The Numbering Plan

Of

Montserrat

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Purpose & Objectives

The Numbering Plan of Montserrat will govern the administration of national numbering resources used by all public info-communications network and service operators and providers on the Island.

The Numbering Plan has been developed pursuant to section 38 of the Info-Communications Act, 2009. Its prime objectives are to identify and/or set out the:

i. numbering scheme for the allocation of CO codes to info-communications service types (e.g. fixed (wired/wireless) service, mobile service);
ii. principles and guidelines that will govern the administration of CO codes and the Numbering Plan Area (NPA);
iii. obligations which attend assignment of CO codes (e.g. number conservation methods); and
iv. guidelines that will apply in the administration of HNIs and other number assignments.

Generic Numbering Plan

Numbering plans are required to be structured within those specifications of the International Telecommunication Union (ITU) as replicated at Table 1.

Table 1: ITU Template for Numbering Plans

Country Code	Area Code	Directory Number	
		Central Office Code	Station Number
∑k	∑n	∑x	∑y

Where k =1-3, n = 1-3, X = 1-3 and y =1-4

The Country Code, ∑k is a number, not exceeding 3 digits, which identifies a specific country or group of countries which subscribe to an integrated numbering plan.

The Area Code, ∑n identifies the particular country, state or province (for countries with more than one area code) within the NANP. It is also termed the Numbering Plan Area (NPA) code, or simply the NPA. This number invariably comprises 3 digits.

The Central Office (CO) Code, ∑x identifies a particular district within an area in a country. The CO Code is a 3-digit number, ranging from 100 to 999, a vector of some 10,000 telephone numbers.

The Station Number, ∑y is a 4-digit suffix which identifies a particular subscriber or telephone line. The station number is also termed the subscriber or line number.

North American Numbering Plan

The North American Numbering Plan (NANP) is the parent numbering scheme assigned by the International Telecommunication Union (ITU) for certain countries of the Americas including: the US, Canada, the Bahamas and 16 other Caribbean islands. Montserrat, a Caribbean island, is required to adopt the NANP whose basic structure is set out at Table 2.

Table 2: The Basic Structure of NANP

Country Code	Area Code	Directory Number	
		Central Office Code	Station Number
1	∑N	∑X	∑z

Where N = 3, X = 3 and z =4

The Country Code assigned to all NANP participating countries for incoming international call routing is the number 1.

All NAPN member countries carry a 3-digit Area Code. The Area Code which is specific to Montserrat is 664.

Vectors of 3-digit Central Office (CO) Codes are available to NANP participants within the range 100 to 999. Each vector comprises approximately 10,000 telephone numbers.

Each NANP member is permitted Station Numbers each comprising a 4-digit suffix which identifies a particular subscriber or telephone line assigned by the provider.

In total, the international dialing scheme per NANP country comprises eleven (11) digits. The international dialing scheme for Montserrat is 1 664 plus a 3-digit area code and a 4-digit subscriber code.

The NANP is coordinated by the Standardization Bureau of the International Telecommunication Union (ITU) in accordance with ITU-T Recommendation E.164 which specifies that an international telephone number should not exceed 15 digits distributed as follows:

i. a Country Code not exceeding three digits; and
ii. the remaining twelve digits allocated to National Destination Codes and Subscriber Number.

The NANP also makes provision for special codes including N11 codes or Easily Recognizable Codes (ERC) used mainly to provide 3-digit access to special services. N11 codes cannot be used conjointly with area codes and CO codes. Where N11 codes are applied area codes and CO codes must be reduced by the number of digits of N11 codes.

Other special codes commonly used in the NANP are N00 Codes and Carrier Identification Codes (CICs), the former are mainly used to provide toll-free and premium services while the latter are purposed for carrier identification. Special codes can also can Automatic Number Identification (ANI) II Digits which are used within info-communications networks. ANI II Digits are 2-digit pairs which form part of signalling process in the set up phase of a call to identify the type of originating station.

Functionality

Numbers are indispensable for subscriber identification on both packet-switched and circuit- switched networks. Notwithstanding internet addresses are in letters they are all configured in numbers on packet-switched networks.

Available Range

Currently, 664 -$\sum X_i + \sum z_k$ defines the range of numbers available to Montserrat. X_i could range within 200-999, and z_k within 0000-9999 indicating clearly that exhaustion of such a resource is not an immediate to long term threat. Nevertheless, whenever the number of service providers in Montserrat increases to more than one, without proper allocation and assignment practices, the numbering process on the Island could become cumbersome.

Management

Pursuant to the Info-communications Act, this Plan details the manner in which the Authority proposes manage the following numbing resources:

- Central Office (CO) Codes.
  - N11 Codes (Abbreviated Dialling Services).
  - Vertical Service Codes (VSC).
- Home Network Identifier (HNI)
- International Mobile Subscriber Identifiers (IMSIs) (currently managed in North America by the Telcordia IMSI Administrator using guidelines set out by the IMSI Oversight Council (IOC)).

The Authority reserves the right to administer (as the situation demands at a future date) other Non-NANP resources such as:

- Local ANSI SS7 Point Codes.
- System Identifier (SID) numbers.
- Data Network Identification Codes (DNICs).
- ITU International Signalling Point Codes.

Montserrat's Dialing Scheme

The dialing scheme to be used in Montserrat is given at Table 3.

Table 3: Montserrat's Dialing Scheme

Type of Calls	Existing Dialing Procedure
Inter-exchange	7 digits (May not be applicable)
- Unassisted	0 + 7 digits
- Operator assisted	
Automatic Intra-exchange	7 digits
International to World Zone 1 (WZ1)	
- Unassisted	1+NPA+7 digits
- Operator assisted	0+NPA+7 digits
International outside WZ1	
- Unassisted	011+ Country Code + national number
- Operator assisted	01+ Country Code + national number
Local Operator	0
Directory Assistance	3 digits
Emergency	
- Police	3 digits
- Fire	3 digits
- Ambulance	3 digits

The Authority shall maintain the current dialing scheme/plan as the format to be used when dialing a telephone number in Montserrat.

CO Code Allocation and Assignment

As far as possible the Authority shall consult with the existing public info-communications network and service provider to determine whether and ensure assignment of CO code numbering resources as detailed at Table 4 fall within NANP specifications.

Table 4: Current CO Codes & Special Numbers Assignment, Montserrat

Type of Service	CO Code/Number
PSTN Expansion	414
PSTN Expansion	415
PSTN	491
Post-paid Cellular	492
Pre-paid Cellular	493
Fixed Cellular (new)	349
GSM Mobile Post-paid	495
GSM Mobile Pre-paid	496
Audio-text (USA)	492-0000, 492-7999
Audio-text (USA)	492-3000, 492-0999
Audio-text	410
Audio-text	412
Audio-text	413
Directory Services	411
Internal Dispatch	114
Police	999
Emergency/Fire	911
Emergency/Ambulance	311
Customer Care Services	211
Contact Centre	1-800-804-2994

Vertical Service Codes

Vertical service codes (VSCs) enable customer access to features installed on an info-communications network such as voicemail, call forwarding, automatic callback, customer-originated trace, etc. VSCs normally conform to network technology. Typical VSCs for fixed and mobile info-communications networks are detailed at Tables 5 and 6.

Table 5: Standard Vertical Service Code List for PSTN Info-communications Services

Feature	Description	Code
Voice Mail Access	Provides the subscriber access to his voice mail from landline or mobile phone	(*91)
Advanced Call Waiting Deluxe	Allows a subscriber to specify, in advance of incoming calls, the termination treatment on incoming calls that arrive while the subscriber is engaged in another conversation.	(*76)
Anonymous Call Rejection	(*77 Activation, *87 Deactivation) Allows Customers to reject calls from parties who have a privacy feature that prevents the delivery of their calling number to the called party	(*77 Activation, *87 Deactivation)
Automatic Callback	(*66 Activation, *86 Deactivation) Allows a subscriber to automatically place a call to the last station called by the subscriber when that station becomes idle.	(*66 Activation, *86 Deactivation)
Automatic Recall	(*69 Activation, *89 Deactivation) Allows a subscriber to automatically place a call to the last station that called the subscriber, when that station becomes idle.	(*69 Activation, *89 Deactivation)
Call Forwarding	(*72 Activation, *73 Deactivation) Allows a subscriber to redirect calls intended for his/her station (base station) to another station (remote station).	(*72 Activation, *73 Deactivation)
Call Forwarding Busy Line/Don't Answer	(*68 Activation, *88 Deactivation) Allows a subscriber to forward calls intended for the subscriber's busy line, or idle line after a predetermined number of rings, to another directory number entered by the subscriber at the time of activation.	(*68 Activation, *88 Deactivation)
Calling Number Delivery	(*65 Activation, *85 Deactivation) Provides the subscriber with the directory number (DN) of the calling party during the ringing cycle.	(*65 Activation, *85 Deactivation)
Calling Number Delivery Blocking	(*67) Allows the subscriber to temporarily change the permanent public/private status indicator of his/her directory number (DN) and thus control its availability to the called party.	(*67)
Cancel Call Waiting	(*70) Provides the subscriber the ability to disable the Call Waiting feature for the duration of a telephone call.	(*70)
Change Forward-to Number for Customer Programmable Call Forwarding – Busy Line	(*40) Access Code followed by directory number is used to change the forwarded-to number for Call Forwarding Busy Line (CFBL). The state of CFBL is not changed when this access code is used. This feature will utilize the activation code of *290 and deactivation code *291 with the following exceptions: activation will not require/allow the identification of a forwarded-to directory number and deactivation will not clear the forwarded-to directory number.	(*40)
Change Forward-to Number for Customer Programmable Call Forwarding – Don't Answer	(*42) Access Code followed by directory number is used to change the forwarded-to number for Call Forwarding Don't Answer (CFDA). The state of CFDA is not changed when this access code is used. This feature will utilize the activation code of *92 and deactivation code *93 with the following exceptions: activation will not require/allow the identification of a forwarded-to directory number and deactivation will not clear the forwarded-to directory number.	(*42)
Change Forward-to Number for ISDN Call Forwarding	(*56) Access code followed by directory number (DN) is used to change the Forward-To number for Call Forwarding Variable feature button. The state of Call Forwarding Variable feature button is not changed when this access code is utilized.	(*56)
Customer Originated Trace	(*57) Provides the recipient of an obscene, harassing, or threatening call the ability to request an auto-trace of the last call received	(*57)
Deactivation/Activation of In-Session Activation (ISA) on a	(*02) Allows a subscriber to deactivate or activate (i.e., toggle) the In-Session Activation	(*02)

per line basis	feature on a per line basis. ISA is feature that gives the caller a menu of call completion services using voice prompts when the call encounters a busy or no-answer condition.	
Deactivation of In-Session Activation on a per call basis	(*03) Allows a subscriber to deactivate the In-Session Activation feature on a per call basis. When the call is completed, ISA reverts back to the active state. ISA is a feature that gives the caller a menu of call completion services using voice prompts when the call encounters a busy or no-answer condition.	(*03)
Distinctive Ringing/Call Waiting	(*61 Activation, *81 Deactivation) Allows the subscriber to have incoming calls from a limited number of calling parties identified using distinctive alerting treatment.	(*61 Activation, *81 Deactivation)
Do Not Disturb	(*78 Activation, *79 Deactivation) Provides the subscriber the opportunity of having all calls intercepted by the CO switch whenever the line is programmed for Do Not Disturb. The calling party will receive a message indicating the station is in Do Not Disturb condition	(*78 Activation, *79 Deactivation)
Drop last member of Six-Way Conference Call	(*43) Provides the subscriber establishing a six-way conference to terminate the last party added to the call. This frees the port for an additional party when the last party wasn't reachable.	(*43)
Inward Voice Activated Services	(*00) IVAS enables a subscribing business to provide automated voice activated routing for inbound English or French speaking calls (i.e., separate codes for the same service in each language). IVAS will initially consist of the following services • Voice Activated Premier Dialing (VAPD) which allows customers to contact subscribing businesses by speaking the business name or service. • Voice Activated Blue Pages (VABP) which allows customers to request access to government services. • Voice Activated Auto Attendant (VAAA) which provides enhancements to Auto Attendant applications by providing a voice recognition interface in place of Touch Tone. • Voice Activated Audio Text (VAAT) provides users ability to request specific information from a business. • Voice Activated Interactive Voice Response (VAIVR) which allows the caller to interact with a subscriber's specific application in a prescribed manner.	(*00)
Line Blocking Deactivation	(*82) Line Blocking Deactivation allows a caller to dial a delivery feature access code before dialing a complete telephone number to temporarily override the presentation status of both the caller's directory number and the calling name. If the caller enters the delivery code, then the calling identity presentation status will be shown as "public" for both caller directory number and calling name.	(*82)
Override Do Not Disturb	Allows a subscriber to override the Do Not Disturb feature which has been activated on a line. After receiving a message indicating the station is in a Do Not Disturb condition, the subscriber may override the condition by dialing *48 and then a Personal Identification Number (PIN) thus allowing the call to be completed in the normal manner.	(*48)
Override Feature Authorization	Allows a subscriber to override a Feature Authorization activated on a line which restricts 1+ calls from that line. Feature Authorization may be overridden by dialing *47 and a Personal Identification Number (PIN) and then dialing a 1+ call after receiving a second dial tone.	(*47)
Over-the-Air Service Provisioning	OTASP will enable the Service Provider to activate a potential service to a subscriber's wireless unit by downloading over the air required parameters, such as phone numbers, into the handset. Activation of the OTASP code, followed by supplemental digit strings, also provides the ability to securely load an Authentication Key into a subscriber's wireless phone which is used to confirm and validate the identity of the wireless handset.	(*228)
Selective Call Acceptance	Provides the subscriber the ability to block calls from all but a predetermined list of directory numbers specified by the subscriber. Unaccepted callers may receive an announcement or be routed to a predetermined directory number	(*64 Activation, *84 Deactivation)
Selective Call Forwarding	Allows the subscriber to have incoming calls from a limited number of calling parties forwarded to a pre-specified remote station.	(*63 Activation, *83 Deactivation)
Selective Call Rejection	Allows the subscriber to have incoming calls from a limited number of calling	(*60 Activation, *80

	parties rejected by the terminating switching system	Deactivation)
Selective Call Waiting	Provides the subscriber the ability to provide a Call Waiting signal to a predetermined list of directory numbers specified by the subscriber. Callers not on the predetermined list will receive busy tone.	(*62)
Single Line Variety Package (SVP) – Call Hold	Gives the subscriber the capability of placing a call on hold so that the call may be continued from another extension.	(*52)
Single Line Variety Package (SVP) – Distinctive Ring B	Allows a subscriber to select, by way of distinctive ringing, the particular person or extension that the subscriber wishes to alert.	(*53)
Single Line Variety Package (SVP) – Distinctive Ring C	Allows a subscriber to select, by way of distinctive ringing, the particular person or extension that the subscriber wishes to alert.	(*54)
Single Line Variety Package (SVP) – Distinctive Ring D	Allows a subscriber to select, by way of distinctive ringing, the particular person or extension that the subscriber wishes to alert.	(*55)
Six-Way Conference Calling Activation	Allows the subscriber to originate a six-way conference call. Customers will enter this code prior to the first directory number added into the conference. Each subsequent member of the conference is added with a flash hook. This code is used to eliminate action conflicts with other flash hook originated features.	(*41)
Speed Calling	Allows a subscriber to assign his/her own speed calling codes directly and immediately from his/her own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.	(*74 Speed Calling 8-Change List, *75 Speed Calling 30-Change List)
Usage Sensitive Three-Way Calling	Allows a subscriber, by dialing an access code, to request the capability of adding a third party to the two-way connection that is established by subsequent dialing.	(*71)
Voice Activated Dialing	Access to the Voice Activated Dialing (VAD) directory. Customers will dial this code to access their VAD directory in order to add, delete or review the names and numbers	(*44)
Voice Activated Network Control	Access to Voice Activated Network Control (VANC). Customers will dial this code to access VANC so that they can say a name or command that will be activated, deactivated or to access a service.	(*50)
Voice Dialing Extended Dial Tone	Extend dial tone for Voice Activated Dialing (VAD). Customers will dial this code to extend the length of time in which dial tone is heard after going off-hook so that various Customer Premise Equipment (e.g.CPE, fax and modems) will work properly.	(*45)
Wireless Priority Service	Access to Wireless Priority Service (WPS) - a nationwide cellular priority access capability in support of national security and emergency preparedness telecommunications.	(*272)
Who Called Me?	Provides the subscriber with the directory number (DN), date, and time of unanswered calls	(*51)

Table 6: Vertical Service Code List for Public Mobile Info-communications Services

Feature	Description	Code
Voice Mail Access	Provides the subscriber access to his voice mail from landline or mobile phone	(*91)
Pre-Paid Account	Allows the subscriber to add credit to its pre-paid account	(*123)
Pre-Paid Account Balance	Provides the subscriber access to his pre-paid account credit total.	(*120#)

Number Portability

Number Portability enables subscribers on one network to retain and port their telephone numbers to another network. This technology plays an important role in competitive markets. However, its implementation is contingent on a number of factors of which the most important to small island states are:-

i. The nature of portability (e.g. geographic portability, portability among mobile networks only, portability among fixed networks only or inter-network portability);
ii. The cost associated with implementation of each type of portability; and
iii. The economics of cost recovery mechanisms.

Studies have informed that it takes a national subscriber base of at least two million for Number Portability to be economic. Given the geography and size of the subscriber base of Montserrat, number portability is unlikely to be economic in the near and medium and long terms.

ENUM

ENUM implies the use of a single electronic number across networks to access voice and data services. This numbering protocol has been developed (and has been subject to constant upgrade) by the Internet Engineering Task Force's (IETF's) Telephone Number Mapping working group. The prime purpose for EMUM's development is removal of the requirement for separate internet and telephone subscriber identity. The charter of this working group is to define a Domain Name System (DNS)-based architecture and protocols for mapping a telephone number to a Uniform Resource Identifier (URI), which can be used to contact a resource associated with that number. The protocol itself is defined in the standards track document "E.164 number and DNS" (RFC 2916) that provides facilities to resolve E.164 telephone numbers into other resources or services on the Internet (ITU-T Recommendation E.164 is the international public telephony numbering plan). The syntax of Uniform Resource Identifiers (URIs) is defined in RFC 2396 (1998). The application of ENUM requires extensive use of Naming Authority Pointer records defined in RFC 2915 in order to identify available ways of contacting a specific node identified through the E.164 number. While this Plan would not include specific allocations for ENUM provisions will be made for its implementation as need be.

Administration and Assignment of HNI

International roaming functionalities on public mobile info-communications networks require must be supported by the use of a Home Network Identity (HNI). A HNI comprises a 3-digit Mobile Country code (MCC) and a 3-digit Mobile Network Code (MNC). A HNI forms part of the International Mobile Station Identifier (IMSI), a 15-digit number which uniquely identifies a subscriber to a specific public mobile info-communications network.

Specifically, the MCC identifies the country while the MNC identifies the home network of a public mobile info-communications service subscriber within the country's MCC. The concessionaire, to whom the MNC is assigned, directly administers the remaining segment of the IMSI, i.e. the Mobile Station Identification Number (MSIN). Upon the coming into effect of this Plan the Authority shall be responsible for administering HNIs in Montserrat. In so doing the Authority will rely on the international administrative guidelines for IMSIs as specified from time to time in ITU-T Recommendation E.212. The IMSI enables mobile users to roam among public mobile networks, domestically and internationally, by providing a uniform and unique home network and mobile user identification that is recognizable by all conforming public networks. When transmitted between visited and home networks, the IMSI enables the exchange of subscription and billing information for the visiting mobile station. Specifically, the IMSI is used for:

- Determination of the mobile user's home network;
- Mobile user identification when information about a specific mobile user is to be exchanged between visited and home networks;
- Mobile station identification on the radio control path for registering a mobile station in a visited wireless network;
- Mobile station identification for signaling on the radio control path;
- Identification of the mobile user to allow for charging and billing of visiting mobile users, and
- Subscription management, i.e., retrieving, providing, changing, and updating subscription data for a specific mobile user.

The North American Numbering Plan IMSI format includes the MCC assigned to the country by ITU-T Recommendation E.212 and the MNC (which identifies the home network of the visiting mobile station. The Authority shall administer the Mobile

Network Codes within the assigned MCC. The Authority notes GSM wireless platforms are programmed to handle only 2-digit MNCs. This limitation could be facilitated by technology which permits such platforms to support 3-digit MNCs by assigning 2-digit MNCs followed by a trailing 0.

The Mobile Subscriber Identification Number (MSIN) uniquely identifies the mobile user within its home network. The 9-digit (∑x) MSIN format (x ranges between 0 and 9) provides a potential of 1,000,000,000 MSINs. Each service provider shall administer the Mobile Subscriber Identification Codes for their assigned MNC.

The visited network will use the MCC-MNC combinations to identify the home network of the visiting mobile station.

In the region, the practice of mobile service providers reusing a single MCC in all the countries in which they have rolled out mobile networks is widespread. AT&T Wireless has been using their North American HNI in the region while Digicel has been using their Jamaican HNI throughout the region. Both companies have put forward convincing arguments to support the use of single HNIs in the region. Unfortunately, governments and regulators in the region are yet to arrive at a common position on this matter.

While permitting mobile service providers to continue to use their existing HNI arrangements, the Authority will work with member countries of the Caribbean Telecommunications Union (CTU) to resolve the issue of using a HNI per network per country in the region to ensure that the visiting network of Caribbean roaming subscribers can be accurately identified by country. This is an imperative for the Authority.

Numbering Scheme for CO Code Allocation

The Authority has employed the principles set out hereunder to guide the formulation of the numbering scheme for CO code allocation:

i. equitable access of the numbering resource to all concessionaires of public info-communications service;
ii. the importance of regularizing the existing numbering allocations without creating unnecessary changes to current number allocations;
iii. allocation of numbers by type of service and in accordance with the estimated long-term requirements for provision of different public info-communications services;

iv. the practicability of retaining existing assignments, as far as possible, to minimize inconvenience to the public; and

v. exceptions for current number assignments, which do not conform to the proposed numbering allocation plan (i.e. non-standard assignments), to exist until re-assignment is absolutely essential.

Based on these principles the numbering scheme for CO codes allocation in Montserrat is set-forth at Table 7.

Table 7: Recommended Numbering Scheme for CO Code Allocation

CO Code	Service Type	Comments and Exceptions
201 - 249	Fixed Services[1]	Reserved for Government services (Except 211).
250 – 499	Mobile Services	Except numbers currently used for other services
501 - 599	Unallocated	Reserved for future use
601 - 699	Fixed Services	666 reserved indefinitely. 611 reserved for abbreviated dialing services.
701 – 799	Mobile services	711 reserved for abbreviated dialing services (Any current assignment retained)
801 – 899	Fixed & Mobile Services	Adequate reservation for future growth 811 reserved for Public Emergency Services (Ambulance). 824 – (could be so used in operator services range) 821 and 822 - Direct inward dialing services 866 and 877 – Interim local-only toll free services for Concessionaires of Public Telecommunications Service, other than LIME. 888 – International and Local Prepaid Call Card services by LIME
901 – 949	Premium &Special services (fixed and mobile)	911 reserved for Fire/Emergency
950 – 979	Operator and Plant Test Services	
980 – 989	Government & public services	(Reserved for Public emergency services)
990 – 999	Abbreviated Dialing Codes	**No table of figures entries found.**(999 reserved for Police)

Numbering Fees

In order to encourage efficient use of telephone numbers and discourage underutilization or hoarding of numbers all concessionaires using numbers on their networks shall be liable to a nominal fee associated with the use of numbers. Fees for telephone numbers in a single CO code (i.e. 1000 numbers) would encourage a concessionaire to maximize the use of the code before requesting an additional CO code. The fees are also designed to serve as cost recovery mechanism in the Authority's administration of the Islands numbering resources. The numbering fee structure will be based on the service categories of numbers to be administered by the Authority, since some categories of numbers are considered more valuable than others. These fees shall be prescribed in the Amended Fees Regulations.

The service types/number categories for which a fee will be levied initially are:

a. Fixed (Wired/Wireless) Services
b. Mobile Services.
c. N00 Numbers.
d. Information/Premium/Number Translation Services.
e. Plant Test Code Services.

All other CO codes shall not attract a fee at this time.

Reassignment of Numbers

Concessionaires have the option to re-assign to a new subscriber, a telephone number that has already been assigned to a subscriber which has been inactive for six (6) months. Inactive has the meaning: the telephone number has not been originating or terminating voice or text communication due to:

a. disconnection of a subscriber of fixed (wired/wireless) services or post-paid mobile services; or
b. nonoccurrence of a call or text made to or from the cellular handset of a pre-paid mobile services subscriber.

Number Utilization Threshold

In the region, countries are all experiencing stagnation in demand for numbers for fixed (wired/wireless) telephone services. On the contrary, growth in demand for numbers for mobile telephone services has been exponential. The NANP CO code utilization requirement for triggering a new CO code assignment is 75% for both fixed line and mobile services. In light of the situation which obtains in the region, and indeed Montserrat, the Authority shall apply the following thresholds for assignment of additional CO codes:

a. Fixed (Wired/Wireless) Service – 85 % ; and

b. Mobile Service – 75 %.

Administrative Standards for HNI

Where applicable, the Authority shall adopt and apply the standards of the Industry Numbering Committee (INC), in administering CO codes as published on the website http://www.atis.org/atis/clc/inc/incdocs.htm. In this regard the Authority will be disposed to the necessary adaptations suitable to the circumstances of Montserrat.

Assignment of Company Code (OCN)

A Company Code (OCN) is an alphanumeric code which identifies providers of international info-communications services. The American National Standards Institute (ANSI) Standard T1.251-2000 refers to this code as an alphanumeric "Company Code".

The Alliance for Telecommunications Industry Solutions (ATIS) through the ANSI Standard T1.251 has designated NECA Services, Inc. (NECA Services) as the Maintenance Agent of this code set. Company Codes are used in mechanized systems throughout the info-communications industry to facilitate the exchange of information. The functionalities of Company Codes may include, but are not limited to:

i. call routing and rating purposes;

ii. ordering, billing, and provisioning of Access Service; and

iii. Inter-exchange Carrier Systems used to audit exchange access bills.

It is a standard requirement to restrict the use of Company Codes to exchange of information among companies and/or public use. The Authority will therefore not support assignment of Company Codes for exclusive use of internal company operations.

Applications for OCNs are made through the NECA website at https://www.neca.org which informs on the following:

i. International Company Code Procedures;

ii. International Company Code Request Form; and

iii. International Company Code Certification Letter.

Where necessary, the Authority would provide the required information to NECA to support the application of any service provider authorized to operate within Montserrat.

Central Office Code Assignment Guidelines

CO Code holders are advised to observe the guidelines set out in:
INC Website Identification

a. Document ID: ATIS-0300051

b. Description: Central Office Code (NXX) Assignment Guidelines (COCAG)

However, the following exceptions shall be applicable to Montserrat:

i. The requirement at section 2.0 re: number pooling;

ii. Section 3 and 4, until discussion with service provides on the Island;

iii. The geographic area specified at section 5.2;

iv. The carrier restriction at section 5.2.1;

v. Section 5.2.2;

vi. Section 5.2.10;

vii. Section 6 (until discussions with service providers in Montserrat are complete);

viii. Section 8, save and except subsection 3 (until discussions with service providers in Montserrat are complete); and

ix. Section 9.

Guidelines Re: HNI Assignment

Assignment guidelines for management of the IMSI shall apply only to the HNI portion of the IMSI since the Authority's role in the management of the IMSI will be restricted to administering the HNI segment.

The IMSI Oversight Council (IOC) is tasked with the management of IMSI resources in the United States and overseeing the performance of the IMSI-A. The IOC guidelines which conform to (ITU-T) Recommendation E.212 and are used when assigning IMSIs in countries which subscribe to the NANP are accessible on the website: http://www.atis.org/ioc/guidelines.asp.

Wherever the guidelines of the IOC are inconsistent with Info-communications Act they shall be nullities. Their application shall also be subject to the under-listed conditions precedent:

i. They are interpreted to provide sufficient latitude to enable international public mobile info-communications services providers to deliver widespread and cost-efficient international roaming capability to subscribers in Montserrat;

ii. The right of the Authority to perform the function of Local Administrator of this National Numbering Plan is not compromised;

iii. The Authority retains the right to revise them, and

iv. Inter-networking arrangements contained in other standards, documents, or business agreements shall remain in effect until the Authority decides otherwise.

Basic Assignment Principles

In order to satisfy condition precedent (i) above the following assignment principles shall apply:

i. Compulsory assignment of HNIs on request by concessionaires of public domestic mobile info-communications networks with international roaming capability;

ii. Concessionaires shall be allowed to use a single HNI for multiple or merged networks within Montserrat or the region until the matter of use of HNI by country is settled;

iii. The 6-digit HNI (xxx+MNC), as part of the 15-digit IMSI, is to be assigned and used in a manner which uniquely identifies the home network of the mobility service user in order to ensure billing accuracy for subscribers;

iv. Concessionaires should assign MSINs to their subscribers' mobile terminals/users;

v. IMSIs shall remain an international public resource therefore assignment of any portion of an IMSI (i.e., HNI, MSIN) does not imply ownership of the resource by either the entity to which it is assigned or by the entity performing the administrative function; and

vi. Should an assignee transfer control of a wireless license, the use of the assigned HNI is transferable to the new license owner.

Additional Numbers

Other numbers which **may** require assignments include:

i. *Carrier Identification Code (CIC)* :– A four- digit numeric code assigned to a public info-communications network provider for the provisioning selected switched services. The numeric code which is unique to each provider is used to route calls from an originating provider to the trunk group designated by the provider to which the code was assigned.

ii. *International Signalling Point Code (ISPC)* :– A signalling point code with a unique 14-bit format used at the international level for signalling message routing and identification of signalling points involved. The ISPC is used in signalling messages containing the Network Indicator NI=00. ISPCs are assigned to international public info-communications network providers.

iii. *SS7 Point Codes* :– These are 24-bit binary codes which are needed for all signaling points using the SS7 (Common Channel Signaling) network. They identify network nodes in order that the SS7 network can route calls properly. Point codes consist of 9 digits. The first three digits represent the network, the second three the cluster, and the third three the member. Small networks are assigned from network code 002, and point code blocks are assigned from network code 005.

iv. *System Identifier (SID) numbers* :- A 5-bit binary number that translates into a 5-digit decimal number. In all ANSI-41-based systems, the SID is used to notify wireless users as to whether they are in their home area or roaming. When operating, the mobile handset compares the SID initially programmed into the handset to the SID broadcast by the serving system's cell sites. If the SID broadcast by the cell site matches the SID programmed into the handset, then the "home" indicator on the mobile handset will be illuminated. If the SID broadcast by the cell site does not match the SID programmed into the mobile station, then the "roam" indicator on the mobile handset will be illuminated. The intent of the "roam" indicator is to notify the wireless user that additional roaming-based charges may be applied for usage on the serving system.

Based on assignment guidelines specified by the ITU for NANP countries, the number resources detailed at (i) to (iv) above will be assigned in unique ranges. Such assignments will be exclusive to concessionaires of public info-communications network and services and will be done in an impartial and transparent manner.