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**Draft National Numbering Plan for
Trinidad and Tobago**

Maintenance History

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1 Executive Summary

This document examines the current allocation of numbers for public telephony (telecommunications) services in Trinidad & Tobago and proposes a draft numbering plan for the future allocation of numbers for residential, mobile and special services and applications.

Currently the Telecommunications Services of Trinidad and Tobago (TSTT) is the sole holder of telephone numbers in Trinidad and Tobago. Of the numbers assigned to the company, some have been allocated to current subscribers while others are held to accommodate proposed telephone service expansion. Number assignments to TSTT are as follows:

- 820, 000 numbers for mobile services
- 850, 000 numbers for fixed-line services
- 6, 230, 000 numbers unallocated
- 130, 000 numbers reserved for special services

Based on an evaluation of the existing assignment of numbers, an Allocation Plan has been developed by the Telecommunications Authority of Trinidad and Tobago. This plan provides for:

- 2,060,000 numbers for mobile (cellular) services
- 1,860,000 numbers for fixed-line services (including 555 numbers)
- 980,000 numbers for number translations to interconnect with other networks
- 1,960,000 numbers unallocated
- 170, 000 numbers for government and public services
- 860, 000 numbers for special services

The Allocation Plan accounts for 7,890,000 numbers¹. It makes provision for special numbering reserves, such as for government and public purposes, and accommodates the existing

¹ Note that eleven (11) Central Office (CO) codes are used as abbreviated codes.

assignments. Recognizing the challenges associated with the development of a uniform numbering scheme, the Plan includes migration scenarios. The document also outlines the principles and procedures required for the efficient administration of Central Office Codes (COCs), International Mobile Subscriber Identity (IMSI) assignments and Carrier Identification Codes (CICs).

2 Introduction

2.1 Scope

This document is the Draft Numbering Plan for the Republic of Trinidad and Tobago. It will serve for consultation (Section 2.5) with existing and potential operators. This draft is therefore a working document, and the version will be updated as contributions and recommendations are made.

The Final Numbering Plan, developed out of stakeholder consultation based on this draft, will be applicable and mandatory for all Public Telecommunication Service Providers operating in the Republic of Trinidad and Tobago.

2.2 Relevant Legislation

The Telecommunications Act 2001 and the Telecommunications Amendment Act 2004 provide the legislative framework for the Telecommunications Authority of Trinidad and Tobago to develop a plan for the numbering of telecommunications services. The Authority is also responsible for the administration and management of such numbers.

The Responsibilities of the Telecommunications Authority of Trinidad and Tobago (TATT) with respect to numbering are stated in Part IV section (44) of the Act as follows:

1. The Authority shall develop a plan for the numbering of telecommunication services and shall administer and manage such numbers.
2. Subject to subsection (5), numbers shall be made available to providers of telecommunications services on an equitable basis

3. The numbering plan may establish procedures by which providers of telecommunications services may assign or re-assign telephone numbers to users.
4. The numbering plan shall be made available to the public in the manner prescribed by the Authority.
5. In developing the numbering plan referred to in subsection (1), the Authority shall preserve to the extent feasible, the assignment of numbers made before the commencement of this Act.
6. The Authority shall notify all service providers of any new numbering assignments made.

2.3 Review Cycle

This document will be modified as deemed necessary by the Authority in order to adapt to the needs of the telecommunications industry and to meet changing circumstances. When need for modification is identified, the Authority will announce its intention to review the document and any interested party or entity in the telecommunications sector or any appropriate industry forum may suggest changes to the document.

Questions or concerns regarding the maintenance of this document may be directed to the Authority via email at policy@tatt.org.tt.

2.4 The Consultation Process

The Authority sought the opinion of stakeholders on a first draft of the National Numbering Plan, and has considered the comments received by all parties in developing this revised draft (see Annex 1). The Authority seeks further comments regarding the proposals made in this document, in accordance with the *Procedures for Consultations in the Telecommunications Sector of*

Trinidad and Tobago (<http://www.tatt.org.tt>). This revised draft plan will be made available for public comment for a period of four (4) weeks.

3 Background

3.1 Basic Model – North American Numbering Plan

Trinidad & Tobago is a participating country in the North American Numbering Plan (NANP), which is the basic numbering scheme throughout the US, Canada, the Bahamas and 16 Caribbean countries. The structure of the numbers is defined as follows:

Area Code	Directory Number	
	Central Office Code	Station Number
NXX	NXX	XXXX

N = 2-9

X = 0-9

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

The Central Office Code identifies a particular district within an area. It is comprised of 3 digits.

The Station Number identifies a particular subscriber or telephone line. The station number is also termed the subscriber or line number. It comprises 4 digits.

The NANP defines a number of special codes including the N11 Codes. These are Easily Recognizable Codes (ERC), more formally known as ‘service codes’, which are used to provide three-digit access to special services. They are never used as area codes or CO codes. The legitimate area codes and CO codes are therefore reduced by the number of possible N11 codes.

Other special codes used in the NANP are the N00 Codes. These are ERCs usually used for the provision of toll-free services. Other special NANP codes are the Carrier Identification Codes (CICs), which identify the various carriers.

Yet other special numbers include 555 line numbers. These are used to reach a wide variety of information services. 555 numbers are in the format 555-XXXX. The line number (XXXX) indicates the particular information service. 555 numbers are assigned according to guidelines developed by the ATIS-sponsored Industry Numbering Committee.

Quite apart from the telephone numbers used to identify subscribers, there are special codes known as Automatic Number Identification (ANI) II Digits, used within the telecommunications network. ANI II Digits are two-digit pairs sent with the originating telephone number as part of the signaling that takes place during the set up phase of a call and identify the type of originating station.

3.2 Importance of Numbering

Numbers are an indispensable means for identifying subscribers and directing calls and connections through interconnected circuit switched telecommunications networks to ultimately access a party or service.

The manner in which the numbering resource is managed is of direct concern to subscribers in many ways. For example, by traditionally assigning numbers to various geographic regions, and advertising the tariffs associated with calls from any one region to any other, calling parties could

easily determine the costs of their calls before they are made. The manner in which the numbering resource is managed also has a direct impact on the competitive environment. For example, subscribers are more likely to try new service providers if their phone numbers do not change as a consequence.

3.3 Availability of Numbers

Currently, 868-NXX-XXXX defines the range of numbers available to Trinidad & Tobago, where NXX can fall within 200-999, and XXXX can fall within 0000-9999. This provides almost 8 million (7, 820, 007) numbers available for assignment. Though the supply of numbers is finite, the exhaustion of such a resource is not currently under threat. However, without proper numbering allocation and assignment practices, the resource may become cumbersome to use and manage efficiently, and may eventually face exhaustion.

3.4 NANPA Resources

This plan documents the Authority's proposed administration of the following NANPA Resources:

- Central Office (CO) Codes
- N11 Codes (Easily Recognizable Code)
- N00 Codes (Easily Recognizable Code usually used for toll-free services)
- Carrier Identification Codes (CICs)
- Vertical Service Codes (VSC)

Other NANPA resources that the Authority may consider administering in the future are:

- 555 Line Numbers

- ANI II Digits

3.5 Non-NANPA Resources

This plan currently addresses the administration of International Mobile Subscriber Identifiers (IMSI), which is administered in North America by the Telcordia IMSI Administrator, based on guidelines developed by the IMSI Oversight Council (IOC).

Other Non-NANPA resources that the Authority may propose to administer are:

- SS7 Codes
- System Identifiers (SIDs)
- Data Network Identification Codes (DNICs)

4 Current Allocations

The following lists the current Central Office number assignments used in Trinidad and Tobago by the incumbent operator, Telecommunication Services of Trinidad and Tobago (TSTT).

Mobile	Fixed line	Unallocated	Specials
		200 – 609	468 used for Overseas Audio Text, USA and Canada
620, 678	610 – 679		666
680 – 689 (Post Paid)			
	690 – 699		699 (Inbound and Outbound International Call Testing – DMS 300)
		700 – 729	
730 – 799 (Prepaid & Post Paid)			
		801 – 819	800 (Service)
	820 – 833		824 (TSTT Service Code)
		834 – 899	866, 877, 888 (Service) 848, 874 (International Inbound Audio Text

			Service)
		901 - 989	938 (Wholesale International Toll Free Service from MCI) 900, 976 (Information Services) 950, 958 (Routing Codes for 900 and 800 Services respectively)
			990-999 (Emergency) 998 (Automatic Number Announcement Service)

TSTT's current dialing scheme is as follows:

Type of Calls	Existing Dialing Procedure
Directory Assistance	6411
Repair Service	6611
Emergency	999, 990
Inter-exchange	
-Unassisted	7 digits
-Operator assisted	0 + 7 digits
Automatic Intra-exchange	7 digits

International to WZ1	
-Unassisted	1+NPA+7 digits
-Operator assisted	0+NPA+7 digits
International outside WZ1	
-Unassisted	011+ CC+ national number
-Operator assisted	01+ CC+ national number
Operator	0

4.1 Numerical Summary of Current Code Usage

Central Office Code	Use	Comments and Exceptions
200 – 609	Unallocated	468 – Audio-text/ One way call from USA/Canada
610 – 679	Fixed Line services	611 Reserved 620 Postpaid mobile 6411 Directory assistance 6611 Repair Services 678 Postpaid mobile
680 - 689	Mobile services	
690 – 699	Fixed Line services	699 TSTT DMS 300 Test
700 - 729	Unallocated	Expansion for mobile services
730 - 799	Mobile services	

Central Office Code	Use	Comments and Exceptions
800	Toll free services	
801 – 819	Unallocated	
820 – 833	Fixed Line services	<p>Mostly unassigned</p> <p>824 – One number service TSTT</p> <p>820 – 823, 825-833 have been recalled</p>
834 – 899	Unallocated	<p>848, 874 – International Inbound Audio Text Service</p> <p>866, 877, 888 – Service Codes</p>
900	Information services	
901 - 989	Unallocated	<p>938 – Wholesale International Toll Free Service from MCI.</p> <p>976 – TSTT Information</p>

Central Office Code	Use	Comments and Exceptions
		Services 950, 958 – Internal Routing for 800 and 900 services 911 – Reserved
990 – 999	Emergency services	998 (Automatic Number Announcement)

5 Proposed CO Code Numbering Scheme

5.1 Guiding Principles for Proposed Numbering Scheme

The following principles were employed to guide the development of the proposed CO code numbering scheme:

- To ensure the equitable distribution and availability of the numbering resource for all public telecommunications service providers.
- To regularize the existing ad hoc numbering allocations to maximize the lifespan of the numbering resource, without creating unnecessary changes.
- To proportion the allocation of numbers for each type of service in accordance with the estimated long-term requirements for different public telecommunications services.
- To retain existing assignments, as far as possible, to minimize inconvenience to consumers (subscribers).
- To allow existing 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.

5.2 Summary of Numbering Assignment Scheme before considerations for NANP expansion

Central Office Code	Use	Comments and Exceptions
201 - 299	Reserved for future services yet to be identified	
301 – 499	Unallocated	For future growth 311, 411 for short dialing
501 - 599	Fixed Line services preferred	555 reserved 511 for short dialing
601 - 679	Fixed Line services	620, 678 currently assigned to mobile (migration to Mobile Services) 666 reserved 611 for short dialing
680 - 689	Mobile services	
690 - 699	Fixed Line services	
701 – 799	Mobile services	711 for short dialing

Central Office Code	Use	Comments and Exceptions
801 – 899	Mobile Services	811 for short dialing 824 – TSTT One number service (possible migration to 924 in operator services range) 820 – 833 – TSTT Fixed Line (recalled and migrated to 610, 612 – 618)
901 – 919	Premium and Special services (fixed and mobile)	911 for short dialing
920 – 979	Operator and Plant Test Services	958, 959 – Standard Plant Test Codes
980 – 989	Government & public services	
990 – 999	Abbreviated Dialing Codes	Emergency services (990, 999) Automatic Number Announcement Service (998)

5.2.1 Reserved Central Office Codes

Central Office Code	Purpose and Notes
N00 – XXXX	<ul style="list-style-type: none"> • Central Office Codes 200, 300, 400, 500, 600, 700, 800, 900 • Total of 80,000 numbers available • Special services <ul style="list-style-type: none"> ○ Toll free services: 600, 700, and 800 - A total of 30,000 numbers have been allocated for toll-free services. In addition, if demand for such services increases, central office codes 200, 300 and 400 can be utilized in the first instance, with further growth utilizing the 910 and 912-919 range of central office codes, providing a possible total pool of 150,000 numbers. ○ Premium service codes: 900 - If the demand for such premium 900 services grows beyond the 10,000 numbers presently allocated, central office codes 901 – 919 (except 911) can be utilized for these purposes, giving a total pool of 180,000 numbers. ○ Personal (Portable) Communications Services: 500 proposed
555 – XXXX	<ul style="list-style-type: none"> • 10,000 numbers available • Information services

5.2.2 Abbreviated dialing services

- 411 to be used for directory services among all carriers
- 611 to be used for repair services among all carriers
- 711 to be used for Telecommunications Relay Services
- 911, 990, 999 will be assigned for Public Emergency Services.
- 998 have been assigned for the Automatic Number Announcement Service
- 991 – 997 will be assigned as abbreviated dialing codes for new services such as location finding.
- All additional N11 codes will be reserved for future abbreviated dialing services (i.e. 211, 311, 511, and 811). Traditionally 211 is used for Community Information and Referral, 311 used for Non-Emergency Police and Other Governmental Services, 511 used for Traffic and Transformation Information, and 811 used for Business Office.
- It is proposed that all operators of public telecommunications services be mandated to accommodate these codes, and that these services should be available at no extra cost to the general public.

5.2.3 Reservation for Government use

It is proposed that certain central office codes be reserved by Government to provide services over a uniform numbering scheme. In the proposed numbering plan, central office codes 980 – 989 have been allocated for providing public and government telecommunications services.

5.3 Capacity Analysis

The following table summarizes the size of each allocation.

Allocation	Number
Unallocated	1,960,000
Translation Services	980,000
Fixed line Services	1, 840, 000
Mobile Services	2,060,000
N00 Numbers	80,000
Operator Services	580,000
Plant Test Codes	20,000
555, 666 numbers	20,000
Special Services	180,000
Government and public services	100,000
Abbreviated Dialing Codes	7
Total	7,820,007

6 Existing Challenges

The primary challenge facing the existing numbering scheme is the anticipated demand for number resources on the one hand and the mandate for liberalization in the local telecommunications market on the other.

A number of factors have been considered in the development of a new numbering plan with the intention of meeting the needs of a liberalized sector. Implementation and transitional issues for these considerations are addressed below.

6.1 Central Office (CO) Codes – Migration of Numbers

CO Codes should be assigned to permit the most effective and efficient use of a finite numbering resource in order to prevent premature exhaust of the NPA and to delay the need to develop and implement costly relief. Efficient resource management and code conservation are necessary due to the impacts of expanding the numbering resource.

Many improvements on the existing allocation scheme, as tabulated in Section 4.1, can be implemented to maximize the lifespan of the numbering resource. The main reason for the inefficiencies in the existing numbering allocations was the lack of a proper number allocation plan. For increased efficiency, the Telecommunications Authority of Trinidad and Tobago proposes a number of migrations of existing services in order to effect the numbering plan allocations proposed in Section 5.

The Authority shall consult with existing users of the numbering resource (namely TSTT) to develop a migration plan, where feasible, which will provide a transitional path towards conformance to the proposed numbering plan allocations. Where it is determined that the migration of services is necessary, the Authority shall exercise reasonable measures to minimize the unavoidable inconveniences that will be imposed on consumers (subscribers). Furthermore, the

Authority will seek to retain, wherever possible, existing numbering assignments, to minimize the impact to consumers (subscribers).

The proposals for migration are as follows:

- Existing Mobile Ranges: An estimated 15,000 – 18,000 mobile subscriber are currently assigned the 620-xxxx and 678-xxxx blocks. It is proposed that these assignments be ultimately discontinued for mobile use. In the first instance, numbers already assigned in these blocks should not be reassigned for mobile use on termination of subscriptions. In due course, there should be a phased transfer of numbers in these blocks to unassigned ranges in the blocks allocated for mobile services. On migration, numbers in the affected blocks, 620-xxxx, 678-xxxx, may be reassigned for fixed-line use.

The range 680 – 689 is currently allocated to mobile services. However the Authority shall periodically investigate the extent to which these numbers are kept active. Once these blocks fall below 30% utilization, the remaining assignments should be migrated to other mobile blocks and the range 680 - 689 reallocated to fixed-line use.

- Pre-paid or Postpaid: The Authority may consult with the relevant stakeholders to explore the possibility of not using separate CO blocks to differentiate between pre-paid and postpaid mobile services. The Authority has recognized that TSTT has already started implementing this to some degree.
- Directory Services: 6411 – Presently, TSTT provides directory assistance at this number. Instead, a three-digit number (411) can be used. This can be introduced more subtly, as subscribers who dial the four digits 6411 can be informed that the new number for directory services is the newly assigned number. Similarly 611 can be used instead of 6611 for Repair services.
- Residential Services: 820 - 833 – TSTT currently has this allocation, excluding 824, for fixed line services, but few actual numbers have been assigned. TSTT has been notified that assignments in these blocks may be migrated to 610 – 618 (excluding 611).

- Operator services: 824-xxxx – Similar to the required Directory Assistance migration, TSTT currently offers services at 824-TSTT. Again, this number can be simply re-assigned to another code, and a period of 6 months can be granted during which callers dialing the old number will be notified of the number change. A number in the operator services range, for example, 924-TSTT can be used for this assignment.
- Service Codes: 800, 866, 877, 888, 900 – These five (5) codes are being used for the provision of 800 and 900 services, but have not been assigned to an exchange office. There is no indication of the extent to which these codes are currently utilized. The Authority shall investigate the utilization of these blocks, and may consider the re-allocation of these services to the 924-XXXX block, or any other block in the operator services range.
- TSTT's Info Zone: 976 - Currently 976 – 2000 is dialed to access the TSTT Info Zone service. The Authority may also consider the re-allocation of this service to the operator services range, as this will make the 976 –XXXX block available for future assignments.
- TSTT's DMS 300 Codes: 699. This is currently used for ISDN trunk loop back testing at the TSTT House DMS-300. Inbound and Outbound International call testing is facilitated. The Authority shall investigate the utilization of this block and may consider the migration of this service to one of the blocks proposed for Plant Testing (958, 959), or an operator services block.
- Routing of 800 and 900 calls: 950, 958. These codes have been assigned and used as routing codes to facilitate the local 900 and 800 services respectively. These codes are used for the whole network. Customers would dial 800-xxxx and this would be translated to 958-xxxx for routing and termination to the particular associated local office and line. Similarly, customers would dial 900-xxxx and this would be translated to 950-xxxx for routing and termination to the particular associated local office and line. The Authority shall investigate the utilization of these blocks and may consider, based on the results, re-allocating these services to a block in the operator services range.
- Audio Text Service: 468, 848, 874. These codes are being used for international inbound audio text services by TSTT. There have been cases in the region of service providers that charge exorbitant rates for audio text services to international consumers without their knowledge.

Internationally, consumers may dial a 900-NXX-XXXX number to access this service; however other NPAs can be used. The Authority shall investigate the utilization of these blocks and gather information with respect to the billing of this service to ensure that consumers are protected from fraudulent services. The Authority may withhold the right to not assign a CO Code to this service.

- Wholesale International Toll Free service from MCI: 938. This service facilitates customers, e.g. a local airline or bank, who want to allow their customers to reach them toll free from several countries around the world. MCI would facilitate translation of the originating toll free number in the foreign country to 868-938-xxxx for international routing purposes. The single code 938 is used for terminations anywhere in TSTT's network. The Authority shall investigate the utilization of these blocks and based on the results, may consider that a block of NXXs (possibly the same) be allocated for such wholesale international toll free services as other local operators would also wish to offer.
- Public Emergency Services: 911, 990, 999. 990 and 999 are currently used for Fire and Police/Ambulance Services respectively. The Authority may investigate the benefits of a central emergency service that employs the 911-service code. This service should allow for the continued use of the 990 and 999 access codes. The Authority, with the relevant stakeholders, will need to determine the resources required and the implications involved in implementing such a system.

6.2 Carrier Selection or Carrier Pre-selection

Carrier Pre-Selection is a service that offers end users the ability to choose different operators to carry their calls without having to dial an access code. In this case, there are no numbering implications.

Carrier Selection is a service offered to end users on a call-by-call basis, whereby the user dials an access code before the called number and the call is routed to a chosen alternative service provider. This could apply where no pre-selection has been made by the consumer or on a call-by-call basis to over-ride pre-selection.

The Authority, in consultation with relevant stakeholders, will determine whether the need exists to enforce the provision of either/or both services for fixed-line consumers. If the need exists, it is proposed that the implementation scheme will:

- Allow users to pre-select or select any operator *only* at the International Calls level
- Use the CIC model adopted by the NANPA
- Encourage competition since an operator does not have to offer both national and international services.

Carrier Selection (Identification) Codes in Trinidad and Tobago will be assigned according to the INC Carrier Identification Code Assignment Guidelines (Section 7.4). CICs are assigned on a NANP area basis. No duplicate assignments are segregated by geographical region so the entity can use the code throughout the region. These codes were developed to enable the routing and billing of telecommunications traffic from the local access service providers to specific inter-exchange and other service providers within the North American Numbering Plan (NANP) telecommunications network. Each CIC, in the XXXX format, identifies a service provider that has purchased Feature Group B (FGB) and/or Feature Group D (FGD) access services from the local access service provider.

6.3 International Mobile Subscriber Identifiers (IMSI)

The IMSI format and function are based on ITU-T Recommendation E.212. The Authority recognises that IMSI enables mobile users to roam among public 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 IMSI format used in the North American area is as shown below:

IMSI (15 digits)		
MCC (3 digits)	MNC (3 digits)	MSIN (9 digits)

The Mobile Country Code (MCC) assigned to Trinidad and Tobago by ITU-T Recommendation E.212 is 374.

The Mobile Network Code (MNC) identifies the home network of the visiting mobile station. The Authority shall administer the Mobile Network Codes within the assigned MCC (374). Currently GSM-based wireless networks can handle only 2-digit MNCs. This limitation is accommodated until such time as GSM-based wireless networks will be modified to support 3-digit MNCs by assigning 2-digit MNCs followed by a trailing 0.

The 3-digit (XX0) MNC format, where X is any number from 0 to 9, provides a potential of 100 MNCs. TSTT uses 12 as its MNC, since becoming a member of the GSM Association. The Authority may need to ensure that TSTT conforms to the 3-digit MNC (120) North American IMSI Format, by determining whether the first number in the MSINs assigned is a '0'.

The Mobile Subscriber Identification Number (MSIN) uniquely identifies the mobile user within its home network. The 9-digit (XXXXXXXXXX) MSIN format, where X is any number from 0 to 9, provides a potential of 1,000,000,000 MSINs. The service provider shall administer the Mobile Subscriber Identification Codes for their assigned MNC.

The visited network will use the 374-MNC combinations to identify the home network of the visiting mobile station.

Currently in the region, mobile service providers have been reusing a single MCC in all the countries in which they have rolled out mobile networks. AT&T Wireless has been using their North American Home Network Identifier (HNI = MCC + MNC), while Digicel has been using their Jamaican HNI throughout the region. Both companies have put forward various arguments to support the use of single HNIs in the region; however the governments and regulators in the region do not have a unified position on this matter.

The Authority, with other members of the Caribbean Telecommunications Union (CTU), will continue to investigate the use of single HNIs in the region to ensure that visiting networks here and internationally can accurately identify the individual Caribbean home networks of roaming subscribers. In the interim, until notified otherwise, the Authority will adhere to the above format and the IMSI Administration guidelines (Section 7.3) when assigning IMSIs in Trinidad and Tobago.

6.4 North American Numbering Plan (NANP) Expansion

In 2001 the NANP Administrator, based on NANP Numbering Resource Utilization/ Forecast (NRUF) data, has projected NANP exhaust by the year 2025 (with a timeframe range between 2024 and 2038 depending on the applicable assumptions). The Industry Numbering Committee (INC) has evaluated and provided recommendation on NANP Expansion, having taken into consideration the major activities essential for implementation. The INC has estimated that a ten-year lead-time is necessary.

The INC has recommended the addition of a fourth digit to the end of the NPA field and the addition of a digit to the beginning of the Central Office code field, resulting in a twelve-digit numbering plan as shown below.

Area Code	Directory Number	
	Central Office Code	Station Number
NXX(X)	(X)NXX	XXXX

Where,

N represents digits 2 through 9, and

X represents digits 0 through 9

It is proposed by the INC that during the transition period (one year) both the new and old plans need to be supported. The values of the fourth digit in the existing ten-digit NANP (historic D digit) cannot be a 0 or 1. Using the 0 or 1 value in the D digit position will provide the necessary

indication for all switching equipment and operational support systems to ensure identification of an expanded twelve-digit NANP number.

Expansion is facilitated by adding the digits (00, 01, 10, 11) in the fourth and fifth positions of a ten-digit NANP number, immediately after the existing three-digit NPA, except for special use codes. Once the switching system has determined that the end user dialed an existing ten-digit number, the switch can be instructed to insert the appropriate combination in the fourth and fifth digit positions and forward this number on to subsequent switching systems. Signaling and billing systems can be arranged to transition to the twelve-digit NANP number long before the customers need to dial the twelve-digit number.

During the permissive dialing period, network switches will be able to determine whether the caller was dialing a ten-digit or twelve-digit number by checking the value of the D digit.

It is recommended that a one-year permissive dialing period be used to effect a transition. After the transition period is over, four-digit NPA codes and four-digit CO codes can then be assigned using other digit values (2-9) in the fourth and fifth digits.

One of the constraints made by the INC is that the expansion plan must apply throughout the NANP serving area subject to the appropriate regulatory or governmental procedures and constraints. In order to remain part of the NANP, each country must implement the accepted NANP expansion plan. Trinidad and Tobago, being a NANP participating country, would create the policy directives required to ensure the timely implementation of NANP expansion for the benefit of all telecommunication users, when the time arises. The Authority will also seek comment from all segments of the industry, and other interested parties, on the NANP expansion proposal by the Industry Numbering Committee at that time.

6.5 Future Services

The need for translation between existing closed user group telecommunication service codes such as marine radio services, data services and international special services may become pronounced, especially as various services and internet-working of traditionally disparate networks become prevalent. As such, allocations of unassigned number blocks with room for massive expansion need to be reserved for such services to be interconnected to the PSTN.

An Example of such systems where interconnection and associated number mappings may need to be made is in interfacing with anticipated services such as Electronic Numbering (ENUM).

6.6 Short Dialing Services

- Directory/Operator Services – It is typical that operators may provide customer service facilities using three digit codes (N11 codes), such as directory assistance, repair and customer inquiries. Hence, provisions would be made for these types of services in the overall number plan.
- Emergency Services – During times of emergencies, simple, easily remembered three-digit codes are highly desirable. Hence codes would be reserved for these purposes, such as police, fire and rapid response services. Furthermore, every operator shall provide these short dialing services as part of their service obligation.

6.7 Value Added Services

- Codes will also be reserved for offering premium informational and transactional services by independent providers and operators (e.g. 555 codes).

6.8 NPA Codes

TSTT uses 880, 881 and 882 as Pay NPA codes associated with the NPA 800, 888 and 877 toll free numbers. They are being used to allow local subscribers to access toll free numbers in North America as a Paid call.

1-800-271-XXXX numbers are also used by TSTT for international toll free outbound services. Numbers are assigned to subscribers by TSTT and their current utilisation is approximately 10%.

The Authority shall consult with TSTT with regards to the usage of these NPAs, and may consider developing guidelines to administer the use of NPAs for similar services by operators in Trinidad and Tobago.

6.9 Vertical Service Codes

Vertical service codes (VSCs) are customer-dialed codes that provide access to features and services provided by public telecommunications service providers. Services invoked by VSCs include call forwarding, automatic callback, customer originated trace, and many others.

It has been noted that throughout the region, service providers have not all adhered to standard VSCs, which can be very confusing for consumers who decide to change providers. All telecommunications service providers in Trinidad and Tobago should use standard VSCs to minimize consumer confusion and provide a standard service access approach for features and services within multiple individual networks (multi-network applications).

The table below summarises the VSCs and their uses recommended by the NANPA. There are three exceptions to NANPA's recommendations for the local industry. These are highlighted in the table. Traditionally, *91 has been used for voice mail for fixed and wireless networks, while *123 has been used for accessing pre-paid accounts on mobile phones. It is felt that in the local environment, these codes should be maintained across all networks, in accordance with Section

44(5) of the Act, which requires the Authority to preserve to the extent feasible, the assignment of numbers made before the commencement of the Act.

Therefore, instead of using the recommended *91 and *90 for the Customer Programmable Call Forwarding Busy Line feature, the use of *291 and *290 is recommended.

Feature	Description	Code
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)

Feature	Description	Code
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)

Feature	Description	Code
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)
Customer Programmable Call Forwarding Busy Line ²	(*290 Activation, *291 Deactivation) Allows subscriber of the feature to forward calls intended for the subscriber's busy line to another directory number entered by the subscriber at the time of activation. Deactivation will clear the forwarded-to directory number.	(*290 Activation, *291 Deactivation)
Customer Programmable Call Forwarding Don't Answer	(*92 Activation, *93 Deactivation) Allows subscriber of the feature to forward calls intended for the subscriber's idle line, after a predetermined number of rings, to another directory number entered by the subscriber at the time of activation. Deactivation will clear the forwarded-to directory number.	(*92 Activation, *93 Deactivation)
Deactivation/Activation of In-Session Activation (ISA) on a per line basis	(*02) Allows a subscriber to deactivate or activate (i.e., toggle) the In-Session Activation 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.	(*02)
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)

² NANPA recommends the use of *91 and *90

Feature	Description	Code
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)
French Voice Activated Network Control	(*46) Provides the subscriber access to Voice Activated Network Control (VANC) via the French language. Subscribers will dial this code to access VANC so that they can say a name or command in French that will be activated, deactivated or provide access to a service, e.g., Call Forwarding, Call Trace, etc.	(*46)
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 <ul style="list-style-type: none"> • 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)

Feature	Description	Code
ISDN Multibutton Key Set Manual Exclusion	(*58 Activation, *59 Deactivation) Access code allows a Multibutton Key Set (MBKS) user or an analog set user whose telephone number is shared on another ISDN MBKS to inhibit other stations from picking up a call on hold or bridging onto a call that is active at the station	(*58 Activation, *59 Deactivation)
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)
Long Distance Signal	Extended period activation/deactivation (toggle) of basic 1FR/1MR long distance signal ringing/call waiting tones.	(*49)
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)

Feature	Description	Code
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 parties rejected by the terminating switching system	(*60 Activation, *80 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)

Feature	Description	Code
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)
Voice Mail Access	Provides the subscriber access to his voice mail from landline or mobile phone	(*91)
Prepaid Balance Check	Access to the balance on prepaid accounts by both fixed line and mobile subscribers	(*123)

6.10 Efficient Number Use

The Authority has recognized the possibility that telephone numbers may become a scarce resource in Trinidad and Tobago, due to the expected rise in the number of telecommunications service providers, services and ultimately subscribers/consumers. Currently the Telecommunications Services of Trinidad and Tobago (TSTT) is the sole holder of numbers, which have been assigned to the company based on its need for expansion of telephone services. Following an evaluation of the current utilization of numbers, it has been determined that some code blocks have been underutilized by TSTT. In some instances, less than 10% of a 10,000 Central Office Code (COC) block has been actually put into use months after the code has been assigned.

The Authority therefore proposes the introduction of numbering fees, which is geared to promote the efficient use of telephone numbers. The numbering fee structure will be based on the categories of numbers to be administered by the Authority, since some categories of numbers are considered more valuable than others.

This National Numbering Plan details guidelines for the allocation of numbers for various services and applications. The categories of numbers to be administered by the Authority and which will require an assignment fee at this time are:

- Central Office Codes (COCs)
 - Mobile Numbers
 - Fixed Numbers
 - Operator and Field Service Numbers
 - Special Service Numbers (including Easily Recognizable Numbers(ERCs))
 - Government Service Numbers

Resources for which the Authority will *not* impose fees at this time, but will administer include:

- International Mobile Subscriber Identity assignments (IMSI)s
 - Mobile Network Codes (MNCs)
- Carrier Identification Codes (CICs)
 - Feature Group B (FGB)
 - Feature Group D (FGD)

Other resources that are not administered at this time, and for which the Authority may eventually administer and impose administration fees, are:

- 555 Line Numbers
- SS7 Codes
- System Identifiers (SIDs)
- Data Network Identification Codes (DNICs)

Other codes allocated in the numbering plan, which are intended to be common among all operators, will not be susceptible to a fee. These include the following:

- Vertical Service Codes
- Plant Test Codes (958, 959)
- Abbreviated Dialing Codes (N11, 990, 998, 999)

The Authority will adopt the global practice of reviewing the fee structure on a three-year basis, to ensure that it is efficient and that its implementation is effective. To ensure that the Numbering Fee Structure is more reflective of the local telecommunications market upon review in 2008, the Authority proposes that all service providers, who use the number resource for the provision of their services, be required to submit the following data for each applicable number category in this National Numbering Plan over the three (3) year period, on an annual basis:

1. Number of subscribers/ number category
2. Gross revenues generated/ number category

6.11 Further Considerations

The following issues will require further consideration of consultation with stakeholders before a position can be put forward by the Authority:

- **Number Portability** – The increasing importance of mobile telephone numbers to users means that the achievement of a successful implementation of number portability is critical to ensuring the benefits of a liberalized market. Therefore, the involvement of industry in developing the detailed specifications – and in some cases the high-level specifications – for introducing number portability is clearly important. Some key issues to consider would be:
 - The types of portability to employ (e.g. geographic portability, portability between public telecommunication service providers);
 - The cost associated with the various types of portability methods;

- Who will cover the cost of porting?
- **NANP Expansion** – Trinidad and Tobago, being a NANP participating country, will be required to conform to the NANP Expansion Plan, when finalized by the NANP Administrator. The Authority shall seek comments from all stakeholders, in order to conform to the finalized expansion plan.
- **ENUM** - ENUM is a protocol that is the result of work of the Internet Engineering Task Force's (IETF's) Telephone Number Mapping working group. The charter of this working group was 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. ITUT Recommendation E.164 is the international public telecommunication telephony numbering plan. The syntax of Uniform Resource Identifiers (URIs) is defined in RFC 2396 (1998). ENUM makes extensive use of Naming Authority Pointer records defined in RFC 2915 in order to identify available ways or services for contacting a specific node identified through the E.164 number. The Authority will consult with all stakeholders to investigate the use of the ENUM protocol for Trinidad and Tobago.

7 Guidelines for the Administration of the Numbering Plan

The guidelines followed by the Authority for the administration of Central Office Codes (COCs), Carrier Identification Codes (CICs) and Vertical Service Codes (VSCs) will be based on Guidelines developed by industry consensus under the aegis of the Industry Numbering Committee (INC), which describes the assignment of number resources in the North American Numbering Plan (NANP) area. To ensure that the regulatory requirements and unique circumstances of Trinidad and Tobago are considered in the administrative processes, the Authority has reviewed, modified and/or adopted INC guidelines, associated with NANP numbering resources for application in Trinidad and Tobago. The INC guidelines are constantly amended. For this reason, this chapter will only highlight those sections of the INC Guidelines that are not applicable to the local environment.

Readers are encouraged to refer to the INC website <http://www.atis.org/atis/clc/inc/incdocs.htm> for the guidelines for each number category presented here. The reader must consider the latest update that the Authority has reviewed as indicated in the respective sections.

The Authority will also adopt industry guidelines for the administration of Company Codes (OCNs) and International Mobile Station Identifiers (IMSI) as pointed out in the respective sections.

The supporting appendices and forms referred to by these guidelines are also available on the respective websites and are to be used as far as possible where applicable. This document may also be accompanied by a Form Package that will contain the forms most used.

7.1 Company Code (OCN) Assignment Procedures

A Company Code (OCN) is a four place alphanumeric code that identifies providers of international telecommunications service. The American National Standards Institute (ANSI) Standard T1.251-2000, Section 3.3, refers to this code as an alphanumeric “Company Code”.

The Alliance for Telecommunications Industry Solutions (ATIS) through the ANSI Standard T1.251 designated NECA Services, Inc. (NECA Services) as the Maintenance Agent of this code set. Under this standard, Company Codes are assigned to international Telecommunications Service Providers for unique identification. Company Codes are used in mechanized systems throughout the telecommunications industry to facilitate the exchange of information. Applications of the Company Code may include, but are not limited to:

- Call Routing and Rating Purposes
- Ordering, Billing, and Provisioning of Access Service
- Inter-exchange Carrier Systems used to audit Exchange Access Bills

Company codes are used for the exchange of information among companies and/or public use. Company codes will not be assigned for the exclusive use of internal company operations.

The information required by a telecommunications service provider in Trinidad and Tobago to apply for an OCN is available on the NECA website at https://www.necaservices.com/source/NECAServices_139_1581.asp. This information includes the following:

- International Company Code Procedures
- International Company Code Request Form
- International Company Code Certification Letter

The Authority will provide the necessary information to NECA to support the application of any service provider authorized to operate within Trinidad and Tobago.

7.2 Central Office Code Assignment Guidelines

The purpose of these Guidelines is to provide direction to the Authority, Code Applicants, and Code Holders with respect to the administration, assignment, activation, and use of CO Codes and the numbering resources contained therein.

7.2.1 INC Website Identification

Document ID: ATIS-0300051

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

Latest Version: May 10th 2005

7.2.2 Constraints and Assumptions

The administration of Central Office Codes in Trinidad and Tobago follows Section 2.0 of the INC COCAG except for the following:

1. The CO Code Administrator in Trinidad and Tobago is the Telecommunications Authority of Trinidad and Tobago (TATT), referred to as the Authority in this document. Currently, a Pooling Administrator is not required in Trinidad and Tobago, as number pooling is not implemented at this time. Therefore, all assumptions or constraints pertaining to number pooling do not apply.

7.2.3 Assignment Principles

Section 3.0 of the INC COCAG applies to Trinidad and Tobago except for the following:

1. Section 3.1 shall instead read:

“CO codes (NXXs) are assigned to entities for use at a Switching Entity or Point of Interconnection they own or control. CO Codes, as part of NANP telephone numbers, are to be assigned only to identify initial destination addresses in the Public Switched Telephone Network (PSTN), not addresses within private networks.”

2. Section 3.5 shall instead read:

“Code Applicants for CO Codes must comply with all applicable Trinidad and Tobago telecommunications regulations that apply to the services that they wish to provide.

3. Delete Section 3.6. Refer to Section 2.4 of this Numbering Plan for the Appeals Process.
4. Delete Section 3.9. Number Porting is not yet implemented in Trinidad and Tobago.

7.2.4 Criteria for the Assignment and Reservation of Central Office Codes

Section 4.0 of the INC COCAG applies to Trinidad and Tobago except for the following:

1. Section 4.1 shall instead read:

“CO codes (NXXs) are assigned to entities for use at a Switching Entity or Point of Interconnection they own or control. Assignment of the initial code(s) will be to the extent required to terminate PSTN traffic as authorized or permitted by the Authority, and provided all the criteria in Sections 4.1.1 through 4.1.3 are met. An initial code assignment will be based on a unique rate center consistent with regulatory restriction. Utilization criteria or projection will not be used to justify an initial NXX assignment. The applicant must demonstrate authorization and preparation to provide service before receiving initial numbering resources.”

2. Delete Sections 4.1.4 and 4.1.4.1. Thousands-block number pooling has not been implemented in Trinidad and Tobago.

3. Section 4.2.1 shall instead read:

“Evidence that demonstrates the SP has a concession/license issued by the Authority is required. The SP may attach a copy of the concession and/or licence(s) to the application.”

4. Delete Section 4.3.2. Thousands-block number pooling has not been implemented in Trinidad and Tobago.
5. Section 4.6 shall also include the Emergency Codes 990 and 999 as unassignable CO Codes.

7.2.5 CO Code (NXX) Assignment Functions

The CO Code assignment functions of the Authority shall comply with Section 5.0 of the INC COCAG except for the following:

1. Section 5.2 shall instead read:

“Receive and process applications (CO Code (NXX) Assignment Request Form Part 1) for CO Codes within the geographic NPA(s) for which the Authority is responsible.”

2. Section 5.2.1. Replace the use of “U.S. carrier” with “carrier”.

3. Delete the following from Section 5.2.2.

“For an NXX assigned to a pool, the CO Code Administrator shall also set the "Pool Indicator" on the CO Code ACD screen in BIRRDs to designate that the NXX is assigned to a pool. For those NXXs in respect of which the "Pool Indicator" has been set, the CO Code Administrator shall provide a Central Office Code (NXX) Assignment Request - Part 3 (Administrator's Response/Confirmation) directly to both the PA and the LERG Routing Guide Assignee whose OCN appears on the request form.”

Replace the use of “U.S. carrier” with “carrier”.

4. Delete Section 5.2.10. Thousands-block number pooling has not been implemented in Trinidad and Tobago.

7.2.6 Responsibilities of Code Applicants and Code Holders

Code Applicants and Code Holders are especially responsible for adhering to the guidelines in Section 6.0 of the INC COCAG, except for the following:

1. In Section 6.1.1, delete “, including the PA,” in the first line. Also delete “SPs requesting codes in a rate center that is transitioning to pooling should not meet the criteria in Section 5.0.”

2. Delete the fourth paragraph of Section 6.3.1 that reads:

“SPs participating in number pooling must submit changes or disconnects for pooled NXXs to the PA. Changes or disconnects for non-pooled NXXs in a pooling rate area should be sent to NANPA, unless the PA received the original request for the non-pooled NXX. SPs’ requests for changes to the rate center on NXX codes assigned for pooling will be denied if any block assignments within the NXX have been made to a service provider other than the LERG Assignee.”

3. Section 6.3.4 shall instead read:

“In the absence of state commission actions, SPs who file tariffs for a rate center consolidation must notify NANPA at the time of filing.”

4. Section 6.5 shall instead read:

“All code holders agree to abide by the code reclamation guidelines outlined in Section 8.”

7.2.7 Criteria for the Transfer of Central Office Codes

The Criteria for the Transfer of COCs shall comply with Section 7.0 of the INC COCAG.

7.2.8 Reclamation

The Reclamation procedure adopted by the Authority shall comply with Section 8.0 of the INC COCAG, except for the following:

1. Section 8.2.1 shall instead read:

“For any Codes identified as not having been returned to the appropriate administrator for reassignment, the CO Code Administrator will contact any Carrier who was assigned a CO Code.

Codes may be returned for the following reasons:

- Assigned, but no longer in use by the assignee(s),
- Assigned to a service no longer offered,
- Assigned, but not placed in service within six months from the original effective date returned on the Part 3 and entered on the ACD screen in BIRRDS,
- Assigned, but not used in conformance with these assignment guidelines.”

2. Section 8.2.2 shall instead read:

“If a Part 4 has not been received by the Administrator during the first five months following the original effective date returned on the Part 3 and entered on the ACD screen in BIRRDS, then the Administrator will send, via facsimile/electronic mail, a reminder notice to the code assignee. The notice will be sent no later than one month prior to the end of the 6th month, and will direct the assignee to do one of the following by the end of the sixth month after the original effective date returned on the Part 3 and entered on the ACD screen in BIRRDS:

- Submit a Part 4 to NANPA
- If the code is no longer needed or not in service, return the code by submitting a Part 1.

During the first ten calendar days of each calendar month, the Administrator will prepare a spreadsheet of all existing and newly identified delinquent codes.

If a directive from the Authority is given to reclaim the code, the code holder will receive a letter to advise him of the effective date of the disconnection of the code.

If a Part 4 is returned to the Administrator for a code appearing on the delinquent list and an extension has not been granted, the Part 4 will be returned to the SP marked as “refused” or “denied”.

3. Delete Section 8.2.3. Local Number Portability has not yet been implemented in Trinidad and Tobago.

7.2.9 CO Code Conservation and Jeopardy Procedures

The Authority shall adhere to NANPA’s CO Code Conservation and Jeopardy Procedures in Section 9.0 of the INC COCAG, except where reference is made to a Pooling Administrator (PA).

7.3 International Mobile Station Identifier (IMSI) Guidelines

This section contains the guidelines and procedures for the assignment and use of International Mobile Subscriber Identities (IMSI) in Trinidad and Tobago. Refer to Section 6.3 for the format and functionality of IMSIs. These assignment guidelines pertain, in one section or another, to all segments of the IMSI – Mobile Country code (MCC), Mobile Network Code (MNC) and Mobile Station Identification Number (MSIN), in sequential order.

The Authority participates in the management of all segments of the IMSI, but directly administers only the Home Network Identity (HNI) segment. The HNI segment comprises the 6-digit MCC+MNC. In Trinidad and Tobago, the MCC segment of all HNIs assigned will be 374. HNIs are assignable to operators of public networks offering public mobility services with international roaming capabilities. The MNC uniquely identifies the home network of a mobility service subscriber within a country’s MCC. The network operator to which the MNC is assigned, directly administers the remaining segment of the IMSI, the Mobile Station Identification Number (MSIN).

The IMSI Oversight Council (IOC) was formed to manage the IMSI resource in the United States and to oversee the performance of the IMSI-A. This IOC's document contains the guidelines and procedures for the assignment and use of International Mobile Subscriber Identities (IMSI) in the United States with consideration given to other North American Numbering Plan (NANP) countries, and are based on the content of International Telecommunications Union – Telecommunications' (ITU-T) Recommendation E.212, *The International Identification Plan for Mobile Terminals and Mobile Users*. The IOC's IMSI Assignment and Management Guidelines and Procedures are available at <http://www.atis.org/ioc/guidelines.asp>. The latest version accessed by the Authority is Version 6. The Authority has used the IOC document as a benchmark in setting its own guidelines, as co-ordination of MNC assignment with the US IMSI Administrator is not required provided that the MCC assigned to the country is used in the HNI.

These guidelines were developed for consensus approval of representatives of entities within the telecommunications sector of Trinidad and Tobago. These guidelines apply throughout Trinidad and Tobago and do not supersede the regulations, procedures or requirements of the Authority or any other appropriate legal or regulatory authority.

7.3.1 Assumptions and Constraints

These guidelines are based on the following assumptions and constraints:

1. These guidelines and procedures should provide the greatest latitude to those providing mobility services with international roaming capability, while permitting the effective and efficient management of a finite resource.
2. The Authority, the administrator of this Trinidad and Tobago National Numbering Plan, will perform the function of the local IMSI administrator.
3. The guidelines and procedures for IMSI assignment, as set forth in this section, remain in effect until there is either industry consensus or regulatory policy direction to change them.

4. These guidelines do not describe the method by which IMSIs are transmitted across and processed by networks. Inter-Networking arrangements may be contained in other standards, documents, or business agreements.

7.3.2 Assignment Principles

These assignment principles allow network operators the greatest possible latitude in providing mobility service with international roaming, and the users of these services, the widest possible roaming capabilities.

1. HNIs are to be assigned and used only by public networks offering mobility services with international roaming capability.
2. Upon application, the Authority will assign one HNI for each valid network operator. Nothing shall preclude a network operator, however, from aggregating multiple or merged networks/licenses within a single HNI.
3. The 6-digit HNI (374+MNC), as part of the 15-digit IMSI, is to be assigned so as to uniquely identify the home network of the mobility service user worldwide.
4. Network operators assign MSINs to their subscribed mobile terminals/users. An IMSI is unique to a single mobile terminal/user, but a mobile terminal/user may have multiple IMSIs.
5. IMSIs and HNIs shall be assigned to permit the most effective and efficient use of a finite resource in order to maximize the existing allocated resource inventory and to defer, as long as practical, the need to request additional MCC resources.
6. IMSIs are an international public resource. The 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.

7. Should an assignee transfer control of a wireless license, the use of the assigned HNI is transferable to the new license owner.
8. The Authority will assign HNIs in a fair, timely and impartial manner to any applicant that meets the criteria for assignment; assign HNIs on a first come, first served basis from the available pool of unassigned HNIs; make all assignments based on the procedures outlined in Section 7.3.5; treat sensitive information received from applicants as proprietary and confidential, and not to be shared with non-administrator personnel.
9. Information that is requested of applicants in support of an HNI application shall be uniform and kept to a minimum.
10. Assigned HNIs should be deployed as soon as possible, but no later than twelve months after assignment. If the assignee can demonstrate that an assigned HNI has not been deployed solely due to delays beyond its control, the time period can be extended for up to 90 days. At the discretion of the Authority, three additional 90-day extensions may be granted.
11. An entity, which is denied an HNI assignment or extension under these guidelines, has the right to appeal that decision (Section 2.5).
12. These guidelines have no effect on HNI assignments made prior to their approval. Use of all assigned resources shall be consistent with these guidelines.
13. An HNI recovered or returned to the Authority for reassignment will remain dormant for a period of not less than 1 year, from the date of return to the HNI pool, before reassignment.
14. As required, applicants for HNIs must comply with all applicable local regulations relative to the provisioning of mobility service with international roaming capability.

7.3.3 Criteria for HNI Assignment

The following assignment criteria should be considered by any potential HNI applicant before submitting an HNI application, and will be used by the Authority in reviewing and processing the application:

1. The HNI applicant must be, and certify that it is a public network operator offering public mobility services with international roaming for which an HNI is requested.
2. The applicant/ assignee of an HNI must have and provide evidence of authorization, to operate in Trinidad and Tobago to provide mobility services with international roaming capability by way of a concession.
3. An HNI will only be assigned by the Authority upon receipt and approval of a completed *Form A – Home Network Identity (HNI) Application*.

7.3.4 Responsibilities of HNI Applicants and Assignees

Entities requesting HNI assignments and entities already assigned one or more HNIs shall comply with the following:

1. HNI applicants and assignees must meet all conditions specified in these guidelines.
2. Applicants must apply in writing to the Authority by completing *Form A – Home Network Identity (HNI) Application*.
3. HNI assignees shall:
 - Assign and efficiently manage the MSINs (last nine digits of the IMSI) associated with the assigned HNI. Maintain up-to-date and accurate assignment records that match

MSINs to mobile terminals/users. These records may be required for audit purposes (Section 7.3.7).

- Inform the Authority of changes in the information associated with an HNI assignment by using *Form D – Request for Change in Home Network Identity (HNI) - Assignment Information*. Changes may occur because of the transfer of an HNI, through merger or acquisition, to a different network (Section 7.3.2, Paragraph 7). The initial assignee of the HNI involved in a transfer occurring through merger, acquisition or other means must immediately inform the Authority when such a change becomes effective. Timely submission of change information enables the Authority to maintain accurate HNI assignment records.
- Participate in the IMSI audit process, when requested (Section 7.3.7).
- Deploy any HNI, assigned either directly by the Authority or obtained through merger or acquisition, within the time period specified (Section 7.3.2, Paragraph 10). Inform the Authority of HNI deployment by submitting *Form C – Home Network Identity (HNI) Deployment*.
- Apply to the Authority for an extension (Section 7.3.2, Paragraph 10) if the deployment requirement cannot be met and the HNI is still required.
- Return to the Authority, using *Form F – Home Network Identity (HNI) Assignment Return*:
 - Any HNI no longer needed for the provision of mobility services with international roaming capability,
 - Any HNI not deployed within the time period specified, including extensions (Section 7.3.2, Paragraph 10), or
 - Any HNI not used in conformance with these assignment guidelines.

7.3.5 Responsibilities of the Authority

The role of the Authority is to manage the entire IMSI resource and to directly administer the HNI segment of the IMSI. In this context, the Authority shall:

1. Provide to the industry, general and specific information on the structure and proper use and management of IMSIs.
2. Provide copies of these guidelines and forms to HNI applicants and assignees, and assist them in completing the required forms.
3. Review process HNI applications as follows:
 - Review the application to determine if all requested information is provided and credible. If not, return the application to the applicant requesting that any deficiency be corrected.
 - Inform applicants of the status of their requests using *Form B – Home Network Identity (HNI) Application Disposition*. There are three possible dispositions: approved, denied, or additional information required. Notify the applicant in writing of the disposition within ten working days from receipt of Form A. The response will include:
 - If assigned, the specific HNI(s) assigned,
 - If denied, the reasons for denial and instructions on how and where to appeal the decision,
 - If additional information is required, the specific information required.
4. Use the following HNI assignment procedures:
 - The Authority shall generally assign HNIs in numerical sequence within the MCC, within the limitations discussed in Section 5.4.

- There may be technical considerations or limitations on the part of the applicant that require a specific assignment or preclude them being able to use the next consecutive HNI assignment. These exceptions are set forth below and in the Addenda (if any) to this document. *Accommodation for backward compatibility for existing mobile networks only identified by 10-digit mobile identification numbers (MINs)*: The following HNIs are not available for assignment in order to support internetworking with wireless network licensees requiring backward compatibility for existing mobile networks only identified by 10-digit MINs: 3XX-000 through 3XX-009
 - Applicants eligible for multiple HNIs may request that such HNIs be assigned in the next available block of numerically sequential codes (except those HNIs reserved or unavailable for assignment, pursuant to Section 7.3.5, Paragraph 4iii) or any subsequent addenda to these guidelines). In such cases, a separate Form A should be submitted for each HNI required, along with a cover letter requesting their assignment in a sequential block.
 - When reassigning an HNI that has been returned or reclaimed, the Authority will ensure that the HNI has remained dormant for the required period (Section 7.3.2, Paragraph 13).
5. Maintain accurate and current HNI assignment records. Update the records as required to respond to requests for changes in assignment information reported by HNI assignees (Section 7.3.3, Paragraph 3). Respond to these requests within ten working days using *Form E – Confirmation of Change of Home Network Identity (HNI) Assignment Information*.
 6. Publish, at least monthly, via the agreed medium, a list of assigned HNIs. The list will include the HNI number, the HNI assignee, and the entity contact and number. Track the number of IMSIs assigned and the assignment rate.

7. Investigate any HNI that has not been deployed within the required time frame, and issue extensions if appropriate (Section 7.3.2., Paragraph10). Notify the appropriate industry forum if an assignee fails to deploy an assigned HNI within two extensions.
8. Reclaim assigned HNIs (Section 7.3.6), as needed.
9. Direct the IMSI conservation programme and conduct periodic audits, as required, of HNI assignee records (Section 7.3.7)
10. Inform the Trinidad and Tobago telecommunications industry, via the agreed method, of any evasions to these guidelines (Section 2.4).

7.3.6 HNI Return and Reclamation Procedures

1. Assignees will return HNIs that are no longer required, not deployed, or not used in conformance with these assignment guidelines. Assignees will cooperate with the Authority in carrying out its reclamation and auditing responsibilities.
2. The Authority will contact any HNI assignee identified as not having returned to the Authority, for reassignment, any HNI no longer required, not deployed, or not used in conformance with these assignment guidelines.
3. The Authority will first seek clarification from the assignee regarding any alleged nonuse or misuse. If the assignee provides an explanation satisfactory to the Authority, and in conformance with these assignment guidelines, the HNI will remain assigned. If no satisfactory explanation is provided, the Authority will request a letter from the assignee returning the assigned HNI for reassignment. If a direct contact cannot be made with the assignee to effect the above process, a registered letter will be sent to the assignee's address on record requesting that they contact the Authority within thirty days regarding

the alleged HNI non-use or misuse. If the letter is returned as non-delivered, the Authority will make the HNI available for reassignment following the required dormant period (Section 7.3.2, Paragraph 13).

7.3.7 IMSI Resource Conservation and Assignment Audits

1. Assignment and management of the IMSI resources in Trinidad and Tobago are undertaken to efficiently and effectively administer/manage a limited resource through code conservation, and to eliminate or delay the exhaust potential for the MCC currently assigned to Trinidad and Tobago. The process to achieve these objectives should not impede the introduction of competitive services utilizing IMSI station identifiers.
2. To promote the efficient and effective use of numbering resources, audits of HNI assignments may be performed to ensure consistent compliance with these guidelines.
3. The Authority will track and monitor IMSI assignments and assignment procedures to ensure that all segments of the IMSIs are being used in an efficient and effective manner. Ongoing procedures that foster conservation shall include, but not be limited to, the following:
 - An active reclamation program to reclaim unused or misused HNIs;
 - Strict conformance with these guidelines by those assigning HNIs and MSINs;
 - Appropriate and timely modifications to these guidelines to enhance text that may have allowed inefficient use of IMSIs and HNIs;
 - Periodic specific and random audits of assignments and assignment procedures.
4. The Authority may conduct an audit of an HNI assignee's assignment records. The audit may be precipitated by a complaint from outside the Authority's organization or by the

Authority. The purpose of an audit will be to verify the HNI assignee's compliance with the provisions set forth in these guidelines.

- These audits will be conducted at the HNI assignee's premises or at a mutually agreed location and at a mutually agreed time.
- The Authority will not copy or remove the information from the premises nor will they disclose the information to non-IMSI administrator personnel.
- The Authority will expect to review the following information to ensure conformance with these guidelines and the proper use of the IMSI resource:
 - Verification that not more than one HNI is assigned per network or wireless license,
 - Verification of assignment for each working MSIN,
 - Date of assignment of each working MSIN,
 - Activation date of each working MSIN,
 - Indication of MSIN assignment to end users, and
 - Status and status date of each MSIN unavailable for assignment; i.e., MSINs assigned for testing, reserved, aging, pending and/or, suspended.

5. Audit results should be used to identify and initiate specific corrective actions that may be necessary. Examples of specific corrective actions which may be proposed or taken are as follows:

- Modifications to these assignment guidelines to reflect the specific circumstance revealed by the audit;
- Additional training for HNI assignees concerning the assignment guidelines;
- Return of assigned HNIs;
- Requirements for supporting documentation of future HNI requests in non-compliant situations; or

- Modifications to the process in which records are maintained or HNIs are assigned.
6. Audit results with respect to HNI assignee information and/or recommended HNI assignee process modifications shall be treated on a proprietary and confidential basis.
 7. Failure to participate/cooperate in an audit shall result in the activation of HNI reclamation procedures (Section 7.3.6).

7.4 Carrier Identification Code (CIC) Assignment Guidelines

When the demand arises for the provision of CICs in Trinidad and Tobago, the Authority will conduct the assignment of CICs in cooperation with the North American Numbering Plan Administrator (NANPA) on behalf of applicants in Trinidad and Tobago. The guidelines applied to the assignment of CICs to a specific entity, will be based on the industry developed INC guidelines.

7.4.1 INC Website Identification

Document ID: INC 95-0127-006

Description: Carrier Identification Code (CIC) Assignment Guidelines

Latest Version: March 23rd 2004

8 List of Abbreviations

ACD	Assigned Code Record
AOC	Administrative Operating Company
ANI	Automatic Number Identification
BIRRDS	Business Integrated Routing and Rating Database System
CAC	Carrier Access Code
CC	Code Conversation
CIC	Carriers Identification Codes
CLLI	Common Language Location Identifier
CO	Central Office
DMS	Digital Multiplex Switch
ERC	Easily Recognizable Code
FGB	Feature Group B
FGD	Feature Group D
IMSI	International Mobile Subscriber Identifiers
INC	Industry Numbering Committee
IOC	IMSI Oversight Council
ITU-T	International Telecommunications Union-Telecommunications
LATA	Local Access and Transport Area
LASS	Line Access Support System
LERG	Local Exchange Routing Guide
LIDB	Line Information Database
MCC	Mobile Country Code
MNC	Mobile Network Code

MSIN	Mobile Subscriber Identification Number
NANP	North American Numbering Plan
NANPA	North American Numbering Administration
NECA	National Exchange Carrier Association
NNAG	NPA/NXX Activity Guide
NRUF	Numbering Utilisation Forecast
OCN	Operating Company Numbers
PCS	Personal Communications System
POI	Point Of Interconnection
PSTN	Public Switched Telephone Network
ROC	Revenue Accounting Codes
SS7	Signalling System 7
TPM	Terminating Point Master
TSTT	Telecommunication Service of Trinidad and Tobago
TATT	Telecommunications Authority of Trinidad and Tobago
VHCD	Vertical and Horizontal Coordinates Data
VSC	Vertical Service Code
WSP	Wireless Service Provider

9 Glossary

Access Providers	Access providers are common carriers and connecting carriers that provide interconnection services between an entity and another provider of telecommunications services.
Active CO Code	A CO Code assigned by the CO Code Administrator and implemented in the PSTN for specific routing or rating requirements. A CO Code generally becomes Active on the Effective Date published in the LERG Routing Guide.
Additional CO Code Assignment for Growth	A CO Code assigned to a Switching Entity or POI subsequent to the assignment of the first CO Code (See Initial Code), for the same purpose as a CO Code that was previously assigned to the same Switching Entity or POI. An Additional Code for Growth is requested when the line numbers available for assignment in a previously assigned CO Code will not meet expected demand. See section 4.2.1.
Additional CO Code for a Unique Purpose	A CO Code assigned to a Switching Entity or POI subsequent to the assignment of the first CO Code (See Initial Code), due to a distinct routing, rating, billing or other requirement that is different from the use of any CO Code(s) that were previously assigned to the same Switching Entity or POI. See sections 4.2.2 and 4.2.3.
Affected Parties	Affected Parties are those entities that have applied for and/or received CO Code assignments or reservations within the NPA per Section 4.0 of these Guidelines (i.e., Code Holders in the NPA).
AOC	Administrative Operating Company is an organization that has access to input and update data contained in the Telcordia™

Routing Administration (TRA) and other Telcordia databases. An AOC may, under contract to other entities, provide a data input service to those databases. Inquiries regarding AOC designation and access to TRA databases should be directed to the TRA at 732-699-6700 or to their website at www.trainfo.com.

AOCN	Administrative Operating Company Number designated numeric or alphanumeric code assigned by TRA that identifies an Administrative Operating Company.
Authorized Representative of Code Applicant	The person from the Code Applicant's organization or its agent that has the legal authority to take action on behalf of that Code Applicant.
BIRRDS	See Business Integrated Routing and Rating Database System
Business Integrated Routing and Rating Database System (BIRRDS)	BIRRDS is the TRA integrated systems environment database that is used by Administrative Operating Companies (AOCs), for the creation and modification of routing and rating database records for assigned CO Codes.
CAC (Carrier Access Code)	The sequence an end-user dials to obtain access to the switched services of a carrier, e.g., 101XXXX.
Central Office Code	The D-E-F digits of the 10 digit NANP number in a telephone number. Central Office Codes (CO Codes) are in the format NXX, where N is a number from 2 to 9 and X is a number from 0 to 9.
CIC (Carrier Identification Code)	A numeric code that uniquely identifies each carrier. These codes are primarily used for routing from the local exchange network to the access purchaser and for billing between the LEC and the access purchaser.

CLLI™ Codes	COMMON LANGUAGE® Location Codes are an identification scheme (comprising an eleven-character code) developed and administered by Telcordia Technologies, Inc. that is used to identify geographical locations and functional categories of equipment (e.g., switching entity or POI) primarily of interest to the telecommunications industry. (See www.commonlanguage.com/cli)
CO Code Activation	The process of opening a CO Code in the PSTN to enable routing and rating as of the Effective Date published in the LERG Routing Guide (see Active Code).
CO Code Exhaust	A point in time at which the quantity of TN's within existing CO Codes which are Available for Assignment equals zero within a Switching Entity or POI or, conversely, when the quantities of Working Telephone Numbers plus TN's Unavailable for Assignment equal 10,000 times the quantity of existing CO Codes assigned to a Switching Entity or POI. Where CO Code sharing occurs or partial CO Codes are assigned to a Switching Entity or POI, the latter number should be adjusted accordingly.
Code Applicant	The entity which has applied for the assignment of a CO Code in accordance with these Guidelines.
Code Holder	The entity to which a CO Code has been assigned in accordance with these Guidelines for use at a Switching Entity or POI it owns or controls.
Code Protection	Code protection is an arrangement whereby a Central Office Code is designated as not available for assignment in an adjacent exchange in an adjacent NPA. This is done to allow 7-digit dialing across the boundary between the adjacent exchanges in the adjacent NPAs.
Conservation	Consideration given to the efficient and effective management of a finite numbering resource in order to minimize the cost and need to expand its availability, while at the same time allowing

the maximum flexibility in the introduction of new services, capabilities and features.

FG B (Feature Group B)

A type of access arrangement that provides trunk-side access to the inter-exchange carrier. FG B callers reach an inter-exchange carrier's facility for transport of their inter-LATA call by dialing the carrier access code 950-XXXX.

FG B translations access

FG B access configurations where installation orders are such that only translation software changes are required. For example, Entity 1 refers to the entity, which desires to have its FG B traffic associated with a particular Carrier Identification Code routed to another entity. Entity 2 refers to the entity with trunk access to which Entity 1's traffic is routed. Translations access allows the routing of Entity 1's traffic to the trunks of Entity 2 via a translation software change.

FG D (Feature Group D)

A type of access arrangement that permits subscribers to pre-subscribe to or select, on a per-call basis, a specific inter-exchange carrier for transport of their inter-LATA calls. To use the pre-subscribed carrier for a call, the subscriber need only dial the destination directory number. To override the terminal's pre-subscription on a per-call basis and choose an alternative interexchange carrier, 101XXXX + 0 or 1 +10 digits must be dialed.

Effective Date

The date from which a CO Code or supporting data changes (e.g., routing and rating) is/are to become effective within the NANP area PSTN network. The effective date may be: (1) the date the CO Code is to become active (i.e., can first be routed to); (2) subsequent dates when pertinent supporting data will be modified (e.g., an active CO Code is associated with a Switching

Entity or POI replacement) or, (3) the date a CO Code will be disconnected.

Home network

The network of the service provider to which a given mobile subscriber is subscribed.

International Mobile
Subscriber Identity (IMSI)

The string of decimal digits, up to a maximum of 15 digits, which identifies a unique mobile terminal or mobile subscriber internationally. The IMSI consists of three fields; the Mobile Country Code (MCC), the Mobile Network Code (MNC), and the Mobile Station Identification Number (MSIN).

INC

Industry Numbering Committee. The INC is a standing committee of the Carrier Liaison Committee (CLC) that is sponsored by the Alliance for Telecommunications Industry Solutions (ATIS). The INC provides an open forum to address and resolve industry-wide issues associated with the planning, administration, allocation, assignment and use of resources and related dialing considerations for public telecommunications within the North American Numbering Plan (NANP) area.

Industry Notification

The process of advising all Telecommunications Service Providers, users and their representatives of the opening of a new CO Code or a change or deletion of an existing CO Code, by publishing routing and rating data in the LERG Routing Guide.

Initial Code

The first geographic Central Office Code assigned to a Code Holder based on identification of a new Switching Entity, POI, or a unique Rate Centre or Exchange Area.

In-Service

An Active CO Code in which specific subscribers or services are utilizing assigned telephone numbers.

Jeopardy Contingency Plan	A contingency plan for the conservation and assignment of CO Codes, which is a part of the NPA Relief Implementation Plan, and would be implemented in the event of a Jeopardy NPA condition being declared by the CNA.
Jeopardy Condition	A Jeopardy Condition exists when the forecast and/or actual demand for CO Codes exceeds the quantity of CO Codes available for assignment within the NPA before it is expected that relief can be implemented. (See Canadian NPA Relief Planning Guidelines)
LEC	Local Exchange Carrier (includes Competitive Local Exchange Carriers and Incumbent Local Exchange Carriers)
LERG TM Routing Guide	Telcordia TM LERG TM Routing Guide: contains local routing information obtained from BIRRDs. This information reflects the current network configuration and scheduled network changes for all entities originating or terminating PSTN calls within the NANP area.
Mobile Country Code (MCC)	The first field of the IMSI that is 3 digits in length. An MCC either identifies a country or a group of Networks that share an MCC for international services.
MNC assignee	The entity to which an MNC has been assigned for the provision of public mobility services with international roaming capability.
Mobile Network Code	The second field of the IMSI that is 2 or 3 digits in length, The MNC, in combination with the MCC, uniquely identifies the home network of the mobile terminal or mobile user.
Mobility Service	A telecommunications service that supports mobility for terminals/users by providing access to and from the public network via a home network and/or visited network(s).

Mobile Subscriber Identification Number (MSIN)	The third field of the IMSI that is a maximum of 10 digits. The MSIN within a given MCC+MNC identifies a unique mobile terminal or mobile subscriber within a public network.
Mobile Subscriber	An entity or person that contracts to receive or pay for a public mobility service.
Mobile Terminal	Any portable, transportable, or handheld terminal supporting mobility service.
Mobile User	A user that utilizes a subscription to access a public mobility service.
NANP	<p>The North American Numbering Plan (NANP) is the basic addressing scheme for the Public Switched Telephone Network in the following 19 countries in Country Code 1 (formerly known as World Zone 1): Anguilla, Antigua & Barbuda, Bahamas, Barbados, Bermuda, British Virgin Islands, Canada, Cayman Islands, Dominica, Dominican Republic, Grenada, Jamaica, Montserrat, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Trinidad & Tobago, Turks & Caicos Islands, and the United States (including Puerto Rico, the U.S. Virgin Islands, Guam and the Commonwealth of the Northern Mariana Islands). The format of the NANP follows International Telecommunications Union (ITU) standards as detailed in Recommendation E. 164, or as amended.</p> <p>The NANP format currently consists of 10-digits in the format NXX-NXX-XXXX where N = 2 to 9 and X = 0 to 9. The digit positions in the NANP may be identified by alphabetical</p>

characters using the following format ABC-DEF-GHIJ where ABC is the Area Code or Numbering Plan Area (NPA), DEF is the Central Office Code or NXX (CO Code), and GHIJ is the Line Number.

NANPA North American Numbering Plan Administration (NANPA) is the entity responsible for administration of the North American Numbering Plan.

National Exchange Carriers Association The NECA assigns Company Codes that are used as Operating Company Numbers (OCNs) in the Telcordia routing and rating databases. Companies with no OCN assignment may contact NECA at 973 884-8355 to obtain a Company Code. The NECA web site is www.neca.org. The web page to obtain information on Company Codes is: www.neca.org/comcode.htm

NECA See National Exchange Carriers Association

NPA Numbering Plan Area (also called Area Code). An NPA is the 3-digit code that occupies the A, B, and C positions in the 10-digit NANP format that applies throughout the NANP serving area. NPAs are of the format NXX, where N represents the digits 2-9 and X represents any digit 0-9. In the NANP, NPAs are classified as either geographic or non-geographic.

a) Geographic NPAs are NPAs that correspond to discrete geographic areas within the NANP serving area.

a) Non-geographic NPAs are NPAs that do not correspond to discrete geographic areas, but which are instead assigned for services with attributes, functions, or requirements that

transcend specific geographic boundaries. The common examples are NPAs in the N00 format, e.g., 800, 900.

NPA Exhaust A point in time at which the quantity of CO Codes within the NPA, which are available for assignment, equals zero.

NPA Relief NPA Relief refers to an activity that must be performed when an NPA nears exhaust of its CO Code capacity.

OCN See Operating Company Number

Operating Company Number (OCN) An Operating Company Number (OCN) is a code used to uniquely identify and associate a company with certain records in Telcordia's databases and in related output products (e.g. LERG Routing Guide, V&H coordinates data in the TPM Data Source). Specific to these Guidelines, the OCN is intended to uniquely identify the Code Holder. OCNs are used in various telecommunications industry processes primarily as a means to identify local service providers. Telcordia lists Operating Companies in various categories (see the Telcordia Routing Administration (TRA) internet site at www.trainfo.com). Companies that do not have an OCN may contact the National Exchange Carriers Association (NECA) to request the assignment of a NECA Company Code(s) that can be used as the basis for OCNs in the Telcordia databases. NECA Company Codes are assigned based on different types of services. Companies with existing OCNs should direct questions regarding appropriate OCN usage to NECA at 973 884-8355 or via the internet at www.neca.org.

Plant Test Codes	There are two standard Plant Test Codes (i.e., 958 and 959) that may be used by any entity for testing within its network. In addition, CO Codes may be assigned by the CNA on a temporary basis to Code Applicants or Code Holders. See Section 4.6.
Point of Interconnection (POI)	The physical location where two carriers' facilities interconnect for the purpose of interchanging traffic on the PSTN.
Protected Code	See Code Protection.
PSTN	Public Switched Telephone Network. The PSTN is composed of all transmission and switching facilities and signal processors supplied and operated by all telecommunications common carriers for use by the public. Every station on the PSTN is capable of being accessed from every other station on the PSTN via the use of NANP numbers.
RAO Code	See Revenue Accounting Office Code.
Rate Center	A specific geographic point used for determining distance dependent rates for PSTN calls.
Reserved CO Codes	A CO Code that has been identified and set aside by the Canadian Numbering Administrator (CNA) for some specific use or purpose, such as for a Code Applicant.
Revenue Accounting Office Code	Revenue Accounting Office (RAO) Codes are a data elements used in the Central Office Code Assignment process. The RAO Code Guidelines, prepared by the RAO Administrator (Telcordia Technologies, Inc.), includes background information on RAOs

and describes the means of requesting an RAO assignment (see the Telcordia Routing Administration (TRA) internet site at www.trainfo.com).

Stranded CO Code A CO Code with working or ported telephone numbers that does not have a Code Holder that is operating in the exchange area where the CO Code is assigned. Stranded CO Codes are designated by the CNA.

Switch Identification The eleven-character CLLI™ Code used to identify a Switching Entity or POI.

Switching Entity A network element system used to connect lines to lines, lines to trunks, or trunks to trunks for the purpose of originating/terminating PSTN calls. A single switching system entity may be assigned several CO Codes.

Telcordia™ Routing Administration (TRA) Telcordia Routing Administration or TRA- See Telcordia Technologies Inc.

Telcordia Technologies Inc. Telcordia Technologies Inc. provides various services to the North American telecommunications industry, including but not limited to Telcordia Routing Administration (TRA). The TRA operates routing, rating, and other databases that are used by the telecommunications industry. Additional information may be obtained from TRA at 732-699-6700 or at the web site: www.trainfo.com

Telcordia™ TPM™ Data Source (previously referred to as Terminating Point Master) The TPM Data Source contains all the active NPA and CO Code combinations in the NANP and for each of these points the following is provided: Major Vertical and Horizontal

coordinates, Local Access Transport Area (LATA)/LATA-like code, LATA subzone code, RAO code, place and state, province or country name abbreviation, and time zone indicator.

Telecommunications Service Providers	Any entity that is authorized by the appropriate regulatory authority to provide telecommunications services to the public.
TN's (Telephone Numbers) Available for Assignment	The quantity of telephone numbers within existing CO Codes which are immediately available for assignment to subscriber access lines or their equivalents within a Switching Entity or POI.
TN's (Telephone Numbers) Unavailable for Assignment	The quantity of telephone numbers within existing CO Codes which are not immediately available for assignment to subscriber access lines or their equivalents within a Switching Entity or POI. Examples include numbers required for maintenance testing, numbers reserved for specific customers or specific services, disconnected numbers on intercept, pending connects or disconnects. TNs Unavailable for Assignment do not include Working Telephone Numbers (this differs from the INC definition).
Visited network	The network providing service to a subscriber when the subscriber roams outside the home network.
Working Telephone Numbers (WTNs)	The quantity of telephone numbers within existing CO Codes which are assigned to working subscriber access lines or their equivalents, e.g., direct inward dialing trunks, paging numbers, special services, temporary local directory numbers (TLDNs), etc., within a Switching Entity or POI.
WSP	Wireless Service Provider

ANNEX 1: Decisions on Recommendations

The following summarises the comments and recommendations of stakeholders on the first draft of the National Numbering Plan, and the decisions made by TATT in the second draft.

Section	Comments Received	Recommendations Made	TATT's Decisions
Existing service and/ or facility providers and affiliates			
The numbering plan shall be made available to the public on payment of the prescribed fee	The Amendment Act 2004 suggests that the Numbering Plan shall be made available to the public in the manner prescribed by the Authority.	Regulators around the world make its numbering plan available at no cost on their respective websites. It is recommended that the Authority follows suit accordingly.	The Public Consultation Procedures has identified that all public documents of the Authority can be found on its website (www.tatt.org.tt)
The Authority shall preserve to the extent feasible, the assignment of numbers made before the commencement of the Telecommunications Act, 2001	The plan itself proposes changes to existing numbering assignments, which contradicts this provision of the Act.	In consideration of this prescription, agreement with the existing operator should be made	Agreed: See part 5.1 “Guiding Principles for Proposed Numbering Scheme”
2.5: “...Each version of this Plan will ... be posted on the Authority’s website for public comments for a minimum of two months....”	The Numbering Plan document itself calls for a consultation period of at least two months to allow stakeholders the opportunity to address the issues raised in the proposed document, but notes that the Authority has granted less than three weeks in which time comments will be accepted.	The three weeks period should be extended to the maximum two months articulated by the Plan. This would allow careful analysis of the implications emanating from the Numbering Plan. Further, we believe that the consultative	The Public Consultation Procedures has identified the timeframes for draft documents for public comments, which identifies typically four (4) weeks, but it can be varied by the Authority when necessary.

Section	Comments Received	Recommendations Made	TATT's Decisions
		process should provide for public disclosure of all views and opinions submitted and, the Authority's response thereto.	
3.2: Importance of Numbering “...By assigning numbers to various regions, the tariff that are charged to calling parties can be determined empirically...”	The capability of number portability and fixed wireless local loop begs to question the validity of this statement. Further, a simplified rating structure is the preferred approach in most jurisdictions.	The Operator may desire to remove its existing distance rate structure, proposing instead that calls be charged at a common per minute rate, irrespective of distance traveled. In this way, subscribers from rural areas would not be unfairly disadvantaged to make calls to commercial areas.	Comment Noted: see part 3.2 in revised National Numbering Plan for change
3.4 NANPA Resources	The Plan discusses how the North American Numbering Plan resources will be administered by the Authority, but omits the administration of Vertical Service Codes, in which a plan has been defined in the document.	It is recommended that the Authority clarify who will administer the Vertical Service Codes.	The Authority proposes to administer vertical service codes (see part 3.4 in revised National Numbering Plan)
4 Current allocations of 730-799 are prepaid	730-799 are not exclusively for prepaid services currently. The code 611 has not been assigned to existing operators.	The table should be corrected	Change made: see part 4 in revised National Numbering Plan
5.2 The Capacity Analysis indicates the Total allocations as 7,870,000	This number is incorrect. The number should be 7,890,000	The table should be corrected	The error has been corrected.
6.1: Central Office (CO) codes – Migration of Numbers. “... Where it may be	The transitional provisions for migrating of existing numbering assignments to the proposed code allocation have not been discussed. There has not been any mention of time frames or concessions, especially in consideration of the inconvenience that would be caused to subscribers,	It is recommended that the issues of migration be discussed in detail with existing operators before any policy and regulations be formulated. Since migration of numbers will affect the	Agreed: see part 6.1 in revised National Numbering Plan for change. It is proposed that a migration plan be developed in consultation with the relevant stakeholders in the event that numbering migration is

Section	Comments Received	Recommendations Made	TATT's Decisions
<p>necessary for TSTT to migrate its services, the Authority shall exercise reasonable measures to minimize the unavoidable inconvenience that will be imposed on subscribers.”</p> <p>Migration of Post Paid Mobile numbers. Re: 678 and 620 from mobile to Fixed. And conditional upon 30% utilization rate, the reallocation of 680-689 from mobile to fixed (Bullet point 1 page 19)</p>	<p>who will be required to change numbers.</p> <p>We are concerned with the Authority’s proposal to migrate numbers as existing, especially where the Telecommunications Authority Act in Section 44(5) states “...the Authority shall preserve to the extent feasible, the assignment of numbers made before the commencement of the Act.”</p> <p>The exchange codes 950, 958, and 976, which the Plan proposes to migrate to the operator services allocation, already lie in the allocation of codes proposed for operator services.</p>	<p>operations of many stakeholders, it is recommended that the migration plan be discussed and all views taken into account before any policy and regulations be formulated.</p>	<p>necessary.</p>
<p>5.1.3 Reservation for Government use. It is proposed that certain central office codes be reserved by Government to provide services over a uniform numbering scheme. In the proposed numbering plan, central office codes 980 – 989, 991, 992, 993, 994, 995, 996 and 997 have been allocated for providing public and government telecommunications services.</p>		<p>It is recommended that exchange codes 991 to 997 should remain as short dialing codes, and not be used for seven digit directory numbers, as proposed by the plan, in consideration that additional short number codes may be needed for various new services such as location finding, necessary handicapped services (such as relay services for hearing impaired people) and other related functions.</p>	<p>Change made in revised National Numbering Plan.</p>

Section	Comments Received	Recommendations Made	TATT's Decisions
<p>6.3 TSTT uses 12 as its MNC, since becoming a member of the GSM Association. The Authority may need to ensure that TSTT conforms to the 3-digit MNC (120) North American IMSI Format, by determining whether the first number in the MSINs assigned is a '0'.</p>		<p>You are advised that the first digit of the ten-digit MSIN is not zero in all cases.</p>	<p>The intention of the Authority is to conform to the North American IMSI guidelines and format.</p>
<p>6.3 The Authority, with other members of the Caribbean Telecommunications Union (CTU), will continue to investigate the use of single HNIs in the region to ensure that visiting networks here and internationally can accurately identify the individual Caribbean home networks of roaming subscribers. In the interim, until notified otherwise, the Authority will adhere to the above format and the IMSI Administration guidelines (Section 7.3) when</p>		<p>We support the adoption by the Authority of the use of the Mobile Country Code (374) by all mobile service providers in the assignment of International Mobile Subscriber Identifiers (IMSI) to ensure the fair and transparent provision of services by the various service providers, and eliminating any possibility of revenues being wrongfully declared by multinational service providers.</p>	<p>Agreed.</p>

Section	Comments Received	Recommendations Made	TATT's Decisions
assigning IMSIs in Trinidad and Tobago.			
Local Exchange Carriers & Federal Communications Commission	The Plan references Local Exchange Carriers and the Federal Communications Commission. It is unclear why the FCC and LECs are being referenced in a document meant to establish regulations in Trinidad and Tobago.		Change made.
General public			
General on draft	<p>The draft numbering plan produced is comprehensive</p> <p>My only comment is that it provides no insight into whether TATT is considering number portability in the short, medium or long term, or what factors it is considering in evaluating its necessity.</p> <p>This omission is interesting as T A TT has gone to some length to overcome the softer barriers associated with the entrance of competition. An example of this is the insistence that vertical service numbers (eg *123 etc) is common across providers. Insistence on number portability, at least across competing sectors (mobile to mobile, fixed to fixed) is an extension of this paradigm.</p> <p>And it offers possibilities for innovation among the carriers and population at large in providing solutions to this requirement.</p>		Number Portability will be treated separately, in consultation with relevant stakeholders.