| Mobile Network Code | Operator |
|----------------------------------|-----------------------------------|
| 01 | Nepal Doorsanchar Company Limited |
| 02 | Ncell Private Limited |
| 04 | Smart Telecom Pvt. Ltd. |
| Mobile Network Color Code | Operator |
| 02 | Ncell Private Limited |

National Signalling Point Code (NSPC)

| Format | XXX-XXXXXXXX-XXX |
|------------------------------|-------------------------|
| Signalling Area Network Code | ALL |

| Operator | NSPC |
|-----------------------------------|---|
| Nepal Doorsanchar Company Limited | |
| United Telecom Limited | 1020 and 1031 |
| STM Telecom Sanchar Pvt. Ltd. | 3001 to 3012 |
| Ncell Pvt. Ltd. | 2001 to 2100 |
| Smart Telecom Pvt. Ltd. | 4001 to 4005 |
| Nepal Satellite Telecom Pvt. Ltd. | 5001 to 5021 |
| Spare | 0 to 16383 (in decimal) except assigned above |

NSPC can be assigned by the Authority itself to the Operators.

International Signalling Point Code (ISPC)

| Format | XXX-XXXXXXXX-XXX |
|---------------|-------------------------|
|---------------|-------------------------|

| Operator | ISPC |
|-----------------------------------|--|
| Nepal Doorsanchar Company Limited | 4-058-0, 4-058-1, 4-058-4, 4-058-6, 4-059-2, 4-059-4, 4-059-6, 4-059-7 |
| United Telecom Limited | 4-058-2, 4-058-7, 4-059-0, 4-059-1 |
| STM Telecom Sanchar Pvt. Ltd. | 4-058-5 |
| Ncell | 4-058-3, 4-059-3 |
| Smart Telecom Pvt. Ltd. | 4-059-5 |
| Nepal Satellite Telecom Pvt. Ltd. | |

| | |
|-------|-----------------------|
| Spare | 4-057-X (Where X=0-7) |
|-------|-----------------------|

Short Digit Codes

| S.No. | Number/Prefix | Service/Assignee | Structure |
|--------------|----------------------|---|------------------|
| 1. | 100 | Police | 3 digit |
| 2. | 101 | Fire Brigade | 3 digit |
| 3. | 102 | Ambulance | 3 digit |
| 4. | 103 | Valley Traffic Police | 3 digit |
| 5. | 104 | Balbalika Khojtalash Kendra | 3 digit |
| 6. | 105 | Security Related Services | 4-5 digit |
| | 1051 | Valley Pritana | 4 digit |
| | 1052 | Police Headquater | 4 digit |
| | 1053 | Arm Police Force | 4 digit |
| | 1054 | Military Police | 4 digit |
| 7. | 106 | Hospital Related Services (e.g. Heart Related, AIDS related, Blood Bank, Eye Bank, Specialized Hospitals) | 4-5 digit |
| 8. | 107 | Travel/Tourism Related Services | 4-5 digit |
| 9. | 108 | Reserved | 3-5 digit |
| 10. | 109 | Women/Children/Human Right Related services | 4-5 digit |
| | 1098 | Child Workers In Nepal (Through Ministry of Children Women and Social welfare) | 4 digit |
| 11. | 11 | Government Related Services | 4 digit |
| | 1100 | Office of the Prime Minister and Council of Ministers | 4 digit |
| | 1111 | Office of the Prime Minister and Council of Ministers | 4 digit |
| | 1112 | Ministry of Home Affairs | 4 digit |
| | 1115 | Ministry of Health, Department of Health Service | 4 digit |
| | 1116 | Ministry of Labour | 4 digit |
| 12. | 112 | Emergency Service | 3 digit |
| 13. | 12 | Carrier Access Code | 4 digit |
| | 1200-1204 | United Telecom Limited (Carrier Access Code) | 4 digit |
| | 1210-1214 | STM Telecom Sanchar Pvt. Ltd. (Carrier Access Code) | 4 digit |

| | | | |
|-----|-----------|---|-----------|
| | 1220-1224 | Smart Telecom P. Ltd. (Carrier Access Code) | 4 digit |
| | 1230-1234 | Nepal Doorsanchar Company Limited (Carrier Access Code) | 4 digit |
| | 1240-1244 | Ncell Pvt. Ltd. (Carrier Access Code) | 4 digit |
| | 1250-1254 | Nepal Satellite Pvt. Ltd. (Carrier Access Code) | 4 digit |
| 14. | 13 | Reserved for future use | 4-5digit |
| 15. | 14 | Emergency Information Services like Natural Disaster, Air accident, Road accident etc | 4-5 digit |
| 16. | 15XXX | ISP and E1 Access Related Services | 5 digit |
| | 15000 | ISP: Nepal Telecom | 5 digit |
| | 15020 | ISP: Nepal Telecom | 5 digit |
| | 15030 | ISP: Nepal Telecom | 5 digit |
| | 15040 | ISP: Nepal Telecom | 5 digit |
| | 15050 | ISP: Nepal Telecom | 5 digit |
| | 15060 | For NT Staff Internet Dialup No. | 5 digit |
| | 15099 | ISP: WLINK | 5 digit |
| | 15100 | ISP: Vianet | 5 digit |
| | 15111 | ISP: Global Internet Service | 5 digit |
| | 15112 | ISP: IMAX Pvt. Ltd. | 5 digit |
| | 15113 | ISP: Fewa Net | 5 digit |
| | 15114 | ISP: Netlink | 5 digit |
| | 15115 | ISP: Global Net | 5 digit |
| | 15116 | ISP: Himal Technology | 5 digit |
| | 15117 | E1 Access: Rastriya Samachar Samiti | 5 digit |
| | 15119 | ISP: Sailung.com, Dharan | 5 digit |
| | 15120 | ISP: Buddha Net, Pokhara | 5 digit |
| | 15121 | E1 Access: Napi Bivag, NGIIP | 5 digit |
| | 15122 | E1 Access: Nepal Rastra Bank | 5 digit |
| | 15123 | E1 Access: Agricultural Dev. Bank | 5 digit |
| | 15124 | National Planning Commission (Dial up No.) | 5 digit |
| | 15200 | ISP: HTP Comm | 5 digit |
| | 15208 | ISP: Health Net | 5 digit |
| | 15209 | ISP: Ministry of S & T | 5 digit |
| | 15300 | ISP: Everest Net | 5 digit |
| | 15400 | ISP: Network Tech | 5 digit |
| | 15500 | ISP: Mercantile | 5 digit |
| | 15555 | ISP: Nepal Army | 5 digit |

| | | | |
|-----|-----------|---|-----------|
| | 15600 | ISP: Infocom | 5 digit |
| | 15601 | ISP: Nepal Telecom | 5 digit |
| | 15700 | ISP:CCSL | 5 digit |
| | 15800 | ISP: Nepal Gateway Comm | 5 digit |
| | 15900 | ISP: Himalaya Online | 5 digit |
| 17. | 16 | IN and IVR Related Services | 4-5 digit |
| | 1600 | SLC Result Enquiry | |
| | 1601 | Result Enquiry service other than SLC | 4 digit |
| | 1603 | CRBT Service in GSM | 4 digit |
| | 1604 | VAS: INARA Entertainment Pvt. Ltd. | 4 digit |
| | 1605 | VAS: INARA Entertainment Pvt. Ltd. | 4 digit |
| | 1606 | Billing Enquiry for PSTN | 4 digit |
| | 1607 | PUK notification through IVR | 4 digit |
| | 1608 | GSM VAS Services | 4 digit |
| | 1609 | GSM CRBT IVR | 4 digit |
| | 1610 | PSTN Indirect Retrieval | 4 digit |
| | 1611-1619 | VMS | 4 digit |
| | 1615 | CDMA Prepaid Recharge | 4 digit |
| | 1625 | NT Payphone & VozBBG "Blue Phone" | 4 digit |
| | 1640 | Result Enquiry for Student Financial Assistance Scheme | 4 digit |
| | 1641 | IVR for Highlights Nepal Pvt. Ltd. | 4 digit |
| | 1642 | Employee Provident Fund IVR Service | 4 digit |
| | 1650 | Prepaid Calling Card(PCC) | 4 digit |
| | 1660 | Advanced Free-Phone Service (AFS) | 4 digit |
| | 1670 | Universal Access Number Service (UAN) | 4 digit |
| | 1680 | PSTN Credit Limit (PCL) | 4 digit |
| | 1681 | PSTN Credit Limit (PCL) Management | 4 digit |
| | 1690 | Prepaid Home Country Direct (HCD) | 4 digit |
| | 1698 | Enquiry/Complain for IN Services (will remove after implementation of complain) | 4 digit |
| 18. | 17 | Special Rate/ Promotional/ Campaign related services | 4-6 digit |
| | 17000 | Budget Call for ISD/Special Rate PCC card | 5 digit |
| | 17001 | Budget Call for ISD (Inc. PSTN) for NDCL | 5 digit |
| | 17002 | Budget Call for ISD (Inc. PSTN) for NDCL | 5 digit |

| | | | |
|-----|-------------|--|-----------|
| | 17100-17105 | Promotional/Campaign Activities for Ncell | 5 digit |
| 19. | 1800 | International Toll Free | |
| 20. | 19 | Enquiry/Complain/Information related services[for Intra-operator usage] | 4-5 digit |
| | 1998 | Mobile Complain | 4 digit |
| | 1910 | Info/Complain Desk for CDMA | 4 digit |
| | 1970 | Enquiry | 4 digit |
| | 1980 | PST/ADSL Complain | 4 digit |

SMS/MMS Code:

| Leading Digit | Format | Service Type Designation | Structure |
|---------------|--------|----------------------------|-----------|
| 3 | 30XXX | Government welfare | 5 digit |
| | 31XXX | News | 5 digit |
| | 32XXX | Health | 5 digit |
| | 33XXX | Entertainment | 5 digit |
| | 34XXX | Education | 5 digit |
| | 35XXX | Banking | 5 digit |
| | 36XXX | Travel/Tourism | 5 digit |
| | 37XXX | Children/Women/Human Right | 5 digit |
| | 38XXX | Agriculture | 5 digit |
| | 39XXX | Reserved | 5 digit |

Existing numbering resource assignments and utilization within the requested service category, in the format below:

| Assigned Block of Numbers | Capacity | Numbers Utilized in the Block | % Utilization | Remarks |
|---------------------------|----------|-------------------------------|---------------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

C. Declaration:

[I/we] hereby declare that the information and documents given by [me/us] in this application form are to the best of [my/our] knowledge true and correct.

Signature of the Applicant: _____
 Name: _____
 Position Held: _____
 Company Name: _____
 Date: _____



Annex 3: Format of Application Form for Short Code numbering

(Relating to Section 4.1)

To,
The Nepal Telecommunication Authority,
.....

I, hereby, submit an application to obtain the short code/s as per the following details:

A. Applicant Details:

Name of Operator :
Physical Address :
P.O. Box No. :
Telephone No. :
Fax No. :
Contact Person
 Name :
 Telephone No. :
 Email Address :

License Detail (if applicable):

Name of License:
License No:

B. Numbering Resource Details *(Please use additional sheets if deemed necessary)*:

Capacity of Numbering resource(s) applied: _____

Type of service(s) planned : _____

Description of usage plan: _____

Target market and service area: _____

Planned activation date: _____

Existing numbering (if any): _____

C. Declaration:

[I/we] hereby declare that the information and documents given by [me/us] in this application form are to the best of [my/our] knowledge true and correct.

Signature of the Applicant: _____

Name: _____

Position Held: _____

Company Name: _____

Date: _____



Annex-4: Format of Application Form for NSPC/ISPC

(Relating to Section 4.1)

To,
The Nepal Telecommunication Authority,
.....

I, hereby, submit an application to obtain the NSPC/ISPC to operate the telecommunication service pursuant to the Telecommunication Act, 2053 (1997) and the Telecommunication Rules, 2054 (1998) as per the following details:

A. Applicant Details:

Name of Operator :
Physical Address :
P.O. Box No. :
Telephone No. :
Fax No. :
Contact Person
 Name :
 Telephone No. :
 Email Address :
License Detail:
 Name of License :
 License No :

B. NSPC/ISPC Details:

1. Nature of use in the network (more than one function may apply):
 - STP- Signal Transfer Point
 - SEP - Signaling End Point
 - SCCP - Signaling Connection Control Part
 - ISC- International Switching Center
 - GMSC- Gateway Mobile Switching Center
 - LR- Location Register
 - OMC- Operation and Maintenance Center

SCP- Service Control Point

SSP- Service Switching Point

2. Signaling point manufacturer/type;
3. Proposed Name of Signaling Point
4. Physical address of the Signaling Point;
5. In-service date of the Signaling Point (month/year);
6. Identification of at least one planned MTP signaling relation:
 - 6.1. name and address of distant Signaling Point,
 - 6.2. location of distant Signaling Point,
 - 6.3. ISPC of distant Signaling Point
7. Existing signalling code(s) (if any):

C. Declaration:

[I/we] hereby declare that the information and documents given by [me/us] in this application form are to the best of [my/our] knowledge true and correct.

Signature of the Applicant: _____

Name: _____

Position Held: _____

Company Name: _____

Date: _____



Appendix 2: Existing National Numbering Plan

Country Level Numbering Plan

| | |
|---------------------|-----|
| Country Code | 977 |
| Mobile Country Code | 429 |

Area Codes of Nepal

| Region | Zone | District | AREA CODE | |
|----------------------------|----------------------------|----------------|------------|----|
| Eastern Development Region | Mechi | Jhapa | 23 | |
| | | Taplejung | 24 | |
| | | Panchthar | 24 | |
| | | ILam | 27 | |
| | Koshi | Morang | 21 | |
| | | Sunsari | 25 | |
| | | Tehrathum | 26 | |
| | | Dhankuta | 26 | |
| | | Bhojpur | 29 | |
| | | Sankhuwasabh | 29 | |
| | Sagarmatha | Saptari | 31 | |
| | | Siraha | 33 | |
| | | Udaypur | 35 | |
| | | Khotang | 36 | |
| | | Okhaldhunga | 37 | |
| | | Solukhumbu | 38 | |
| | Central Development Region | Janakpur | Dhanusa | 41 |
| | | | Mahottari | 44 |
| Sariahi | | | 46 | |
| Sindhuli | | | 47 | |
| Dolakha | | | 49 | |
| Ramechhap | | | 48 | |
| Kat-Pat-Bhak | | | 1 | |
| Rasuwa | | | 10 | |
| Bagmati | | Dhading | 10 | |
| | | Nuwakot | 10 | |
| | | Sindhupalchowk | 11 | |
| | | Kavre | 11 | |
| Narayani | | Parsa | 51 | |
| | | Bara | 53 | |
| | | Rautahat | 55 | |
| | | Chitwan | 56 | |
| | | | Makawanpur | 57 |

Z= 2,3,4,5,6
X= 2,3,4,5,6
B= 0-9
Y= 0-9

| Region | Zone | District | AREA CODE |
|--------------------------------|-------------|-------------|-----------|
| Western Development Region | Lumbini | Rupandehi | 71 |
| | | Palpa | 75 |
| | | Kapilbastu | 76 |
| | | Arghakhachi | 77 |
| | | Nawalparasi | 78 |
| | | Gulmi | 79 |
| | Gandaki | Kaski | 61 |
| | | Syangja | 63 |
| | | Gorkha | 64 |
| | | Tanahu | 65 |
| | | Manang | 66 |
| | Dhawalagiri | Lamijung | 66 |
| | | Parbat | 67 |
| | | Baglung | 68 |
| Myagdi | | 69 | |
| Midwestern Development Region | Karnali | Mustang | 69 |
| | | Mugu | 87 |
| | | Dolpa | 87 |
| | | Humla | 87 |
| | | Jumla | 87 |
| | | Kalikot | 87 |
| | Rapti | Dang | 82 |
| | | Rolpa | 86 |
| | | Pyuthan | 86 |
| | | Rukum | 88 |
| | | Salyan | 88 |
| | Bheri | Banke | 81 |
| | | Surkhet | 83 |
| | | Bardia | 84 |
| | | Jajarkot | 89 |
| Dailekh | | 89 | |
| Far-western Development Region | Seti | Kailali | 91 |
| | | Achham | 92 |
| | | Bajjira | 92 |
| | | Bajhang | 92 |
| | | Doti | 94 |
| | Mahakali | Darchula | 93 |
| | | Baitadi | 95 |
| | | Dadeldhura | 96 |
| | | Kanchanpur | 99 |

Fixed Telecommunication Services

| | | |
|-------------------------|--------------------|---|
| Inside Kathmandu Valley | XYZZZZZZ (8 Digit) | X=Area Code for Kathmandu Y=Operator code Z=Subscriber Number |
|-------------------------|--------------------|---|

| | | |
|--------------------------|--------------------|---|
| Outside Kathmandu Valley | XXYZZZZZ (8 Digit) | A=Area Code for Outside Kathmandu X=Operator code Z=Subscriber Number |
|--------------------------|--------------------|---|

| Operator | Operator Code | Subscriber Number |
|--------------------------------|---------------|---|
| NDCL | 4,5,6 | 0-9 |
| UTL | 2 | 0-9 |
| Nepal Satellite Telecom P. Ltd | 3 | only first twenty thousand Subscriber numbers (00000 to 19999) in respective area codes of the Rapti, Karnali and Bheri zones |

Cellular Mobile Telecommunication Service

| | |
|-------------------------|---|
| 98 - X - ZZZZZZZ | X=Operator Code Y=Operator Code Z = Subscriber Number |
|-------------------------|---|

| S.N. | Operator | Operator Code |
|------|----------|---------------|
| 1. | NDCL | 4,5,6 |
| 2. | Ncell | 0,1 |
| | Spare | 2,3,7,8,9 |

Mobile Code

| Mobile Network Code | Operator |
|------------------------------|-----------------------------------|
| 01 | Nepal Doorsanchar Company Limited |
| 02 | Spice Nepal Private Limited |
| 04 | Smart Telecom Pvt. Ltd. |
| | |
| Mobile Network Code Operator | Operator |
| | Spice Nepal Private Limited |

Rural Telecommunication Service

| | System Code | Operator Code | Area Code | Subscriber Number |
|------------------------------------|-------------|---------------|-----------|-------------------|
| Rural Telecom Service (Nine Digit) | 99 | X | YY | ZZZZ |

| Operator | System Code | Operator Code | Area Code | Subscriber Number |
|------------------------------|-------------|---------------|-----------------------------|-------------------|
| STM Telecom Sanchar Pvt. Ltd | 99 | 3 | existing area code of Nepal | 0000 to 9999 |
| Smart Telecom Pvt. Ltd. | 99 | 0 | existing area code of Nepal | 0000 to 9999 |

Limited Mobility Service

| System Code | Operator Code | Area Code | Subscriber Number | Remarks |
|--|---------------|---------------|--|----------------------|
| 97 | X | Y | ZZZZZZ | (inside KTM Valley) |
| 97 | X | YY | ZZZZZ | (outside KTM Valley) |
| 96 | X | Y | ZZZZZZ | (inside KTM Valley) |
| 96 | X | YY | ZZZZZ | (outside KTM Valley) |
| Operator | System Code | Operator Code | Subscriber Number | |
| NDCL | 97 | 4,5 | 000000 to 999999 in Kathmandu Valley only | |
| UTL | 97 | 2 | Throughout Nepal | |
| NSTPL | 96 | 3 | 00000 to 99999 in area codes of the Rapti, Karnali and Bheri zones | |
| STM Telecom | 96 | 0 | 00000 to 99999 in Kanchanpur, Bardiya, Palpa, Baglung, Dailekh, Baitadi and Dadeldhura | |
| Smart Telecom | 96 | 1 | 00000 to 99999 in Kavrepalanchok, Sindhupalchok, Dolakha, Sindhuli, Ramechhap, Nuwakot and Dhading | |
| Area Code = existing area code of Nepal | | | | |

National Signalling Point Code (NSPC)

| | |
|------------------------------|-------------------------|
| Format | XXX-XXXXXXXX-XXX |
| Signalling Area Network Code | ALL |

| Operator | NSPC |
|-----------------------------------|--------------------------------|
| Nepal Doorsanchar Company Limited | |
| United Telecom Limited | 1020 and 1031 |
| STM Telecom Sanchar Pvt. Ltd. | 3001 to 3012 |
| Spice Nepal Pvt. Ltd. | 2001 to 2100 |
| Smart Telecom Pvt. Ltd. | 4001 to 4005 |
| Nepal Satellite Telecom Pvt. Ltd. | 5001 to 5021 |
| Spare | 0 to 16383 (in decimal) except |

| | |
|--|----------------|
| | assigned above |
|--|----------------|

NSPC can be assigned by the Authority itself to the Operators.

International Signalling Point Code (ISPC)

| | |
|---------------|-------------------------|
| Format | XXX-XXXXXXXX-XXX |
|---------------|-------------------------|

| Operator | ISPC |
|-----------------------------------|--|
| Nepal Doorsanchar Company Limited | 4-058-0, 4-058-1, 4-058-4, 4-058-6, 4-059-2, 4-059-4, 4-059-6, 4-059-7 |
| United Telecom Limited | 4-058-2, 4-058-7, 4-059-0, 4-059-1 |
| STM Telecom Sanchar Pvt. Ltd. | 4-058-5 |
| Ncell | 4-058-3, 4-059-3 |
| Smart Telecom Pvt. Ltd. | 4-059-5 |
| Nepal Satellite Telecom Pvt. Ltd. | |
| Spare | 4-057-X (Where X=0-7) |

Short Codes

3 Digit Emergency Number

| S.No. | Service | Short Digit Number |
|--------------|-----------------------------|---------------------------|
| 1 | Police | 100 |
| 2 | Fire Brigade | 101 |
| 3 | Ambulance | 102 |
| 4 | Valley Traffic Police | 103 |
| 5 | Balbalika Khojtalash Kendra | 104 |
| 6 | Valley Pritana | 105 |
| 7 | Military Police | 106 |

4 Digit Short Codes

| S.No. | Service | Short Digit Number |
|--------------|---|---------------------------|
| 1 | Child Workers In Nepal (Through Ministry of Children Women and Social welfare | 1098 |

| | | |
|----|---|------|
| 2 | Office of the Prime Minister and Council of Ministers | 1100 |
| 3 | Office of the Prime Minister and Council of Ministers | 1111 |
| 4 | Ministry of Home Affairs | 1112 |
| 5 | Police Headquarter | 1113 |
| 6 | Arm Police Force | 1114 |
| 7 | Ministry of Health, Department of Health Service | 1115 |
| 8 | United Telecom Limited (Access Code) | 12XY |
| 9 | STM Telecom Sanchar Pvt. Ltd. (Access Code) | 1315 |
| 10 | STM Telecom Sanchar Pvt. Ltd. (Access Code) | 1325 |
| 11 | STM Telecom Sanchar Pvt. Ltd. (Access Code) | 1335 |
| 12 | STM Telecom Sanchar Pvt. Ltd. (Access Code) | 1345 |
| 13 | Smart Telecom P. Ltd. (Access Code) | 1350 |
| 14 | Smart Telecom P. Ltd. (Access Code) | 1355 |
| 15 | Nepal Doorsanchar Company Limited (Access Code) | 14XY |
| 16 | Nepal Doorsanchar Company Limited (Access Code) | 15XY |
| 17 | Nepal Doorsanchar Company Limited (Access Code) | 16XY |

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2. Information collection from different telecommunications operators
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4. National Numbering Plan of Bangladesh (www.btrc.gov.bd)
5. National Numbering Plan of Pakistan (www.pta.gov.pk)
6. The National Telephone Numbering Plan published by Ofcom in 19 December 2011
7. <http://www.ictqatar.qa>
8. National Numbering Plan of Singapore (www.ida.gov.sg)
9. World numbering developments, Antelope Consulting, May 2005
10. The international public telecommunication numbering plan ITU-T E.164,
TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU

Questionnaires

1. It seems necessary to review the existing national numbering plan to formulate futuristic, flexible and could cater to numbering needs in respect of existing and likely new services in effective and efficient manner. In this context, for migration of existing National Numbering Plan (NNP) to Proposed new NNP:
 - a. What are technical implications? How easily can these changes be adopted by the operator?
 - b. What are financial implications for operators? How much additional cost would be required for software, hardware etc. during the deployment of the new proposed NNP?
 - c. What will be the impact on consumers? What will be the awareness plan to be adopted by operators?
2. Give your opinion on the proposed different categories of numbering which is specified in section 5 of the revised NNP? If you have alternatives, please suggest them with appropriate justification.
3. In new NNP, numbering for Fixed/LM/RTS telephony services will be of 10 digit lengths started from leading digit '2'. Provide your opinion on the proposed change. Also state logic and rational to support your feedback.
4. In the revised NNP, it is proposed to have the system code/Leading digit for the mobile telephone services as 9 and 2 digits operator code totaling the 10 digits numbering for mobile. Do you agree on the proposed change? Elaborate your view with appropriate justification.
5. In new NNP, Short Codes are categorized under different type of services and applications. What is your view behind this proposal? If you have alternatives, please suggest them with appropriate justification.
6. What is your opinion regarding the provision of new revised SMS/MMS Code?
7. How is the provision of numbering for IP telephony for Internet Service Provider addressed?
8. Do you agree with the assignment procedure which is specified in section 4 of the revised NNP? Please give your comment with appropriate justification.
9. NTA is planning to charge fees for each number assigned to the operators/assignees. How much per number should be charged per annum? Could you please suggest the charging policy and principles relevant to pricing.
10. State any other comments and/or suggestions with justification if you have.