NANPA

North American Numbering Plan Administrator

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Annual Report 2018

NORTH AMERICAN NUMBERING PLAN

Background

In October of 2018, following a competitive bidding process, the Federal Communications Commission (FCC) awarded Somos, Inc. (Somos), the contract to perform the North American Numbering Plan Administrator (NANPA) services, effective January 1, 2019. Pursuant to this award, the system and personnel transitioned from the incumbent to Somos. The NANPA is required to publish, within the first quarter of the year, an annual report covering the performance of the prior year. Somos did not serve as the NANPA during 2018; however, the same personnel who performed the NANPA services in 2018 are now employees of Somos. Somos therefore submits the following 2018 Annual Report in the interest of providing informational continuity to the FCC and the industry. By doing so, Somos does not intend to speak for or represent the interests of the former incumbent.

History

The North American Numbering Plan (NANP) was developed by AT&T in 1947 to simplify and facilitate direct dialing of long-distance calls. NANP telephone numbers are ten-digit numbers consisting of a three-digit Numbering Plan Area (NPA) code, commonly called an area code, followed by a seven-digit local number.

The NANP is an integrated numbering plan serving twenty North American countries that share its resources. Regulatory authorities in each participating country have plenary authority over numbering resources, but all participating countries, implicitly or explicitly, share numbering resources cooperatively. This approach has been successful for seventy years.

North American Numbering Plan Administration

AT&T administered shared numbering resources such as area codes until divestiture of the Bell System in 1984, when these functions were transferred to Bellcore under the Plan of Reorganization. On October 9, 1997, the FCC, acting on a recommendation of the North American Numbering Council (NANC), named Lockheed Martin to serve as administrator of the NANP. In December 1999, NANPA was transitioned from Lockheed Martin to Neustar. In 2003, the FCC selected Neustar through a competitive bid to serve as NANPA. In 2012, Neustar was again selected by the FCC to serve as the NANPA for another five-year term. In 2018, the NANPA function was competitively bid by the FCC and Somos was chosen to act as the NANPA for a one-year term.

Regulatory authorities in various NANP countries have named national administrators to oversee the numbering resources assigned by NANPA for use

within their countries. The NANPA is the national administrator for the United States (U.S.) and its territories (American Samoa, Guam, Commonwealth of Northern Mariana Islands, US Virgin Islands). The Canadian Numbering Administrator (CNAC) is responsible for administration of telephone numbers and other telecommunications codes in Canada. In other participating countries, regulatory authorities either serve as the national administrator or delegate the responsibility to the dominant carrier. NANPA, in its overall coordinating role, consults with and provides assistance to those regulatory authorities and national administrators to ensure that numbering resources are used in the best interest of all participants in the NANP. The NANPA function is performed under an FCC contract on a fixed-price basis.

NANPA is not a policy-making entity. In reaching assignment decisions, NANPA follows regulatory directives and industry-developed guidelines. The NANC provides continuous oversight of NANPA and evaluates NANPA's performance each year.

NANPA has three core responsibilities: administration of NANP resources, coordination of area code relief planning and collection of utilization and forecast data from service providers.

NANPA Neutrality

In accordance with FCC regulations, the NANPA shall be a non-governmental entity that is impartial and not aligned with any particular telecommunications industry segment. Accordingly, while conducting its operations, the NANPA may not be an affiliate of any telecommunications service provider(s) as defined in the Telecommunications Act of 1996. "Affiliate" is a person who controls, is controlled by, or is under the direct or indirect common control with another person. Further, the NANPA and any affiliate thereof, may not issue a majority of its debt to, nor may it derive a majority of its revenues from, any telecommunications service provider. "Majority" shall mean greater than 50 percent, and "debt" shall mean stocks, bonds, securities, notes, loans, or any other instrument of indebtedness.

NANP ADMINISTRATION SYSTEM

The NANP Administration System (NAS) provides an automated system for processing number resource applications, collecting resource utilization and forecast data and issuing notifications to the industry on numbering matters. Introduced in 2004, NAS is the primary tool used by federal and state regulators, service providers, service provider consultants and the NANPA in the assignment and administration of the various NANP resources.

At the end of 2018, there were 1,166 registered NAS users. Over 1,104 were service provider or service provider consultant users. Thirty-seven of the users represented federal and state regulatory users. Twenty-five "Other" users were registered in the system. Along with the NAS-registered users, there were 2,414 email list participants that receive NANP notifications but do not have access to NAS functionality.

There were several system changes in 2018, starting with the implementation of Change Order 7 (INC Issue 830: NAS and PAS Email/Report Enhancements) in February 2018. Two additional system builds were implemented in late February and March to correct the Switch ID information populated on Part 4 reminders and Part 4 delinquency notices. The final portion of Change Order 7 was implemented in May, which was the addition of the "In-Service" column to the NANPA website under Central Office Code Reports, Central Office Code Utilized Reports and Central Office Code Assignment Records.

New application software was also introduced in NAS. In September 2018, Apache Tomcat application software was implemented in NAS as a no cost change order. Tomcat application software offered the functionality to run a server without requiring additional optional feature-rich software that NAS did not use. The simpler functionality reduced the resource requirements for the server, enabling the server to load faster. New security software was also implemented in September to prevent the application servers from being affected by large volumes of website queries. The decision to update the security software resulted from a five-minute NAS database unavailability in June and another five-minute system unavailability in July. After implementation of the new security software, there was an additional spike of large volume queries which did not affect the system. Finally, an additional software release was completed in October to address a system issue preventing internal users from entering manual Part 4s.

The annual NAS disaster recovery testing was successfully conducted in November 2018.

Three instances of unscheduled NAS downtime occurred in 2018. In April, an AWS infrastructure issue resulted in a failover of the NAS database, resulting in two minutes of NAS database unavailability while the virtual servers rebuilt

themselves. As noted above, in June and July, two outages occurred, both lasting five minutes.

Four NAS trouble tickets were opened and closed in 2018. One ticket concerned a user's inability to submit a CIC application. It was found the user did not include the effective date on the application and the system failed to provide a validation error. Another ticket was opened when a user did not receive a Part 3 email. NANPA had entered the application on behalf of the service provided and failed to forward the Part 3 email to the applicant. In the third ticket, NAS was not populating the switch ID on the Part 4 Reminder and Part 4 Delinquency email notifications per Change Order 7. Finally, the fourth ticket was opened when a user was not able to submit a 5XX Part A application due to no NRUF on file. NANPA confirmed there was an NRUF on file. It was determined that NAS was not recognizing NPA 521 forecasts, and the issue was corrected allowing the user to submit the Part A.

The final system change in 2018 was the transfer of the NANPA contract from Neustar to Somos, which included the NANP Administration System (NAS), was completed within a two-month timeframe. Neustar and Somos worked to ensure a smooth transition of the system and the services. Various sub-teams consisting of Somos and Neustar personnel were formed and met daily, weekly or on an as-needed basis to address onboarding and facilities, including phone and email transfer; to address all NANPA support agreements and invoicing, including NANPA AOCN service contracts; and to address the transfer of the NANP Administration System.

In conjunction with the move, a moratorium on activity in the system was in place from December 13th, ending on December 15, 2018, when regular system activity resumed. There was minimal impact on number resource availability, minimal impact on system users and no disruption in NANPA services.

Below is a discussion of the NAS functionality and how the system supports the assignment and administration of NANP resources.

NAS Central Office Code Administration

NAS mechanizes central office (CO) code administration by processing the following code requests: Part 1 (Central Office Code Assignment Request form), Months to Exhaust (MTE) Worksheet (required when requesting additional central office codes in a rate center) and Part 4/Part 4-PA (Confirmation of Code In-Service forms). NAS issues a Part 3 (Central Office Code Administrator's Response/Confirmation form) to provide a disposition on the Part 1 request and a Part 5 Form, used to confirm NANPA's receipt of a Part 4. NAS allows users to complete and submit these forms on-line; NAS also processes and stores these forms.

Once NAS validates an application's content and accepts it for processing, the applicant receives confirmation via a tracking number, indicating that the code request was successfully submitted. NAS will also permit code applicants to search for previously-submitted forms.

NAS also supports an interface with the Pooling Administration System (PAS). This interface permits the service provider to submit the information needed to apply for a central office code (i.e., Part 1) in a pooling rate center into PAS. In addition, users may submit changes to the information associated with a pooled central office code or return a pooled code. PAS forwards this data to NANPA via the NAS/PAS interface. This process includes the submission of the appropriate MTE form required with any central office code growth request. Once received by NAS, the Part 1 request appears in the work item list of the NANPA Code Administrator. When the Code Administrator processes the central office code application, NAS emails the Part 3 Administrator's Response/Confirmation to the applicant and the Pooling Administrator (PA) and sends it via the NAS/PAS interface to PAS. The Part 4 and Part-4A (submitted by the Pooling Administrator) are also sent via the interface.

5XX NPA Resource Administration

Similar to CO code administration, NAS also mechanizes the process for applying for 5XX-NXX codes using the following forms: Part A (5XX-NXX Code Assignment Request/Return Notification/Information Change form) and Part C (Confirmation of 5XX-NXX Code In-Service form). When the Resource Administrator processes the 5XX-NXX application, NAS generates a Part B (5XX-NXX Code Assignment Confirmation form) to provide a disposition on the Part A request. All submitted forms are stored in NAS.

NAS auto-populates specific fields within 5XX-NXX applications with information contained in the user's profile and provides drop-down menus for certain data required on the forms such as type of request and applicant's OCN. System checks ensure that all required fields are populated, and certain information supplied is validated prior to submission. Once NAS accepts the application for processing, the applicant receives confirmation via a tracking number, indicating that the request was successfully submitted. NAS will also permit applicants to search for previously-submitted forms. Finally, NAS provides real-time reports on the assignment status of this numbering resource. These reports are accessible through the 'Reports' section of the NANPA website.

Applying On-line for Other Numbering Resources

NAS allows on-line application submissions not only for central office codes, but also for other NANP resources such as NPAs, Carrier Identification Codes (CICs), 9YY-NXX codes and 800-855 line numbers. In addition, NAS provides real-time reports on the assignment status of these numbering resources. These reports are accessible through the 'Reports' section of the NANPA website.

NANP Notification System

The NANP Notification System (NNS) provides a vehicle for NANPA to distribute notifications when significant events occur. Notifications fall under two categories: Geographic and Non-Geographic. Geographic notifications are those issued for documents that have been generated for specific states and/or NPAs. Non-Geographic notifications are those that relate to the entire NANP and are not related to a specific state or NPA.

Geographic notifications available to the public include:

- New processes and changes in central office code administration that affect specific states and/or NPAs;
- NPAs moving into or out of jeopardy status or other changes to the jeopardy status of an NPA;
- Announcements by regulators of changes that affect NANP processing; and
- Data related to the status of resources associated with state conservation deliberations.

Non-geographic notifications available to the public include:

- Changes in Industry Numbering Committee (INC) administration guidelines;
- Updates on the NRUF Form 502 and associated job aids, as well as procedural changes (such as the introduction of new data fields);
- Changes to NANPA processes that will affect customers;
- NANPA Planning Letters and quarterly Newsletters;
- International activities impacting the NANP and NANP Administration;
- New and/or revised NPA and NANP exhaust projections;
- Reminders relating to semi-annual CIC reporting requirement;
- Scheduled system maintenance and system availability issues; and
- Client education, new forms and tools.

In addition to distributing notices, NAS has the capability to include attachments to the notices, allowing NANPA to transmit certain documentation directly to users. NAS also permits users to search for specific notices based upon a particular time period. Notifications concerning NPA relief planning activity remain limited to only the service provider industry and appropriate regulatory agencies.

NANPA distributed 144 notifications in 2018. The chart below illustrates the quantity of notifications distributed by category. All notifications are retained in NAS.

Notification Category	Number of Notifications
NPA Relief Planning	73
Other Non-Geographic	29
NRUF	17
Planning Letters	11
Code Administration	7
INC Guidelines	7
Jeopardy	0
Other Geographic	0
Total	144

NAS NRUF

NRUF reporting is a semi-annual process whereby service providers submit utilization and forecast information to NANPA for use in the development of NPA and NANP exhaust projections. NANPA collects and stores this information and provides it to the FCC and state commissions. Service providers also submit utilization and forecast information for resources assigned from the non-geographic 5XX NPA and 900 NPAs. This data is provided to the FCC. Service providers are required to report by February 1 and August 1 of each year and may submit updates and corrections to their submissions at any time during the current reporting cycle.

NAS permits service providers to submit their utilization and forecast data via email (i.e., Excel spreadsheet), Electronic File Transfer (EFT) using secure FTP, compact disc (CD) or on-line. With the on-line method, service providers log into NAS and enter the data requested in the various worksheets contained in the NRUF Form 502. In addition, since many service providers have the need to submit NRUF data between reporting cycles (e.g., update forecast information), NAS permits service providers to update or modify previously-submitted utilization and forecast data for the current reporting cycle. This on-line capability is available for geographic and the 5XX and 900 non-geographic NPAs.

NAS Reports

NAS provides a number of real-time reports concerning NANP resource assignment and availability, including NPAs, central office codes, CICs, 5XX-NXXs and 900-NXXs. These reports are available on the NANPA website.

In addition to resource availability, NAS permits both service providers and regulators access to numerous NRUF queries and reports. Information provided in these queries is driven by the user's NAS profile. For example, service providers' access is limited to their own information, while state regulators have access to all utilization and forecast data for the area codes in their respective states.

NAS User Registration

All users of NAS are required to register in the system. The registration process allows a user to select from a variety of resource subscriptions depending on the user's needs.

There are different types of NAS users, including service providers, service provider consultants, federal and state regulators and other individuals or entities with a valid interest in number administration matters. For each user type, specific NAS capabilities are available. These capabilities include the ability to 1) submit requests for central office codes from geographic area codes, 2) access and utilize NRUF capabilities, 3) register for various geographic and non-geographic notifications, 4) submit applications for other NANP resources such as CICs, 5XX-NXXs, 900-NXXs and 800-855 line numbers and 5) submit in service confirmation forms.

All registration requests are reviewed and validated prior to approval. Once NANPA approves the registration request, the user is issued a password. The password, randomly generated by the system, contains numbers, letters and other characters. Once registered in NAS, the user is able to update and modify their profile.

NAS has been engineered with numerous security features. NAS has specified time intervals within which a user must log into the system after their profile has been approved or system access is denied. Users are required to update their NAS passwords every 180 days. When a user contacts NANPA to re-enable their profile, the user will receive a new password that must be reset by the user within 14 calendar days of when the profile was re-enabled. If an existing NAS user fails to reset the password, the NAS profile will be suspended. NAS will continue to send NNS notices to the user whose profile is suspended, but no other NAS-generated work item-related emails will be sent to the user, nor will the user have access to NAS. The user will receive weekly reminders to contact NANPA to reset the NAS password. If the user fails to contact NANPA within 90 days of the date the NAS account is suspended, the profile will automatically be disabled, and the user will cease to receive NNS notices.

CODE ADMINISTRATION

Overview

Code administration includes receiving and processing applications for assignment, making and recording assignments, reclaiming resources that are not placed into service, updating information associated with assigned resources and keeping the industry informed as the supply of available resources approaches exhaust. The scope of code administration includes these numbering resources:

- Numbering plan area (NPA) codes (area codes);
- Central office (NXX) codes;
- 5XX-NXX codes;
- 900-NXX codes;
- N11 codes;
- Carrier identification codes (CICs);
- 800-855 line numbers;
- ANI II digits (Automatic Number Identification Information Integers); and
- Vertical service codes.

Subsequent sections of this report discuss each of these resources in greater detail. Contact information for all of the resources can be located at https://nationalnanpa.com/contact_us/index.html

Resource report–NPA codes

NPA codes, often called "area codes," are the first three digits of the 10-digit NANP telephone number. NPA codes are in NXX format, where N is any digit from 2 through 9 and X is any digit from 0 through 9. Attachment 1 to this annual report provides an inventory of all NPA codes.

Most NPA codes designate specific geographic areas; for example, NPA 701 serves North Dakota and NPA 804 covers a portion of Virginia. NPA codes used in this manner are called geographic NPA codes. As of December 31, 2018, 384 geographic NPA codes were in service. Of these, 324 serve the U.S. and its territories, 41 serve Canada, and the remaining 20 serve Bermuda and the Caribbean countries participating in the North American Numbering Plan. Attachments 2 and 3 to this annual report are tables of geographic NPA codes currently in use, sorted by location and numerically.

Other NPA codes designate special services such as toll-free calling rather than geographic areas. These codes are called non-geographic NPA codes. NPA 523 was assigned to augment the 5XX NPAs and went into service in November. Attachment 4 lists the non-geographic NPA codes currently in service.

Introduction of a new geographic NPA code follows a specific plan and schedule approved by regulatory authorities. The plan is summarized in one or more planning letters on the NANPA website. Once an NPA code is assigned for a geographic area, an implementation period follows. The most visible implementation activities include preparing the network to accept the new NPA code, introducing any required changes to the dialing plan and informing the public about how the new code is to be used. The new code is said to be "in service" when it becomes generally dialable.
2018 Activities

Six new NPA codes went into service in 2018, as shown in the table below.

Table 1a: NPAs Introduced in 2018

NPA	Date in Service	Location	Overlay?	Parent NPA	Planning Letter Number(s)	NPA Overlay Complex
445	3/3/18	Pennsylvania	Yes	267	499 332 274 267 237	215/267/445
279	3/10/18	California	Yes	916	502	916/279
820	6/30/18	California	Yes	805	509	805/820
640	9/17/18	New Jersey	Yes	609	508	609/640
523	11/13/18	Non-Geographic	Yes	500	524	500/588/577/566/ 544/533/522/521/ 523
367	11/24/18	Quebec, Canada	Yes	581	504	418/581/367

Six NPAs were assigned this past year as shown in the table below. NPA 672 was assigned as the relief area code for the British Columbia, Canada 236/250/604/778 overlay complex. NPA 326 was assigned as the relief area code for the Ohio 937 area code. NPA 341 was assigned as the relief code for the California 510 area code. NPA 839 was assigned as the relief code for the South Carolina 803 NPA. NPA 428 was assigned as the relief code for the New Brunswick, Canada 506 NPA. Finally, the 523 non-geographic NPA was assigned and introduced in 2018.

Table 1b: NPAs Assigned in 2018

NPA	Assign Date	Location	Overlay?	Parent NPA	Planning Letter Number(s)	NPA Overlay Complex
672	2/14/18	British Columbia Canada	Yes	604	515	236/250/604/778
326	5/24/18	Ohio	Yes	937	517	326/937
341	6/25/18	California	Yes	510	518	341/510
839	7/18/18	South Carolina	Yes	803	520	803/839
428	11/13/18	New Brunswick, Canada	Yes	506	522	428/506
523	06/13/18	Non Geographic	Yes	500	516	500/588/577/566/ 544/533/522/521/ 523

At year end, 19 previously-assigned NPA codes remained to be introduced, as shown in Table 2. The "status" column provides the key to understanding the table. A status of "pending" indicates that the industry or regulatory authority has yet to determine an in-service date for the new code. Typically, this means that the new NPA will not be introduced until additional numbers are needed. A status of "suspended" indicates that the regulatory authority has placed the plan for introducing the new code on hold and that the plan may be canceled or revised in the future. "Scheduled" means a specific in-service date has been identified for the new NPA.

Table 2: NPAs planned but not yet introduced (as of December 31, 2018)

New NPA	Location	Country	Anticipated In Service Date	Existing NPA(s)	Status	Planning Letter Number(s)
227	Maryland	US		301/240	Pending	
274	Wisconsin	US		920	Pending	442 417 385
283	Ohio	US		513	Suspende	316 286 264
326	Ohio	US	3/8/20	937	Schedule	517
327	Arkansas	US		870	Suspende	437 400
341	California	US	7/22/19	510	Schedule	518
428	New Brunswick	Canada	11/21/20	506	Schedule	522
447	Illinois	US		217	Pending	
464	Illinois	US		708	Pending	195
557	Missouri	US		314	Suspende	303 279 261
658	Jamaica		4/30/19	876	Schedule	525 510
659	Alabama	US	11/12/19	205	Schedule	523 289 284
672	British Columbia	Canada	5/4/19	236/250/604/	Schedule	515
679	Michigan	US		313	Suspende	227 209
689	Florida	US	6/4/19	407	Schedule	519 325 323
730	Illinois	US		618	Pending	
822	NANP area (Toll-Free)			800	Pending	214

879	Newfoundland	Canada	5/20/22	709	Schedule	514 503
975	Missouri	US		816	Suspende	304 280 262

Overlays

In an overlay, two or more NPA codes serve all or part of the same geographic area. The term "overlay complex" describes the list of NPA codes included in the overlay. All of the overlays in service today are full-service overlays; that is, numbers in the overlay NPA code(s) are not restricted to any specific service or services. Five NPA overlays were implemented in 2018. Listed in Table 3 are the overlay complexes in service as of December 31, 2018.

Table 3: NPA Overlays

Location	Overlay Complex
Alabama	256/938
Alberta, Canada	403/780/587/825
British Columbia, Canada	250/604/778/236
California	213/323
California	310/424
California	408/669
California	415/628
California	714/657
California	760/442
California*	805/820
California	818/747
California*	916/279
Colorado	303/720
Connecticut	203/475
Connecticut	860/959
Dominican Republic	809/829/849
Florida	305/786
Florida	407/321
Florida	954/754
Georgia	404/770/678/470
Georgia	706/762
Idaho	208/986
Indiana	317/463
Indiana	812/930
Illinois	312/773/872
Illinois	630/331
Illinois	815/779
Illinois	847/224
Kentucky	270/364
Manitoba, Canada	204/431
Maryland	301/240
Maryland	410/443/667
Massachusetts	508/774

Massachusetts	617/857
Massachusetts	781/339
Massachusetts	978/351
Michigan	248/947
Mississippi	601/769
Nebraska	402/531
Nevada	702/725
New Jersey	201/551
New Jersey*	609/640
New Jersey	732/848
New Jersey	973/862
New York	212/646/917/332
New York	315/680
New York	518/838
New York	631/934
New York	718/347/917/929
North Carolina	336/743
North Carolina	704/980
North Carolina	919/984
Nova Scotia/Prince Edward Island, Canada	902/782
Ohio	330/234
Ohio	419/567
Ohio	614/380
Ohio	740/220
Oklahoma	918/539
Ontario, Canada	416/647/437
Ontario, Canada	519/226/548
Ontario, Canada	613/343
Ontario, Canada	705/249
Ontario, Canada	905/289/365
Oregon	503/971
Oregon	541/458
Pennsylvania*	215/267/445
Pennsylvania	412/724/878
Pennsylvania	570/272
Pennsylvania	610/484
Pennsylvania	717/223
Puerto Rico	787/939
Quebec, Canada*	418/581/367
Quebec, Canada	450/579
Quebec, Canada	514/438
Quebec, Canada	819/873
Saskatchewan, Canada	306/629
South Carolina	843/854
Tennessee	615/629
Texas	210/726

Texas	214/469/972
Texas	512/737
Texas	713/281/832/346
Texas	817/682
Texas	903/430
Utah	801/385
Virginia	703/571
Washington	360/564
West Virginia	304/681
Wisconsin	715/534

* New in 2018

Dialing plans

Each NPA has a basic dialing plan, which indicates the dialing pattern to be used for various types of calls originating in that NPA. In the U.S., dialing plans vary from state to state and from NPA to NPA. Basic dialing plans for U.S. NPAs are listed in Attachment 5 to this annual report.

Key variables in determining a dialing pattern are 1) whether or not the call originates and terminates within the same NPA, 2) whether the call is a local or toll call and 3) whether the call requires special handling (e.g., credit card, third-party billing, or operator assistance). Dialing patterns in the U.S. have been largely standardized. Local calls originating and terminating within the same NPA are usually dialed on a seven-digit basis, omitting the area code, except in overlay areas where the NPA must be dialed. Toll calls originating in one NPA and terminating in another are usually dialed with a prefix "1" followed by the ten-digit number. Special handling calls are always dialed with a prefix "0" followed by the ten-digit number.

Most of the variations in basic dialing plans involve toll calls originating and terminating within the same NPA (home-NPA toll calls) and local calls originating in one NPA and terminating in another NPA (foreign-NPA local calls). In states where the prefix "1" is considered to be a toll indicator, home NPA toll calls are usually dialed as "1" followed by the ten-digit number, and foreign NPA local calls are dialed using the ten-digit number without a prefix. In states where the prefix "1" is used to indicate that a ten-digit number will follow, home-NPA toll calls are dialed using just the seven-digit number and foreign-NPA local calls are dialed as "1" followed by the ten-digit number.

Dialing patterns within an NPA also may vary according to service provider capabilities. In addition, in many areas where NPA boundaries split local calling areas, state regulatory commissions and service provider tariffs allow seven-digit dialing across NPA boundaries, including across state lines.

Resource report—Central office codes

Central office codes, also known as prefixes, exchanges, or NXX codes, are digits 4 through 6 of the 10-digit telephone number. The following discussion addresses central office codes within geographic area codes.

NANPA administers all geographic central office codes in the U.S. and its territories. The Canadian Numbering Administrator performs this function in Canada. In the remaining NANP countries, regulatory authorities play an active role in central office code administration. Contact information for regulatory and administrative personnel can be found in Attachment 10 to this annual report.

Service providers obtain numbers for their customers by applying for and receiving central office code assignments. Each central office code contains 10,000 numbers for use in the area the code serves. Service providers operating in pooling rate centers apply through the Pooling Administrator for central office codes in order to 1) to request the assignment of a central office code for Location Routing Number (LRN) purposes, 2) to request a code to replenish the inventory pool or 3) to request a code to meet a service provider's need for 10,000 consecutive telephone numbers for a single customer. NANPA tracks 167,000 assigned central office codes in the U.S. and its territories. NANPA processed 9,567 requests in 2018 for central office code assignments, returns or changes to existing assignments.

The FCC, in its Number Resource Optimization (NRO) order series, established detailed criteria for the assignment of initial and growth central office codes in the U.S. and its territories. The process of applying for a central office code assignment based on FCC rules and regulations is specified in guidelines developed by the industry. The latest version of the guidelines, entitled *Central Office Code (NXX) Assignment Guidelines, ATIS0300051*, can be found at the Alliance for Telecommunications Industry Solutions (ATIS) website at http://www.atis.org/01_committ_forums/INC/documents/.

Central Office Code Activity

Central office code monthly application and assignment activities during 2018 are shown in Table 4. The rows in the table should be interpreted as follows:

Assignments—Applications that resulted in the assignment of a central office code.
Changes—Applications that resulted in a change to the information associated with an existing code assignment, for example, a change to the OCN or switch.
Denials—Applications not meeting the criteria for assignment as prescribed by the FCC and embodied in the central office code assignment guidelines.
Cancellations—Applications canceled or withdrawn by the applicant. These applications are not counted in the total quantity of applications processed.
Canceled Returns—Applications requesting the return of an assigned code that were canceled after NANPA issued the Part 3 approving the return.

Returns—Applications requesting the return of an assigned code.
Reservations—Applications requesting and receiving a code reservation.
Total Processed—Total quantity of applications processed by NANPA.
Pooling Pass-Thru—Applications processed by NANPA that came through the Pooling Administrator.
Abandoned Codes—Quantity of codes that NANPA followed the Central Office Code (NXX) Assignment Guidelines, Appendix C, Procedures for Code Holder Exit.

Table 4: 2018 Monthly CO Code Activity

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Assignments	184	200	308	170	238	313	162	281	245	325	193	227	2,846
Changes	924	234	341	366	233	462	247	406	370	1,445	144	281	5,453
Denials	32	30	215	161	44	137	112	52	60	73	32	40	988
Cancellations (Note 1)	4	29	17	24	0	3	3	5	3	3	0	0	91
Canceled Returns (Note 1)	0	0	0	0	0	0	0	0	0	0	0	0	0
Returns	28	22	28	34	25	13	14	15	18	27	28	27	279
Reservations	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Processed	1,168	486	892	731	541	925	535	754	693	1,870	397	575	9,567
Pooling Pass-Thru	340	363	545	418	541	561	438	506	535	1,738	313	399	6,697
Abandoned Codes	0	0	5	0	44	7	3	5	12	24	9	6	115

Note 1 – Applications that are canceled are not included in the total quantity of applications processed.

A total of 9,567 applications were processed in 2018 as compared to 11,491 processed in 2017 and 10,272 in 2016. A total of 2,846 central office code assignments were made in 2018 as compared to 2,713 in 2017 and 3,405 in 2016. The majority of assignments (2,185 as compared to 2,169 in 2017) were pool replenishment. There were 532 (as compared to 436 in 2017) code assignments for LRN requests, 57 (as compared to 91 in 2017) for dedicated customer requests and 88 (as compared to 17 in 2017) non-pooled assignments.

As part of its code administration responsibilities under the Debt Collection Improvement Act of 1996, NANPA is required to withhold the assignment of numbering resources to an entity identified by the FCC as delinquent in their payments to the Commission. In 2018, fifteen (five were denied in 2017) central office code assignment requests were denied by NANPA in compliance with this requirement.

Central Office Code Activity (Year-over-Year)

NANPA also tracks year-over-year assignment data to identify any trends in CO code assignment rates. Table 5 shows the total quantity of CO codes assigned in 2018 compared with assignments over the last ten years. Also included is the net demand for the year, reflecting the impact of codes returned during the year.

Table 5: Year-over-Year CO Code Assignments

Year	Annual Gross CO Code Demand	Annual Net CO Code Demand	Quantity of Returned Codes
2007	3,216	2,467	749
2008	2,946	2,162	784
2009	2,144	1,610	534
2010	2,795	2,484	311
2011	2,889	2,273	616
2012	2,637	2,065	572
2013	2,712	2,428	284
2014	3,414	3,155	259
2015	3,728	3,495	233
2016	3,405	3,184	221
2017	2,713	2,502	211
2018	2,846	2,567	279

Central Office Code Administration Quality Measurements

Central office code administration quality results for 2018 are summarized in Table 6. A detailed description of the quality measurements follows.

The table shows three primary measurements:

1. Application processing – NANPA is required to process central office code applications within seven calendar days of the date of receipt. The table shows the percentage of applications processed within seven calendar days, the number of applications exceeding the seven-calendar day period and, for those applications requiring more than seven calendar days, the "average number of days late." The results in the table show uniform, high-quality processing.
2. Codes assigned without a code conflict or reject – A 'Code Conflict' occurs when a code assigned by NANPA cannot be placed into service due to a dialing conflict. A 'Code Reject' is an assignment error in which NANPA did not assign the available code which was requested.
3. Telephone calls – Code Administrators are required to respond to telephone calls by no later than the end of the next business day. The table shows the percentage of telephone calls returned during the required period along with the "average days late" for calls returned outside of the required period.

Table 6: 2018 CO Code Administration Quality Results

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Percent of central office code applications processed in 7 calendar days	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Number of applications exceeding 7 calendar days	0	0	0	0	0	0	0	0	0	0	0	0
	Average days late for applications exceeding 7 calendar days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Percent of central office codes assigned without code reject or conflict	100%	100%	100%	100%	100%	100%	100%	99.7%	100%	100%	100%	100%
	A. CO code rejects	0	0	0	0	0	0	0	1	0	0	0	0
	B. CO code conflicts	0	0	0	0	0	0	0	0	0	0	0	0
3	Percent of administrator phone calls returned by end of next business day	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

2018 Activities
Below is a summary of central office code administration activities in 2018.

Abandoned CO Codes – NANPA identified 150 codes to be treated as abandoned. During the year, NANPA coordinated the recovery/transfer of these codes with the FCC as well as with 14 state regulators.

Code Conservation efforts – NANPA continuously worked with various state regulators and service providers to recover CO codes previously protected or no longer in use. NAS was appropriately updated to ensure it accurately reflected available resources in all rate centers. A total of 35 codes were changed to available status across numerous area codes.

NANPA worked with service providers in Florida to remove protected routes, which required 7-digit dialing in Florida in the 813 NPA prior to initiating NPA relief planning. The result was the availability of an additional 80 NXXs in the area.

NANPA also notified and worked with service providers in New York, as ordered by the New York Public Service Commission Order, Case 17-C-0278, to eliminate the blocking service for affected NXXs by the revised NY tariffs. The result was the availability of an additional 76 NXXs in numerous NY NPAs.

NANPA continued the practice of assisting service providers and state regulators in the transfer of a central office code from one service provider to another service provider in need of a code for a Location Routing Number (LRN). NANPA coordinated with regulators, the Pooling Administrator and service providers in an attempt to transfer 50 codes in ten states, where possible, to avoid opening new codes for LRN purposes.

Improvement Processes and Education – NANPA provided numerous reminders concerning the requirement to build new codes in industry databases, to perform work necessary to transfer codes and return codes not in use. These efforts resulted in resolving discrepancies on over 500 central office codes. In addition, NANPA code administration automated a process to ensure daily NAS entries and updates matched daily ACD screen entries and updates in the BIRRDS system.

NANPA completed work with iconectiv's TRA and service providers toward resolution of the Common Interest Group on Routing and Rating (CIGGR), C240, for consistent representation of the 976 NXXs in all databases. This was an industry initiative to ensure that all 976 NXXs are only to be used for Information Delivery Services, not associated with a rate center, and to be duplicated in new NPAs during NPA relief. The 976 codes shall not be marked as portable and shall not be pooled as the codes' numbers are not assigned to end-user customers.

NANPA also worked with iconectiv's Traffic Routing Administration to import data related to NXXs in service after November 10, 2016, in anticipation of resuming the practice of updating the in-service indicator on the ACD screen in iconectiv®'s BIRRDs (Business Integrated Rating and Routing Database System (BIRRDS) with the June 8, 2018 release. This activity resulted from an industry agreement, also within CIGRR (C228).

Managing Jeopardies – When the supply of codes in a particular NPA is at risk of exhausting before a new area code or other relief measure can be introduced, NANPA declares "jeopardy" in that NPA. When jeopardy is declared, code allocations are initially set at 3 codes per month. The industry, with the assistance of NANPA Code Administration and NPA Relief Planning, develops local industry jeopardy procedure options at a meeting convened by NANPA. Once determined, local jeopardy procedures are posted on the NANPA website (www.nanpa.com).

At the end of 2018, two NPAs were in jeopardy (Illinois 217 and 618 NPAs).

Mass Modification Process

Service providers may submit a mass modification spreadsheet containing modifications (e.g., change in switch ID, intra-company OCN, tandem homing CLLI) to central office code records when such changes impact 50 or more codes. In 2018, NANPA processed 1,600 record changes via the mass modification process.

Reclamation – Each central office code assignment has an associated "effective date" when the code will be placed in service. The assignment guidelines require that the code be placed in service no later than six months after the original effective date. The assignee confirms that the code is in service by submitting a Part 4. NANPA responds with the "Administrator's Response – Receipt of the Part 4." If a Part 4 has not been received by NANPA during the first five months following the original effective date, NANPA will send a reminder notice to the code assignee. In 2018, 3,000 Part 4s were processed by NANPA.

NANPA tracks code assignment effective dates and, if the Part 4 is not received within the six-month period following the effective date, the code is considered to be delinquent and NANPA notifies the appropriate regulatory authority. The FCC NRO orders delegated authority to the states to determine whether or not delinquent codes should be reclaimed. The FCC makes reclamation decisions for those states that decided not to participate in the process. The NANPA website provides detailed information about the reclamation process, including contact information for each participating state and the FCC.

To measure reclamation effectiveness, NANPA monitors the percentage of delinquent codes on which it begins the reclamation process, along with the number of codes recovered each month. The recovery of a code must be directed by the appropriate regulatory authority. NANPA also monitors the reclamation lists provided to the states/FCC to ensure there are no errors or discrepancies. Table 7 reflects the reclamation activity in 2018.

Table 7: 2018 CO Code Reclamation Quality Results

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Percentage of applicable codes on which reclamation was started		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Number of codes for which a Part 4 was not rec'd 180 days after original effective date (Note 1)	11	9	12	6	23	8	11	13	22	22	13	20
	Number of codes on which reclamation started late	0	0	0	0	0	0	0	0	0	0	0	0
	Codes recovered (Note 2)	0	0	0	0	0	0	0	0	0	0	0	0
	Number of reclamation discrepancies reported by state commission(s) regarding monthly reclamation list	0	0	0	0	0	0	0	0	0	0	0	0

Note 1: Quantity of codes for which NANPA did not receive a Part 4 in-service confirmation within 180 days after the original effective date.
Note 2: This measurement shows the quantity of codes recovered through the reclamation process (the state regulator or FCC directed NANPA to reclaim the code).

Resource report—5XX-NXX codes

5XX-NXX codes are used for applications which are non-geographic in nature, are not assigned to rate centers and may or may not traverse the Public Switched Telephone Network (PSTN) but do require an E.164 addressing scheme. The use of this NANP numbering resource is to communicate with both fixed and mobile devices, some of which may be unattended. This resource may also be used for applications enabling machines, which would include but not be limited to wireless devices and appliances, with the ability to share information with back-office control and database systems and the people that use them. Service is limited only by terminal and network capabilities and restrictions imposed by the service provider.

NANPA assigns 5XX-NXX codes in accordance with the *Non-Geographic 5XX-NXX Code Assignment Guidelines, ATIS 0300052*, which may be downloaded from the ATIS website (http://www.atis.org/01_committ_forums/INC/documents/). It should be noted that the 5XX resource is not portable; the NXX identifies the service provider.

There were nine 5XX NPAs in-service at the end of 2018: NPAs 500, 521, 533, 544, 566, 577, 588, 522 and 523. In June 2018, NANPA published Planning Letter 516 (Assignment of NPA 523 for Non-Geographic Services). In November 2018, NANPA initiated NXX assignments from the 523 NPA and published Planning Letter 524.

During 2018, NANPA assigned 940 new 5XX-NXX codes. This compares with 781 5XX-NXX codes assigned in 2017 and 827 5XX-NXX codes assigned in 2016.

At the end of 2018, a total of 6,601 5XX-NXX codes were assigned. Fifteen 5XX-NXX codes were returned in 2018 and 518 codes remained available for assignment. Eighty-one 5XX-NXX codes are not available for assignment (5XX-555 and all 5XX-N11). Based on NRUF forecast data and assignment information, it is projected that multiple 5XX-NXXs will be needed over the next several years. Consequently, the following 5XX NPAs have been reserved: 524, 525, 526, 527, 528, 529, 532, 538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546 and 558.

NANPA continues to provide information concerning assignments, updates and reclamations for inclusion in iconectiv's LERG™ Routing Guide.

Resource report—900-NXX codes

900 numbers are used for premium services, with the cost of each 900 call billed to the calling party. NANPA assigns these numbers according to industry-developed assignment guidelines that may be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/. The guidelines are entitled *9YY NXX Code Assignment Guidelines, ATIS-0300060*.

No 900-NXX codes were assigned or returned in 2018. Forty-nine (49) 900-NXX codes were unavailable for assignment as of December 31, 2018. These include eight 900-N11 codes and 41 900-NXX codes reserved for Canadian use.

At the end of 2018, a total of 53 900-NXX assignments were in effect. The number of 900-NXX codes available for assignment was 698. With the quantity of available 900-NXX codes, exhaust of the 900 NPA is not an issue at this time.

NANPA continues to provide information about assignments, updates and reclamations for inclusion in the LERG™ Routing Guide.

Resource report—555 line numbers

555 numbers were made available starting in 1994 for the purpose of reaching a wide variety of information services. Although nearly 8,000 555 line numbers were assigned, these numbers were not placed into service. In May 2016, the Industry Numbering Committee (INC) determined that the purpose for which this resource was intended had been accommodated by other information/communication technologies. The future of a 555 resource will be determined if a need for the resource is identified and agreed to by INC.

As a result, INC created the *555 NXX Line Number Reference Document, ATIS-0300115* and agreed to sunset the *555 NXX Assignment Guidelines, ATIS-0300048*. The FCC approved this decision in September 2016.

All 555 line numbers have been returned to the inventory of NANPA resources. The following 555 line numbers remain in use:

- 555-1212 Directory Assistance National use
- 555-4334 Assigned National use

The fictitious, non-working numbers, 555-0100 through 555-0199, remain reserved for entertainment/advertising.

Resource report—Carrier Identification Codes

Carrier Identification Codes (CICs) are four-digit codes used to route and bill telephone traffic. An entity acquires a CIC assignment by purchasing Feature Group B (FG B) or Feature Group D (FG D) access from an access service provider. NANPA also assigns FG D CICs to "switchless resellers" without the requirement to purchase FG D trunk access before applying for a CIC. Finally, billing and collection clearinghouses ("BC clearinghouses") are allowed to obtain FG D and "matching" FG B CICs without the requirement to purchase access. A "BC clearinghouse" is only allowed to apply for a CIC under circumstances when the use of an ABEC (Alternate Billing Entity Code) is not permitted as an identifier

and/or when the use of an ABEC has been determined as technically non-feasible.

In the U.S., all applicants apply to NANPA directly for CIC assignments (via NAS). If the applicant is a long distance carrier, the access provider must separately provide NANPA with a copy of the Access Service Request (ASR) to verify that FG D trunk access has been ordered. If the CIC applicant is a Local Exchange Carrier (LEC), incumbent LEC (ILEC) or competitive LEC (CLEC), a copy of the authorization from a state regulatory commission granting the applicant authority must separately be provided to NANPA in support of their CIC application. If the applicant is a switchless reseller, it must separately provide NANPA with documentation that validates "switchless reseller" status. State regulatory commission certification is required unless the state does not issue switchless reseller certification. If the state does not issue such certification, a written statement by an officer of the applicant company will be accepted to verify "switchless reseller" status. In Canada, companies apply for CICs to the Canadian Numbering Administrator (CNA), who verifies that Canadian regulatory requirements have been met. The CNA then submits the application to NANPA via NAS on behalf of the applicant.

Industry-consensus guidelines for the administration of CICs may be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/. The guidelines are entitled *Carrier Identification Code (CIC) Assignment Guidelines, ATIS 0300050*. The assignment guidelines require all CIC assignees to submit Entity semi-annual CIC reports. In addition, access providers providing FG B and/or FG D access service, particularly access providers with more than 30 CICs programmed in their switches, are required to submit Access Provider semi-annual CIC access/usage reports to NANPA for analysis.

Information contained in these reports serves as the basis for NANPA's CIC reclamation efforts. If no access provider reports access/usage for a given CIC, NANPA initiates reclamation procedures. All CIC assignees, including switchless resellers and "BC clearinghouses", are required to submit semi-annual Entity Access/Usage reports to NANPA. These reports demonstrate whether access or usage has been established as well as document that assigned CICs are being used in accordance with the CIC Assignment Guidelines.

Maintaining accurate assignment records and entity contact information is an ongoing challenge for NANPA due to abandoned CICs and the high volume of mergers, acquisitions, asset purchases and bankruptcies that occur in the telecommunications industry. Obtaining documentation on and verification of these activities is often difficult, but crucial to the integrity of information contained in the CIC assignment databases.

FG D CIC activity

During 2018, NANPA assigned 13 new FG D CICs, yielding an average assignment rate of 1.08 codes per month. NANPA also investigated and reclaimed CIC resources that were "abandoned" (assigned to a company no longer in business and/or not in service), resulting in the return/reclamation of 55 FG D CICs.

223 codes from the entire FG D CIC resource are not available for assignment. These include CICs 9000-9199, which are available to all carriers for intranetwork use only. Also included are CICs 0000 and 5000, used exclusively for testing, 0911 and twenty CICs in the formats X411 and 411X, which have been marked unassignable at the direction of the FCC.

At the end of 2018, 1,884 FG D CICs were assigned in total, leaving 7,893 FG D CICs available for assignment. The potential exhaust of the FG D CIC resource is not a concern based on the current rate of assignment and the current FCC limit of two FG D CICs per "entity."

At the end of 2018, NANPA identified 155 FG D CICs as "abandoned" (CICs assigned to companies no longer in business, or CICs assigned to companies that have sold assets to other entities, or companies that have been acquired by other entities through mergers/acquisitions). These CICs are now listed in NANPA's records with no valid contact information. The assignee of these CICs and/or the companies that have acquired the CIC assignee company(ies) have failed to adhere to the CIC Assignment Guidelines by providing NANPA with legal documentation of the activities described in this paragraph. NANPA has been unable to reclaim these "abandoned" CICs since activity (FG D access and/or usage) appeared on access providers' 2018 semi-annual CIC reports.

Table 8: 2018 Monthly FG D CIC assignments, denials and reclamations

Month	Assigned	Reclaimed/ returned codes	Applications denied	Applications withdrawn
January	1	4	1	5
February	1	4	4	2
March	2	4	0	0
April	0	7	1	1
May	4	0	2	1
June	3	4	1	1
July	1	3	1	4
August	?0	3	1	5
September	0	2	1	0
October	1	3	1	2
November	0	6	1	0
December	0	15	3	1
Total	13	55	17	22

FG B CIC activity

In 2018, one (1) FG B CICs were assigned and 25 FG B CICs were returned or reclaimed. At the end of 2018, 219 FG B CICs were assigned in total. The potential exhaust of the FG B CIC resource is not a concern based on the current rate of assignment.

As of the end of 2018, NANPA had identified 27 FG B CICs as "abandoned" (CICs assigned to companies no longer in business, or CICs assigned to companies that have sold assets to other entities, or companies that have been acquired by other entities through mergers/acquisitions). These CICs are now listed in NANPA's records with no valid contact information. The assignee of these CICs and/or the companies that have acquired the CIC assignee company(ies) have failed to adhere to the CIC Assignment Guidelines by providing NANPA with legal documentation of the activities described in this paragraph. NANPA has been unable to reclaim these "abandoned" CICs since activity (FG B usage and/or access) appeared on access providers' 2018 semi-annual CIC reports.

Table 9: 2018 Monthly FG B CIC assignments, denials and reclamations

Month	Assigned	Reclaimed/ returned codes	Applications denied	Applications withdrawn
January	0	6	0	0
February	0	7	0	0
March	0	0	0	0
April	0	0	0	0
May	0	1	0	0
June	0	3	0	0
July	0	3	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	1	0	0	0
December	0	5	0	0
Total	1	25	0	0

Resource report—N11 codes

N11 codes, listed with their descriptions in Table 10, are the only valid three-digit telephone numbers in the NANP.

The FCC administers N11 codes in the U.S., pursuant to the Telecommunications Act of 1996. The Canadian Radio-television and Telecommunications Commission (CRTC) administers N11 codes in Canada. It should be noted that 411 and 611, although long used for the purposes indicated in the table, have not been formally assigned by the FCC in the U.S. at this time.

The National Suicide Hotline Improvement Act of 2018 ("Act") was signed into law on August 14, 2018. In November 2018, the FCC issued a notice seeking comments on the implementation of the Act. The notice outlined how the Act directs the FCC to (1) conduct a study that examines the feasibility of designating a simple, easy-to-remember, 3-digit dialing code to be used for a national suicide prevention and mental health crisis hotline system; and (2) analyze how well the current National Suicide Prevention Lifeline is working to address the needs of veterans. The Act also directed the Commission to coordinate with the Department of Health and Human Services' Substance Abuse and Mental Health Services Administration, the Secretary of Veterans Affairs, and the North American Numbering Council in conducting the study, and to produce a report on the study by August 14, 2019. The Commission's report must recommend whether a particular N11 dialing code or simple, easy-to-remember, 3-digit dialing code should be used for a national suicide prevention and mental health crisis hotline system and, if so, the logistics and costs associated with designating such a dialing code, among other issues.

There was no N11 assignment activity in 2018.

Table 10: N11 Code Assignments

N11 Code	Description
211	Community information and referral services
311	Non-emergency police and other governmental services (U.S.)
411	Local directory assistance
511	Traffic and transportation information (U.S.); Provision of Weather and Traveler Information Services (Canada)
611	Repair service
711	Telecommunications relay service (TRS)
811	Access to One Call Services to Protect Pipeline and Utilities from Excavation Damage (U.S.); Non-Urgent Health Teletriage Services (Canada)
911	Emergency

Resource report—456-NXX codes

NXX codes from the 456 NPA were made available in 1993 (IL-93/08-002) and used to identify carrier-specific services. This was accomplished by providing carrier identification within the dialed digits of the E.164 number. More specifically, the prefix following 456 (456-NXX) identified the carrier. Use of these numbers enabled the proper routing of inbound international calls destined for these services into and between North American Numbering Plan area countries.

In 2017, it was determined there was no longer a need for the 456 NPA. INC agreed to sunset the *International Inbound NPA (INT/NPA/NXX) Assignment*

Guidelines, *ATIS-0300049,* and age the 456 NPA for five years before the NPA is returned to the general purpose NPA code pool.

Resource report—800-855 numbers

800-855 numbers are used only for the purpose of accessing public services on the PSTN intended for the deaf, hard of hearing or speech impaired. NANPA assigns these numbers in accordance with industry-developed guidelines that may be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/. The guidelines are entitled *800-855 Number Assignment Guidelines, ATIS-0300047.*

No 800-855 number assignments were made in 2018. A list of 800-855 assignments can be found on the NANPA website, www.nanpa.com.

Resource report—Automatic Number Identification "II" digits

Automatic Number Identification (ANI) Information Integers ("II") digits are digit pairs sent with the originating telephone number. The digit pair identifies the type of originating station; e.g., plain old telephone service (POTS) or hotel/motel. NANPA assigns these numbers in accordance with industry-developed guidelines that may be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/. The guidelines are entitled *Automatic Number Identification (ANI) Information Digits Codes, ATIS-0300064.*

Requests for the assignment of ANI II digits are referred to the INC for consideration. If the INC approves the request, NANPA makes the assignment. A list of ANI II assignments may be found on the NANPA website, www.nanpa.com.

No ANI II digit assignments were made in 2018. A list of ANI II digit assignments can be found on the NANPA website, www.nanpa.com.

Resource report—Vertical Service Codes

Vertical Service Codes (VSCs) are customer-dialed codes in the *XX or *2XX dialing format for touch-tone and the 11XX or 112XX dialing format for rotary phones. They are used to provide customer access to features and services (e.g., call forwarding, automatic callback, etc.) provided by network service providers such as local exchange carriers, interexchange carriers or commercial mobile radio service (CMRS) providers. NANPA assigns VSCs in accordance with industry-developed guidelines that may be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/. The guidelines are entitled *Vertical Service Code Assignment Guidelines, ATIS-0300058.*

No VSC assignments were made in 2018. There was a total of 61 VSCs assigned at the end of 2018. A list of assigned VSCs is available on the NANPA website, www.nanpa.com.

NPA RELIEF PLANNING OVERVIEW

NPA relief planning precedes the introduction of new geographic area codes. The relief planning process is described in detail in the document entitled *NPA Code Relief Planning and Notification Guidelines, ATIS-0300061*, which can be found on the ATIS website at http://www.atis.org/01_committ_forums/INC/documents/.

NANPA plays a major role in NPA relief planning. At least 36 months before the anticipated exhaust of an NPA in the U.S. or its territories, NANPA's relief planners notify the local industry and state regulatory commission of the impending exhaust and convene a preliminary planning meeting to discuss local dialing arrangements, communities of interest and other pertinent issues to identify viable methods of relief. Using input from this meeting, relief planners prepare and distribute an initial planning document (IPD) for consideration that outlines several alternative relief plans. NANPA then facilitates an industry meeting to consider the options presented in the IPD and any others that may be proposed. NANPA next prepares a petition explaining the options considered and describes the recommended relief option(s) if the industry has reached consensus to do so. NANPA submits the petition on behalf of the industry to the state regulatory commission for approval.

The respective state commission reviews the proposed plan and often conducts public hearings to invite public comment. When this occurs, the relief planner actively participates and may be called upon to testify relating to various aspects of the proposed relief plan. Some states use the internet to gather public comment in lieu of public meetings in an attempt to solicit greater feedback. After the state commission has approved a plan, which may not be one of the options considered by the industry, NANPA requests assignment of the NPA relief code to implement the plan, and then convenes and facilitates the first industry implementation meeting. Using decisions made at the initial implementation meeting, the relief planner then prepares and publishes a planning letter on the NANPA website. The planning letter announces the method of relief selected, the identity of the new area code, the schedule for relief, the new dialing plan, the test number(s) for the new area code, a rate center map and, in the case of a split, a list of the prefixes moving to the new area code and those remaining in the area code that is receiving relief.

Where NPA relief is required for an existing overlay complex, the process is slightly different. The IPD, relief planning meeting and industry consensus to recommend an overlay is not required. NANPA drafts a relief plan petition requesting approval of the overlay and recommends an implementation schedule, including a time frame for network preparation and customer education, with the new NPA effective at the end of the implementation schedule. There is no need for a permissive dialing period since local 10-digit dialing is already in place. The draft petition is reviewed and approved by the industry prior to submitting to the state commission.

NANPA's relief planners interface with Central Office Code Administrators and Pooling Administrators. Relief planners schedule and facilitate jeopardy conference calls and are involved in decisions about the timing of relief activities involving central office codes.

In 2018, NANPA initiated four new area code relief planning projects (OK 405, PA 414, TX 214/469/972 and VA 757) and filed four NPA relief petitions/applications with the appropriate state public regulatory commission (SC 803, OK 405, PA 814 and TX 214/469/972). NANPA facilitated four initial NPA implementation meetings (OH 937, CA 510, FL 407/321 and SC 803) as well as conducted jeopardy review meetings for IL 217 and 618.

NANPA relief planners facilitated 16 meetings, conducted entirely by conference calls. They shadowed 58 industry NPA relief subcommittee meetings. To keep the industry informed, NANPA issued 73 notifications using the NNS, which included reminder notices of relief planning meetings that were distributed a few days prior to the meeting. NANPA also created and published five planning letters describing the details of ongoing geographic area code relief projects.

Throughout the year, NANPA communicated with numerous states concerning number administration and NPA relief planning, to include face-to-face meetings with three state regulatory authorities.

Relief planning quality measurements

Industry guidelines prescribe time limitations for the completion of many NPA relief planning activities. To quantify the timeliness of its relief planning work, NANPA has established objectives for the completion of many additional activities, as shown in Table 11. In 2018, NANPA completed 100% of the 44 tracked activities on schedule.

Table 11: Relief planning timeliness

Performance Measurement	Events in 2018	Completed on time	% on time completion
Initiated NPA relief planning within 36 months of NPA exhaust.	4	4	100%
Distributed initial industry meeting notice within 8 weeks of relief meeting date.	1	1	N/A
Distributed IPD within 4 weeks of relief meeting date.	3	3	100%
Distributed meeting minutes within 2 weeks or date set at the meeting.	15	15	100%
Held minutes review by date set at the meeting.	3	3	100%
Filed relief-related petitions by date set at the meeting.	4	4	100%

Requested relief NPA assignment within 1 week of regulatory approval.	3	3	100%
Issued press release within 2 weeks after relief NPA code assignment.	2	2	100%
Held implementation meeting within 45 days after relief NPA code assignment.	5	5	100%
Held jeopardy meeting within 30 calendar days after jeopardy declaration.	0	N/A	N/A
Posted planning letter or notice of industry meeting on website within 3 weeks after implementation meeting.	5	5	100%
Posted planning letter on website within 10 business days after regulatory change.	0	N/A	100%
Distributed IPD 4 weeks after date jeopardy was declared, if relief planning was not been initiated.	0	N/A	N/A
Held industry relief planning meeting 8 weeks after date jeopardy was declared, if relief planning was not been initiated.	0	N/A	N/A
Totals	44	44	100%

Relief planners also measured the promptness of their responses to voicemail and email messages. Results showed that NANPA relief planners responded to 100% of client voicemails and email messages by no later than the end of the next business day.

Relief planning process

NANPA's relief planners use the following practices to ensure an efficient and effective relief planning process:

- For relief projects involving an existing area code overlay or a single NPA with only one rate center, NANPA skips the pre-planning IPD and NPA relief planning meeting and moves directly to the development of a draft petition recommending an overlay. This draft petition is reviewed and approved by the industry prior to NANPA filing it with the appropriate regulatory authority.

- All meetings are conducted by conference call to reduce travel costs and increase participation. Further, NANPA uses an on-line meeting capability, allowing participants to view relevant documentation and where appropriate, make real-time updates.

- NANPA has created various tools to be used in conjunction with the on-line meeting capability. These tools include:

    - A "Pros & Cons" table for NPA relief planning meetings, allowing the participants to view this table via the on-line meeting capability and

select those pros and cons applicable to the relief alternative being discussed.
    - Dialing plans and implementation schedules that permit the industry to reach a near instant decision on what information to include in the relief petition.
    - Excerpts from the *NPA Code Relief Planning & Notification Guidelines, ATIS-0300061,* to assist the industry in understanding the INC criteria for relief alternatives and in making their decisions during NPA relief meetings.
    - Updated on-line meeting aid with excerpts containing the latest changes from the *NPA Code Relief Planning and Notification Guidelines*.
    - An on-line meeting link in the PDF document posted in NAS NNS, in addition to including this information in the email notice.
    - An implementation meeting agenda template to ensure the industry addresses all relevant activities associated with the introduction of a new NPA.

- At the beginning of each conference call, the NANPA relief planner explains the manner in which the consensus process will be applied in a uniform, impartial manner in the event participants choose to leave the call unannounced.

- To expedite the meeting process, participants are notified in pre-meeting announcements that they are responsible for downloading and reviewing the documents to be discussed during the meeting. NANPA does not distribute documents while conference calls are in progress.

- NANPA shadows industry NPA relief implementation subcommittee meetings to stay informed on the progress of the implementation as well as to gather and share knowledge gained via these activities in other similar relief efforts.

- NANPA publishes daily reports on the status of NPA relief projects. In addition, during the NPA relief planning process, a state regulator or the industry may specify further action that NANPA is required to undertake based on a related event or trigger point expected to occur sometime in the future. NANPA provides a report that lists these events and associated activities on its website.

NUMBERING RESOURCE UTILIZATION/FORECAST

NANPA is responsible for the collection and reporting of utilization and forecast data, known as Numbering Resource Utilization/Forecast (NRUF) Reporting. Service providers are required to report utilization and forecast data twice a year to NANPA. Utilization data includes the quantity of assigned, intermediate, aging, administrative and reserved numbers. Forecast data typically is comprised of a five-year forecast of the quantity of thousands-blocks and/or codes by rate center. The FCC also requires access to disaggregated NRUF data by state regulatory commissions for heightened reporting enforcement, including the responsibility to withhold numbering resources from service providers that fail to file utilization and forecast reports.

NANPA collects, sorts and stores NRUF data submitted by service providers. Data may be submitted via NAS, email (i.e., Excel™ workbook), Electronic File Transfer (EFT), compact disc or paper. In 2018, NANPA processed over 12,000 NRUF submissions (See Table 14) and provided a confirmation of receipt, to include any identified errors, within seven calendar days. In addition to processing submissions, NRUF administration also responded to over 1,000 telephone calls and email inquiries.

Along with collecting this information, NANPA makes available to states on-line access to service-provider specific and aggregated utilization and forecast data. In addition, state reports containing NRUF information are offered to those states that desire a snapshot of utilization and forecast data for the area codes within their respective states. This data is provided via email or USB and contains several queries that assist in the analysis of the data. Fifty-eight reports were provided to the states, covering both NRUF submission cycles in 2018.

With the transition of NANPA to Somos in 2018, notifications were sent to service providers announcing new email addresses for submission of the NRUF Form 502 Excel spreadsheet. In addition, NANPA worked closely with service providers during the transition who use the EFT submission method to ensure their connections to NAS were properly set up prior to the cutover of NAS. Continuing with the practice of ensuring the industry had the latest information about NRUF, the NRUF Geographic and Non-Geographic Job Aid documents were regularly updated and posted to the NANPA website prior to the start of each NRUF cycle. NANPA also closely monitored FCC orders affecting NRUF including orders issued during 2018 pertaining to the treatment of aging numbers in areas hit by natural disasters. Finally, notifications were distributed throughout 2018 on a number of NRUF topics including avoiding invalid NPA-state errors, proper designation of assignees when reporting intermediate numbers, and use of on-line NRUF reports to retain copies of submitted NRUFs.

Table 14: Summary of the volume of NRUF submissions and associated items for 2018

Measurements	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Form 502 Email Submissions	2,514	699	254	137	84	59	2,519	581	226	88	69	50	7,280
Form 502 FTP Submissions	674	27	10	0	0	0	764	36	8	0	0	2	1,521
Form 502 Web Submissions	1,012	335	276	213	207	133	1,075	303	207	161	97	79	4,098
Total Submissions	4,200	1,061	540	350	291	192	4,358	920	441	249	166	131	12,899
Error Notifications Sent	444	193	103	48	21	13	387	181	51	22	8	10	1,481
Missing Utilization Notifications Sent	0	307	0	0	0	0	0	253	1	0	0	0	561
Anomalous Notifications Sent	0	207	18	15	0	0	0	9	248	22	0	0	519
Confirmation Notifications Sent	2,719	539	162	89	62	47	2,625	609	177	72	61	42	7,204
Phone Calls/Emails Received	212	116	99	61	41	35	204	72	108	63	37	15	1,063
State Reports Created	0	1	27	0	0	0	1	0	24	5	0	0	58
Job Aids Created/Revised	0	0	0	0	2	0	0	0	0	0	2	0	4

2018 NRUF exhaust forecasts

One of the primary uses for NRUF data is to support forecasts of the exhaust date for each geographic NPA as well as the exhaust date for the 5XX NPA and the entire NANP. Detailed projections can be found in Attachments 6, 7 and 8 to this annual report. The methodology used to produce the 2018 NPA exhaust projections was the same as the methodology NANPA used in the past several years to project area code exhaust. This methodology had previously been reviewed with the NANC and the FCC. In reporting the NPA exhaust projections, NANPA provides the previously-projected NPA exhaust time frames in order to view the changes that have occurred over time.

NANPA projects NPA and NANP exhaust on a semi-annual basis. Exhaust projections are available at the end of April and October. Throughout the year, NANPA monitors central office code assignment rates in all area codes and adjusts the projected NPA exhaust date if necessary. In 2018, NANPA issued revised exhaust dates for the Alabama 205, Florida 407, California 909 and Texas 806 NPAs.

OTHER NANPA SERVICES

NANPA is required to offer specific services as enterprise services. Enterprise services are additional services that may be provided for a specific fee by NANPA.

AOCN enterprise service

Upon request, NANPA will enter data for a service provider's assigned central office codes and thousands-blocks into the database used by the industry to configure the network for the proper routing and rating of calls. NANPA is permitted to charge a fee and a contract between the service provider and NANPA is required.

Although NANPA is required to provide the AOCN service, service providers are not required to select NANPA. The service provider may select another company to enter this information or may elect to enter the data themselves.

Providers of this data entry service are identified by numbers, called Administrative Operating Company Numbers (AOCNs). Over time, the company providing the data input service has come to be called the service provider's "AOCN."

Entry of Paper Submissions of Resource Applications

NANPA will enter paper submissions (faxed, scanned or mailed copies) of resource applications into NAS on behalf of the applicant. This includes the application form as well as the in-service confirmation forms (e.g., for central office code administration, the Part 1 and Part 4 forms). In 2018, NANPA processed no paper resource applications.

Entry of Paper NRUF Submissions

NANPA will enter paper submissions (faxed, scanned or mailed copies) of the NRUF Form 502 into NAS on behalf of the service provider. Normally, respondents submit data through email, FTP or on-line via NAS. For a fee, NANPA will accept and input data submitted by mail, scan or by fax. In 2018, no service provider used this service.

NANPA Testimony in State Regulatory Hearings

NANPA will prepare, file and present oral and written testimony at no charge. Should the state require a NANPA witness(es) to attend the hearing in person, NANPA will require the state to reimburse it for associated expenses (e.g., travel, lodging, meals, local transportation, etc.) for the witness(es) and legal counsel. If the state requires local counsel to represent NANPA at state regulatory hearings, these costs will be passed along to the state. In 2018, no state used this service.

Customized Reports

NANPA offers customized reports for publicly-available NPA, central office code and other resource assignment data. Specifically, NANPA can provide publicly-available data in different formats for a reasonable fee based on its costs. NANPA negotiates a price with each requestor. Pricing for this service is based upon report development time and effort, frequency, delivery mechanism and other variables. In 2018, NANPA created no customized reports.

Financial results

Ernst & Young audits statements of revenues and direct expenditures associated with NANPA's enterprise services. The audit is conducted in accordance with auditing standards generally accepted in the United States and the standards applicable to financial audits in Government Auditing Standards. The statements of revenues and direct expenditures are prepared for the purpose of complying with the March 2012 NANPA Technical Requirements Document.

INC Participation

NANPA was an active participant in and contributor to the INC during 2018, introducing eight issues and submitting sixteen contributions. A list of NANPA-sponsored issues is shown in Table 15. NANPA also continued to provide the INC with semi-annual updates on NANP resources in addition to written communications concerning the approval for certain reclamations.

Table 15: NANPA INC Issues Introduced in 2018

Issue #	Issue Statement
851	Action Item to Include Deleted Text from Section 4 Under Issue 839 Related to NRUF Reporting of Intermediate Numbers
858	Updates to COCAG Section 11 (information exchange for upcoming NPA Relief
861	Verification of ACNA (Access Customer Name Abbreviation)
862	Updates to Appendix A - NPA Code Relief Planning and Notification Guidelines
865	Test Code for Implementation of new NPA should not be in NPAC
866	OCNs that are not certified/authorized/licensed
870	Remove the Pre-Planning Checklist (COCAG Appendix A and TBPAG Appendix 6)

NANPA website

The NANPA website, www.nanpa.com, is the primary public source for numbering information. It provides a complete description of the different services offered by NANPA. These services include resource administration, area code relief planning, NRUF data collection and analysis and enterprise services. All of the various numbering resources administered by NANPA, including a description of their use and links to their associated administration guidelines, can be easily accessed via the website. Area code maps, planning letters, newsletters, FCC numbering orders and other NANPA publications are readily available. Contact information for NANPA staff members is posted on the website. The NANPA website is also the gateway into NAS.

Popular on the website are the numerous downloadable reports on the various resources NANPA administers. Many of the reports are available real-time, providing the most up-to-date source on resource availability. Some of the frequently-accessed reports include the following:

- The Central Office Code Availability and Utilization Reports provide up-to-date lists of all central office codes generally available or unavailable for assignment by geographic area code. The data is also available by NPA in a downloadable format (text and Excel™).
- The Central Office Code Assignment Activity Records provide the quantity of central office codes assigned and returned for each geographic area code on a monthly basis.
- The Part 3 Disconnect report provides a daily listing of central office codes with a pending disconnect date.
- The Central Office Code Activity Status Report provides the total number of new applications processed by NANPA by month for each state, including assignments, denials and return requests.
- The 5XX-NXX Availability, Aging and Utilized Reports provide real-time lists of all 5XX-NXX codes available or unavailable for assignment by non-geographic area code. The data is also available by NPA in a downloadable format (text and Excel™).
- Downloadable reports containing assignment information for CICs and 900 resources.
- Geographic Area Codes sorted by number and location.
- Planned area codes not yet in service as well as area codes introduced over the last ten years.
- U.S. NPA dialing plans and area codes requiring 10-digit dialing.
- Search for Area Code listings query and a City/Town/NPA search.
- An NPA database (CSV file) containing information about all area codes.
- The NPA Relief Activity Status Report provides information on all active and pending NPA relief projects in the United States.
- The NPA Relief Planning Trigger Report identifies specific actions to be initiated based on a related event or trigger point expected to occur sometime in the future.

- The NPAs Exhausting in the Next 36 Months report identifies the geographic area codes projected to exhaust within the next three years and provides a current status of the relief planning and/or implementation process.

Throughout the website, there are various documents available to assist the user. As an example, for NRUF reporting, the following documentation is available: NRUF Form 502, Geographic and Non-Geographic Job Aids, Rate Center Abbreviations, NRUF Preparation Checklist and list of common errors when completing the Form 502. Similar types of documents are available for Central Office Code Administration and Area Code Relief Planning. NAS User Guides, which provide detailed instructions on the use of the system, are continuously updated and posted on the website. Attachment 9 provides a listing of where important numbering information is available on the internet.

The home page of the website offers links to recent information or activity, under the "What's New" section. Also included is a section called "NANPA Fast Track," containing links to the most visited pages on the website. Included under the "NANPA Fast Track" section is a capability that allows the user to search for information about a specific NPA. Information that can be found includes if and/or when the area code was assigned, the location of the NPA, the in-service date where applicable, the NPA that it relieved, the time zone associated with the area code, the NPA dialing plan and other valuable data.

Enhancements and updates made to the website in 2018 include:

- Updated the Central Office Code Reports with addition of "In-Service" column (final portion of INC Issue 830/Change Order 7).

- Posted the *List of Split Rate Centers to the Central Office Code* reports on the public website due to the resolution of INC Issue 854 – the addition of a footnote to ensure accurate accounting on the Months-to-Exhaust in those areas where rate centers are split among multiple NPAs.

- Created a *NAS Mass Modify User Guid*e to assist with population of the NAS Mass Modify Spreadsheet. Posted under Tools/NAS User Guides.

- Updated the *NAS User Registration Guide* to address procedures for entry of new OCNs in NAS.

- Updated the "NRUF Common Errors and Fixes," which identifies common errors that users experience when submitting their NRUF Form 502 and the associated solutions;

- Continually updated the *State Safety Valve Process Quick Sheet* that identifies the states that participate in the safety valve process. The safety valve process is used by a service provider that initially makes an application for numbering resources and is denied by the resource

administrator because the applicant does not meet the resource assignment requirements as stated in FCC rules (e.g., months to exhaust (MTE) or utilization requirements). The service provider may appeal to the state regulatory authority to override the guidelines and permit the assignment of the resource. If a state does not participate in the process, the safety valve request is submitted to the FCC.

- Updated the Homepage with ongoing transition information from Neustar to Somos during the months of November and December 2018.

Support for NANP countries other than the U.S.

The NANP is unique among the world's telecommunications numbering plans in that it serves 20 independent countries. These countries include the United States and its territories, Canada, Bermuda, Anguilla, Antigua and Barbuda, the Bahamas, Barbados, the British Virgin Islands, the Cayman Islands, Dominica, the Dominican Republic, Grenada, Jamaica, Montserrat, Sint Maarten, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, and Turks and Caicos.

One of NANPA's roles is to coordinate the assignment of numbering resources that must be shared equitably by all of the participating countries. Area codes are, of course, the primary shared resource, but there are others. For example, entities in the U.S., Canada, Anguilla, St. Maarten and Bermuda use CICs. U.S. and Canadian entities offer 900 services and thus share the supply of 9YY-NXX codes. NANPA may interface with other countries' national numbering administrators during the resource request and assignment process. Normally, the national administrator receives the requests, ensures that their country's regulatory requirements are met, and forwards the requests to NANPA. NANPA verifies that industry requirements are met and assigns the resources if appropriate to do so.

Support to the FCC, state commissions and the NANC

In order to ensure the proper and efficient administration of NANP resources, NANPA communicates regularly with the FCC, state regulatory authorities and the NANC in support of their needs for numbering information.

Ongoing communications between NANPA and the FCC are necessary to ensure proper administration and management of NANP resources. NANPA provides numerous reports and other documentation to the FCC as required by its contract. These reports consist of monthly readouts on central office code assignments, assignment of other NANP resources such as CICs and 5XX-NXX codes, area code relief planning projects, NAS performance and NANPA staffing. NANPA provides the FCC with service provider-specific utilization and forecast data submitted by carriers via the NRUF reporting process and reviews with the FCC issues concerning authorized access to numbering resources. As necessary,

NANPA met with the FCC to discuss numbering in general and other activities impacting number resource use and optimization.

NANPA continued to support state regulatory authorities by providing them with the number utilization data collected via semi-annual NRUF reporting and assisted state regulators in following up with the appropriate service providers with regard to this data. This included providing real-time access to NRUF data via NAS, with various reports and queries available to search and analyze the data, as well as providing ongoing assistance with using the NRUF reporting capabilities available to them in the system. Throughout the year, NANPA worked with state regulatory authorities concerning the reclamation of assigned resources. Activity included coordinating with the states to identify abandoned central office codes as well as transferring assigned codes to avoid opening new codes for LRN purposes.

NANPA continued to supply state regulators with central office code Part 1 and Part 3 reports, which provided a listing on a daily, weekly or monthly basis of all Part 1s and Part 3s processed by NANPA for their respective area codes. These reports include the Pooling Administration System tracking number, the Parent Company Name and Parent Company Operating Company Number associated with the application and the application type (e.g., LRN request, pool replenishment, dedicated customer).

NANPA interfaced with state regulators to address specific issues or concerns associated with individual service provider requests for resources. For example, as a specific NPA exhaust approached, NANPA ensured the state regulators were kept informed of the latest exhaust projections and provided updated information concerning NPA relief alternatives, to include refreshing the projected lives of proposed relief alternatives. NANPA representatives and state commissions regularly discuss specific activity and issues associated with active, pending or planned NPA relief projects. NANPA met with state commission staffs to review the status of NPA relief planning within their respective states and discuss number administration issues.

NANPA continued to participate in conference calls with the state commission staffs, providing updates on its activities and soliciting input on any numbering-related matters. This opportunity was used to review internal processes and ensure a complete understanding of the responsibilities of NANPA, service providers and the state regulators.

NANPA provided monthly reports to the NANC throughout 2018. These reports highlighted central office code assignment activity, NPA relief planning efforts, status reports on other NANP resources administered by NANPA as well as NAS performance. NANPA also provided the results of the semi-annual NPA and NANP exhaust analysis and notified the NANC of the potential exhaust of the specific NPA resources.

NANPA interfaced with the NANC's subtending organizations as well. NANPA participated in meetings with the Numbering Administration Oversight Working Group (NAOWG) Contract Oversight Subcommittee (COSC), providing reports on performance measurements, NAS updates and trouble tickets, a review of relevant numbering activities and NANPA performance improvement efforts. Finally, NANPA continued to manage the NANC-Chair web page, which is used for posting NANC and subtending working group documentation.

NANPA TRANSFER to SOMOS

NANPA continued to perform all daily operations while concentrating on the transfer of the NANPA contract at the conclusion of 2018. The transfer of the NANPA contract from Neustar, Inc. to Somos, Inc. which included the NANP Administration System (NAS), was completed within a two-month timeframe (November-December 2018). Neustar and Somos worked cooperatively to ensure a smooth transition of the system and the services. Various sub-teams consisting of Somos and Neustar personnel were formed and met daily, weekly or on an as-needed basis. During the transition timeframe, NANPA provided six NANP Notifications, as well as notifications posted to the NANPA homepage providing ongoing transaction activities as well as directions on submitting correspondence and notifications regarding the timing of changes to system-generated emails.

Attachment 1 – Area code inventory

NPA codes are in NXX format, where N is any digit 2-9 and X is any digit 0-9, yielding 8*10*10 = 800 combinations. Of these, 120 are not assignable or have been set aside by the Industry Numbering Committee (INC) for special purposes. These 120 codes are listed below.

N11 (8)	Abbreviated dialing
N9X (80)	Reserved for use during expansion of the NANP
37X and 96X (20)	Reserved by the INC for future use where contiguous blocks of codes are required
555 and 950 (2)	Not used as NPA codes to avoid possible confusion
880-887 and 889 (9)	Set aside for next series of toll-free codes.
456 (1)	Not available for assignment until 2022.

Subtracting 120 from 800 leaves 680 assignable NPA codes. Of these, 420 have been assigned. Of these 426, 406 are in service and 20 are awaiting introduction. Of the 406 NPA codes in service, 385 are geographic and 21 are non-geographic.

Of the 680 assignable NPA codes, 254 are currently unassigned. Of these codes, 42 are easily recognizable codes (ERCs) currently allocated for non-geographic use, and 211 are general-purpose codes. Of these 211, 165 are reserved,[1] leaving 42 available, unreserved, general-purpose codes.

Of the 42 unassigned ERCs, 5 are reserved,[2] leaving 37 available.

[1] These codes have been designated for the relief of NPAs that are forecasted to exhaust in the next ten years. Also included are 24 NPAs reserved for future 5XX-NXX expansion (524, 525, 526, 527, 528, 529, 532, 538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546, and 558) as well as NPA codes reserved for use in Canada at the request of the CRTC.

[2] These five codes are reserved for Canada (633, 644, 655, 677 and 688). Canada has also reserved 699, which is counted as an expansion code.

Future geographic NPA codes are listed below.

NPA	NPA	NPA	NPA	NPA	NPA
221	363	481	558	687	851
230	368	483	560	728	852
232	369	485	565	729	861
235	381	486	568	735	871
238	382	487	569	738	875
247	384	489	572	739	921
257	387	521	576	741	923
258	389	523	578	742	924
259	420	524	582	745	926
261	421	525	583	746	927
263	427	526	584	748	935
265	428	527	589	749	942
271	429	528	621	750	943
273	436	529	624	752	945
278	439	532	625	753	946
280	448	535	627	756	948
286	449	536	632	761	953
287	451	537	634	764	957
324	453	538	642	768	981
326	457	542	645	776	982
328	459	543	652	789	983
329	460	545	656	821	987
341	461	546	663	823	
342	462	547	665	824	
350	465	549	672	826	
353	468	550	673	835	
354	471	552	676	837	
357	472	553	683	839	
359	474	554	685	840	
362	476	556	686	841	

Attachment 2 – Geographic NPAs sorted by location

Country	Location	NPA
Anguilla	Anguilla	264
Antigua and Barbuda	Antigua and Barbuda	268
Bahamas	Bahamas	242
Barbados	Barbados	246
Bermuda	Bermuda	441
British Virgin Islands	British Virgin Islands	284
Canada	Alberta	403
Canada	Alberta	587
Canada	Alberta	780
Canada	Alberta	825
Canada	British Columbia	236
Canada	British Columbia	250
Canada	British Columbia	604
Canada	British Columbia	778
Canada	Manitoba	204
Canada	Manitoba	431
Canada	New Brunswick	506
Canada	Newfoundland	709
Canada	Nova Scotia, Prince Edward Island	782
Canada	Nova Scotia, Prince Edward Island	902
Canada	Ontario	226
Canada	Ontario	249
Canada	Ontario	289
Canada	Ontario	343
Canada	Ontario	365
Canada	Ontario	416
Canada	Ontario	437
Canada	Ontario	519
Canada	Ontario	548
Canada	Ontario	613
Canada	Ontario	647
Canada	Ontario	705
Canada	Ontario	807
Canada	Ontario	905
Canada	Quebec	367
Canada	Quebec	418
Canada	Quebec	438
Canada	Quebec	450
Canada	Quebec	514
Canada	Quebec	579
Canada	Quebec	581

Canada	Quebec	819
Canada	Quebec	873
Canada	Saskatchewan	306
Canada	Saskatchewan	639
Canada	Yukon, NW Terr., Nunavut	867
Cayman Islands	Cayman Islands	345
Dominica	Dominica	767
Dominican Republic	Dominican Republic	809
Dominican Republic	Dominican Republic	829
Dominican Republic	Dominican Republic	849
Grenada	Grenada	473
Jamaica	Jamaica	876
Montserrat	Montserrat	664
Sint Maarten	Sint Maarten	721
St. Kitts and Nevis	St. Kitts and Nevis	869
St. Lucia	St. Lucia	758
St. Vincent and Grenadines	St. Vincent and Grenadines	784
Trinidad and Tobago	Trinidad and Tobago	868
Turks and Caicos Islands	Turks and Caicos Islands	649
US	AK	907
US	AL	205
US	AL	251
US	AL	256
US	AL	334
US	AL	938
US	American Samoa	684
US	AR	479
US	AR	501
US	AR	870
US	AZ	480
US	AZ	520
US	AZ	602
US	AZ	623
US	AZ	928
US	CA	209
US	CA	213
US	CA	279
US	CA	310
US	CA	323
US	CA	408
US	CA	415
US	CA	424

US	CA	442
US	CA	510
US	CA	530
US	CA	559
US	CA	562
US	CA	619
US	CA	626
US	CA	628
US	CA	650
US	CA	657
US	CA	661
US	CA	669
US	CA	707
US	CA	714
US	CA	747
US	CA	760
US	CA	805
US	CA	818
US	CA	820
US	CA	831
US	CA	858
US	CA	909
US	CA	916
US	CA	925
US	CA	949
US	CA	951
US	CNMI	670
US	CO	303
US	CO	719
US	CO	720
US	CO	970
US	CT	203
US	CT	475
US	CT	860
US	CT	959
US	DC	202
US	DE	302
US	FL	239
US	FL	305
US	FL	321
US	FL	352
US	FL	386
US	FL	407
US	FL	561

US	FL	727
US	FL	754
US	FL	772
US	FL	786
US	FL	813
US	FL	850
US	FL	863
US	FL	904
US	FL	941
US	FL	954
US	GA	229
US	GA	404
US	GA	470
US	GA	478
US	GA	678
US	GA	706
US	GA	762
US	GA	770
US	GA	912
US	Guam	671
US	HI	808
US	IA	319
US	IA	515
US	IA	563
US	IA	641
US	IA	712
US	ID	208
US	ID	986
US	IL	217
US	IL	224
US	IL	309
US	IL	312
US	IL	331
US	IL	618
US	IL	630
US	IL	708
US	IL	773
US	IL	779
US	IL	815
US	IL	847
US	IL	872
US	IN	219
US	IN	260
US	IN	317

US	IN	463
US	IN	574
US	IN	765
US	IN	812
US	IN	930
US	KS	316
US	KS	620
US	KS	785
US	KS	913
US	KY	270
US	KY	364
US	KY	502
US	KY	606
US	KY	859
US	LA	225
US	LA	318
US	LA	337
US	LA	504
US	LA	985
US	MA	339
US	MA	351
US	MA	413
US	MA	508
US	MA	617
US	MA	774
US	MA	781
US	MA	857
US	MA	978
US	MD	240
US	MD	301
US	MD	410
US	MD	443
US	MD	667
US	ME	207
US	MI	231
US	MI	248
US	MI	269
US	MI	313
US	MI	517
US	MI	586
US	MI	616
US	MI	734
US	MI	810
US	MI	906

US	MI	947
US	MI	989
US	MN	218
US	MN	320
US	MN	507
US	MN	612
US	MN	651
US	MN	763
US	MN	952
US	MO	314
US	MO	417
US	MO	573
US	MO	636
US	MO	660
US	MO	816
US	MS	228
US	MS	601
US	MS	662
US	MS	769
US	MT	406
US	NC	252
US	NC	336
US	NC	704
US	NC	743
US	NC	828
US	NC	910
US	NC	919
US	NC	980
US	NC	984
US	ND	701
US	NE	308
US	NE	402
US	NE	531
US	NH	603
US	NJ	201
US	NJ	551
US	NJ	609
US	NJ	640
US	NJ	732
US	NJ	848
US	NJ	856
US	NJ	862
US	NJ	908
US	NJ	973

US	NM	505
US	NM	575
US	NV	702
US	NV	725
US	NV	775
US	NY	212
US	NY	315
US	NY	332
US	NY	347
US	NY	516
US	NY	518
US	NY	585
US	NY	607
US	NY	631
US	NY	646
US	NY	680
US	NY	716
US	NY	718
US	NY	838
US	NY	845
US	NY	914
US	NY	917
US	NY	929
US	NY	934
US	OH	216
US	OH	220
US	OH	234
US	OH	330
US	OH	380
US	OH	419
US	OH	440
US	OH	513
US	OH	567
US	OH	614
US	OH	740
US	OH	937
US	OK	405
US	OK	539
US	OK	580
US	OK	918
US	OR	458
US	OR	503
US	OR	541
US	OR	971

US	PA	215
US	PA	223
US	PA	267
US	PA	272
US	PA	412
US	PA	445
US	PA	484
US	PA	570
US	PA	610
US	PA	717
US	PA	724
US	PA	814
US	PA	878
US	Puerto Rico	787
US	Puerto Rico	939
US	RI	401
US	SC	803
US	SC	843
US	SC	854
US	SC	864
US	SD	605
US	TN	423
US	TN	615
US	TN	629
US	TN	731
US	TN	865
US	TN	901
US	TN	931
US	TX	210
US	TX	214
US	TX	254
US	TX	281
US	TX	325
US	TX	346
US	TX	361
US	TX	409
US	TX	430
US	TX	432
US	TX	469
US	TX	512
US	TX	682
US	TX	713
US	TX	726
US	TX	737

US	TX	806
US	TX	817
US	TX	830
US	TX	832
US	TX	903
US	TX	915
US	TX	936
US	TX	940
US	TX	956
US	TX	972
US	TX	979
US	US	710
US	US Virgin Islands	340
US	UT	385
US	UT	435
US	UT	801
US	VA	276
US	VA	434
US	VA	540
US	VA	571
US	VA	703
US	VA	757
US	VA	804
US	VT	802
US	WA	206
US	WA	253
US	WA	360
US	WA	425
US	WA	509
US	WA	564
US	WI	262
US	WI	414
US	WI	534
US	WI	608
US	WI	715
US	WI	920
US	WV	304
US	WV	681
US	WY	307

Note: All geographic NPAs were in service as of December 31, 2018.

Attachment 3 – Geographic NPAs sorted numerically

NPA	Country	Location
201	US	NJ
202	US	DC
203	US	CT
204	Canada	Manitoba
205	US	AL
206	US	WA
207	US	ME
208	US	ID
209	US	CA
210	US	TX
212	US	NY
213	US	CA
214	US	TX
215	US	PA
216	US	OH
217	US	IL
218	US	MN
219	US	IN
220	US	OH
223	US	PA
224	US	IL
225	US	LA
226	Canada	Ontario
228	US	MS
229	US	GA
231	US	MI
234	US	OH
236	Canada	British Columbia
239	US	FL
240	US	MD
242	Bahamas	Bahamas
246	Barbados	Barbados
248	US	MI
249	Canada	Ontario
250	Canada	British Columbia
251	US	AL
252	US	NC
253	US	WA
254	US	TX
256	US	AL
260	US	IN

262	US	WI
264	Anguilla	Anguilla
267	US	PA
268	Antigua and Barbuda	Antigua and Barbuda
269	US	MI
270	US	KY
272	US	PA
276	US	VA
279	US	CA
281	US	TX
284	British Virgin Islands	British Virgin Islands
289	Canada	Ontario
301	US	MD
302	US	DE
303	US	CO
304	US	WV
305	US	FL
306	Canada	Saskatchewan
307	US	WY
308	US	NE
309	US	IL
310	US	CA
312	US	IL
313	US	MI
314	US	MO
315	US	NY
316	US	KS
317	US	IN
318	US	LA
319	US	IA
320	US	MN
321	US	FL
323	US	CA
325	US	TX
330	US	OH
331	US	IL
332	US	NY
334	US	AL
336	US	NC
337	US	LA
339	US	MA
340	US	US Virgin Islands
343	Canada	Ontario
345	Cayman Islands	Cayman Islands

346	US	TX
347	US	NY
351	US	MA
352	US	FL
360	US	WA
361	US	TX
364	US	KY
365	Canada	Ontario
367	Canada	Quebec
380	US	OH
385	US	UT
386	US	FL
401	US	RI
402	US	NE
403	Canada	Alberta
404	US	GA
405	US	OK
406	US	MT
407	US	FL
408	US	CA
409	US	TX
410	US	MD
412	US	PA
413	US	MA
414	US	WI
415	US	CA
416	Canada	Ontario
417	US	MO
418	Canada	Quebec
419	US	OH
423	US	TN
424	US	CA
425	US	WA
430	US	TX
431	Canada	Manitoba
432	US	TX
434	US	VA
435	US	UT
437	Canada	Ontario
438	Canada	Quebec
440	US	OH
441	Bermuda	Bermuda
442	US	CA
443	US	MD

445	US	PA
450	Canada	Quebec
458	US	OR
463	US	IN
469	US	TX
470	US	GA
473	Grenada	Grenada
475	US	CT
478	US	GA
479	US	AR
480	US	AZ
484	US	PA
501	US	AR
502	US	KY
503	US	OR
504	US	LA
505	US	NM
506	Canada	New Brunswick
507	US	MN
508	US	MA
509	US	WA
510	US	CA
512	US	TX
513	US	OH
514	Canada	Quebec
515	US	IA
516	US	NY
517	US	MI
518	US	NY
519	Canada	Ontario
520	US	AZ
530	US	CA
531	US	NE
534	US	WI
539	US	OK
540	US	VA
541	US	OR
548	Canada	Ontario
551	US	NJ
559	US	CA
561	US	FL
562	US	CA
563	US	IA
564	US	WA

567	US	OH
570	US	PA
571	US	VA
573	US	MO
574	US	IN
575	US	NM
579	Canada	Quebec
580	US	OK
581	Canada	Quebec
585	US	NY
586	US	MI
587	Canada	Alberta
601	US	MS
602	US	AZ
603	US	NH
604	Canada	British Columbia
605	US	SD
606	US	KY
607	US	NY
608	US	WI
609	US	NJ
610	US	PA
612	US	MN
613	Canada	Ontario
614	US	OH
615	US	TN
616	US	MI
617	US	MA
618	US	IL
619	US	CA
620	US	KS
623	US	AZ
626	US	CA
628	US	CA
629	US	TN
630	US	IL
631	US	NY
636	US	MO
639	Canada	Saskatchewan
640	US	NJ
641	US	IA
646	US	NY
647	Canada	Ontario
649	Turks and Caicos Islands	Turks and Caicos Islands

650	US	CA
651	US	MN
657	US	CA
660	US	MO
661	US	CA
662	US	MS
664	Montserrat	Montserrat
667	US	MD
669	US	CA
670	US	CNMI
671	US	Guam
678	US	GA
680	US	NY
681	US	WV
682	US	TX
684	US	American Samoa
701	US	ND
702	US	NV
703	US	VA
704	US	NC
705	Canada	Ontario
706	US	GA
707	US	CA
708	US	IL
709	Canada	Newfoundland
710	US	US
712	US	IA
713	US	TX
714	US	CA
715	US	WI
716	US	NY
717	US	PA
718	US	NY
719	US	CO
720	US	CO
721	Sint Maarten	Sint Maarten
724	US	PA
725	US	NV
726	US	TX
727	US	FL
731	US	TN
732	US	NJ
734	US	MI
737	US	TX

740	US	OH
743	US	NC
747	US	CA
754	US	FL
757	US	VA
758	St. Lucia	St. Lucia
760	US	CA
762	US	GA
763	US	MN
765	US	IN
767	Dominica	Dominica
769	US	MS
770	US	GA
772	US	FL
773	US	IL
774	US	MA
775	US	NV
778	Canada	British Columbia
779	US	IL
780	Canada	Alberta
781	US	MA
782	Canada	Nova Scotia, Prince Edward Island
784	St. Vincent and Grenadines	St. Vincent and Grenadines
785	US	KS
786	US	FL
787	US	Puerto Rico
801	US	UT
802	US	VT
803	US	SC
804	US	VA
805	US	CA
806	US	TX
807	Canada	Ontario
808	US	HI
809	Dominican Republic	Dominican Republic
810	US	MI
812	US	IN
813	US	FL
814	US	PA
815	US	IL
816	US	MO
817	US	TX
818	US	CA
819	Canada	Quebec

820	US	CA
825	Canada	Alberta
828	US	NC
829	Dominican Republic	Dominican Republic
830	US	TX
831	US	CA
832	US	TX
838	US	NY
843	US	SC
845	US	NY
847	US	IL
848	US	NJ
849	Dominican Republic	Dominican Republic
850	US	FL
854	US	SC
856	US	NJ
857	US	MA
858	US	CA
859	US	KY
860	US	CT
862	US	NJ
863	US	FL
864	US	SC
865	US	TN
867	Canada	Yukon, NW Terr., Nunavut
868	Trinidad and Tobago	Trinidad and Tobago
869	St. Kitts and Nevis	St. Kitts and Nevis
870	US	AR
872	US	IL
873	Canada	Quebec
876	Jamaica	Jamaica
878	US	PA
901	US	TN
902	Canada	Nova Scotia, Prince Edward Island
903	US	TX
904	US	FL
905	Canada	Ontario
906	US	MI
907	US	AK
908	US	NJ
909	US	CA
910	US	NC
912	US	GA
913	US	KS

914	US	NY
915	US	TX
916	US	CA
917	US	NY
918	US	OK
919	US	NC
920	US	WI
925	US	CA
928	US	AZ
929	US	NY
930	US	IN
931	US	TN
934	US	NY
936	US	TX
937	US	OH
938	US	AL
939	US	Puerto Rico
940	US	TX
941	US	FL
947	US	MI
949	US	CA
951	US	CA
952	US	MN
954	US	FL
956	US	TX
959	US	CT
970	US	CO
971	US	OR
972	US	TX
973	US	NJ
978	US	MA
979	US	TX
980	US	NC
985	US	LA
984	US	NC
986	US	ID
989	US	MI

Note: All geographic NPAs were in service as of December 31, 2018.

Attachment 4 – Non-geographic NPAs in Service

The table below lists the non-geographic NPAs in service as of December 31, 2018, along with the service for which each is used.

NPA	Service
500	Non-Geographic Services
521	Non-Geographic Services
522	Non-Geographic Services
523	Non-Geographic Services
533	Non-Geographic Services
544	Non-Geographic Services
566	Non-Geographic Services
577	Non-Geographic Services
588	Non-Geographic Services
600	Canadian Non-Geographic Tariffed
622	Canadian Non-Geographic Services
700	Interexchange Carrier Services
710	US Government
800	Toll-Free
833	Toll-Free
844	Toll-Free
855	Toll-Free
866	Toll-Free
877	Toll-Free
888	Toll-Free
900	Premium Services

NPA codes 500, 521, 533, 544, 566, 577, 588, 522, and 523 (known as 5XX-NXX codes) are used for applications which are non-geographic in nature, are not assigned to rate centers and may or may not traverse the Public Switched Telephone Network, but do require an E.164 addressing scheme. The use of this NANP numbering resource is to communicate with both fixed and mobile devices, some of which may be unattended. This resource may be used for applications enabling machines, which would include but not be limited to wireless devices and appliances, with the ability to share information with back-office control and database systems and with the people that use them. Service is limited only by terminal and network capabilities and restrictions imposed by the service provider. NPA codes 524, 525, 526, 527, 528, 529, 532, 538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546, and 558 have been reserved for this use.

NPA code 600 is used within Canada and assigned to Canadian telecommunications service providers in the provisioning of non-geographic, tariffed services.

NPA code 622 is used for applications in Canada which are non-geographic in nature, are not assigned to rate centers and may or may not traverse the Public Switched Telephone Network (PSTN), but do require an E.164 addressing scheme. The use of this NANP numbering resource is to communicate with both fixed and mobile devices, some of which may be unattended. This resource may also be used for applications enabling machines, which would include but not be limited to wireless devices and appliances, with the ability to share information with back-office control and data base systems and the people that use them. Service is limited only by terminal and network capabilities and restrictions imposed by the service provider. NPA codes 633, 644, 655, 677 and 688 have been designated for this use.

NPA code 700 was assigned in 1983 for use by all interexchange carriers. Each carrier has the use of all 7.92 million numbers in the 700 NPA. When a call is made to a 700 number, the local exchange carrier passes the call to the caller's interexchange carrier, selected either through presubscription or override. Note that 700 numbers, unlike other NANP numbers, may terminate in different ways, depending on how the interexchange carrier has allocated the numbers.

NPA code 710 was assigned in 1983 to the U.S. Government for emergency services. The 710 NPA is treated as non-geographic with per-call compensation provided by the U.S. Government.

NPA codes 800, 888, 877, 866, 855, 844 and 833 are used as toll-free codes. The 833 NPA was open in June 2017. NPA code 822 has been assigned for future use as a toll-free code and will be introduced as needed.

NPA 900 codes are used for premium services, with the cost of each 900 call billed to the calling party.

Attachment 5 – U.S. Dialing Plans

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
AK	907	7D	1+10D	1+10D	1+10D	
AL	205	7D	1+10D	10D	1+10D	
AL	251	7D	1+10D	10D	1+10D	1
AL	256	10D	1+10D	10D	1+10D	
AL	334	7D	1+10D	10D	1+10D	
AL	938	10D	1+10D	10D	1+10D	
AR	479	7D	1+10D	10D	1+10D	
AR	501	7D	1+10D	10D	1+10D	
AR	870	7D	1+10D	10D	1+10D	
AS	684	7D	NA	NA	1+10D	
AZ	480	7D	1+10D	10D	1+10D	
AZ	520	7D	1+10D	10D	1+10D	
AZ	602	7D	1+10D	10D	1+10D	
AZ	623	7D	1+10D	10D	1+10D	
AZ	928	7D	1+10D	10D	1+10D	
CA	209	7D	7D	1+10D	1+10D	
CA	213	1+10D	1+10D	1+10D	1+10D	
CA	279	1+10D	1+10D	1+10D	1+10D	
CA	310	1+10D	1+10D	1+10D	1+10D	
CA	323	1+10D	1+10D	1+10D	1+10D	
CA	408	1+10D	1+10D	1+10D	1+10D	
CA	415	1+10D	1+10D	1+10D	1+10D	
CA	424	1+10D	1+10D	1+10D	1+10D	
CA	442	1+10D	1+10D	1+10D	1+10D	
CA	510	7D	7D	1+10D	1+10D	
CA	530	7D	7D	1+10D	1+10D	
CA	559	7D	7D	1+10D	1+10D	
CA	562	7D	7D	1+10D	1+10D	
CA	619	7D	7D	1+10D	1+10D	
CA	628	1+10D	1+10D	1+10D	1+10D	
CA	626	7D	7D	1+10D	1+10D	
CA	650	7D	7D	1+10D	1+10D	
CA	657	1+10D	1+10D	1+10D	1+10D	
CA	669	1+10D	1+10D	1+10D	1+10D	
CA	707	7D	7D	1+10D	1+10D	
CA	714	1+10D	1+10D	1+10D	1+10D	
CA	747	1+10D	1+10D	1+10D	1+10D	
CA	760	1+10D	1+10D	1+10D	1+10D	
CA	805	1+10D	1+10D	1+10D	1+10D	
CA	818	1+10D	1+10D	1+10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
CA	820	1+10D	1+10D	1+10D	1+10D	
CA	831	7D	7D	1+10D	1+10D	
CA	858	7D	7D	1+10D	1+10D	
CA	909	7D	7D	1+10D	1+10D	
CA	916	1+10D	1+10	1+10D	1+10D	
CA	925	7D	7D	1+10D	1+10D	
CA	949	7D	7D	1+10D	1+10D	
CA	951	7D	7D	1+10D	1+10D	
CNMI	670	7D	1+10D	NA	1+10D	
CO	303	10D	1+10D	10D	1+10D	
CO	719	7D	1+10D	10D	1+10D	
CO	720	10D	1+10D	10D	1+10D	
CO	970	7D	1+10D	10D	1+10D	
CT	203	10D	1+10D	10D	1+10D	
CT	475	10D	1+10D	10D	1+10D	
CT	860	10D	1+10D	10D	1+10D	
CT	959	10D	1+10D	10D	1+10D	
DC	202	7D	NA	10D	1+10D	
DE	302	7D	1+10D	10D	1+10D	
FL	239	7D	1+10D	10D	1+10D	
FL	305	10D	1+10D	10D	1+10D	
FL	321	10D	1+10D	10D	1+10D	3
FL	352	7D	1+10D	10D	1+10D	
FL	386	7D	1+10D	10D	1+10D	
FL	407	10D	1+10D	10D	1+10D	
FL	561	7D	1+10D	10D	1+10D	4
FL	727	7D	1+10D	10D	1+10D	
FL	754	10D	1+10D	10D	1+10D	
FL	772	7D	1+10D	10D	1+10D	5
FL	786	10D	1+10D	10D	1+10D	
FL	813	7D	1+10D	10D	1+10D	
FL	850	7D	1+10D	10D	1+10D	
FL	863	7D	1+10D	10D	1+10D	
FL	904	7D	1+10D	10D	1+10D	
FL	941	7D	1+10D	10D	1+10D	
FL	954	10D	1+10D	10D	1+10D	
GA	229	7D	1+10D	10D	1+10D	
GA	404	10D	1+10D	10D	1+10D	
GA	470	10D	1+10D	10D	1+10D	
GA	478	7D	1+10D	10D	1+10D	
GA	678	10D	1+10D	10D	1+10D	
GA	706	10D	1+10D	10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
GA	762	10D	1+10D	10D	1+10D	
GA	770	10D	1+10D	10D	1+10D	
GA	912	7D	1+10D	10D	1+10D	
GU	671	7D	1+10D	NA	1+10D	
HI	808	7D	1+10D	NA	1+10D	
IA	319	7D	1+10D	10D	1+10D	
IA	515	7D	1+10D	10D	1+10D	
IA	563	7D	1+10D	10D	1+10D	
IA	641	7D	1+10D	10D	1+10D	
IA	712	7D	1+10D	10D	1+10D	
ID	208	10D	1+10D	10D	1+10D	
ID	986	10D	1+10D	10D	1+10D	
IL	224	1+10D	1+10D	1+10D	1+10D	
IL	309	7D	1+10D	1+10D	1+10D	
IL	312	1+10D	1+10D	1+10D	1+10D	
IL	331	1+10D	1+10D	1+10D	1+10D	
IL	618	7D	1+10D	1+10D	1+10D	
IL	630	1+10D	1+10D	1+10D	1+10D	
IL	708	7D	1+10D	1+10D	1+10D	
IL	773	1+10D	1+10D	1+10D	1+10D	
IL	779	1+10D	1+10D	1+10D	1+10D	
IL	815	1+10D	1+10D	1+10D	1+10D	
IL	847	1+10D	1+10D	1+10D	1+10D	
IL	872	1+10D	1+10D	1+10D	1+10D	
IN	219	7D	1+10D	10D	1+10D	
IN	260	7D	1+10D	10D	1+10D	
IN	317	10D	1+10D	10D	1+10D	
IN	463	10D	1+10D	10D	1+10D	
IN	574	7D	1+10D	10D	1+10D	
IN	765	7D	1+10D	10D	1+10D	
IN	812	10D	1+10D	10D	1+10D	
IN	930	10D	1+10D	10D	1+10D	
KS	316	7D	1+10D	10D	1+10D	
KS	620	7D	1+10D	10D	1+10D	
KS	785	7D	1+10D	10D	1+10D	
KS	913	7D	1+10D	10D	1+10D	
KY	270	10D	1+10D	10D	1+10D	
KY	364	10D	1+10D	10D	1+10D	
KY	502	7D	1+10D	7D	1+10D	
KY	606	7D	1+10D	10D	1+10D	6
KY	859	7D	1+10D	10D	1+10D	6
LA	225	7D	1+10D	10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
LA	318	7D	1+10D	10D	1+10D	
LA	337	7D	1+10D	10D	1+10D	
LA	504	7D	1+10D	10D	1+10D	
LA	985	7D	1+10D	10D	1+10D	
MA	339	10D	1+10D	10D	1+10D	
MA	351	10D	1+10D	10D	1+10D	
MA	413	7D	1+10D	10D	1+10D	
MA	508	10D	1+10D	10D	1+10D	
MA	617	10D	1+10D	10D	1+10D	
MA	774	10D	1+10D	10D	1+10D	
MA	781	10D	1+10D	10D	1+10D	
MA	857	10D	1+10D	10D	1+10D	
MA	978	10D	1+10D	10D	1+10D	
MD	240	10D	1+10D	10D	1+10D	
MD	301	10D	1+10D	10D	1+10D	
MD	410	10D	1+10D	10D	1+10D	
MD	443	10D	1+10D	10D	1+10D	
MD	667	10D	1+10D	10D	1+10D	
ME	207	7D	7D	1+10D	1+10D	
MI	231	7D	1+10D	10D	1+10D	
MI	248	10D	1+10D	10D	1+10D	
MI	269	7D	1+10D	10D	1+10D	
MI	313	7D	1+10D	10D	1+10D	
MI	517	7D	1+10D	10D	1+10D	
MI	586	7D	1+10D	10D	1+10D	
MI	616	7D	1+10D	10D	1+10D	
MI	734	7D	1+10D	10D	1+10D	
MI	810	7D	1+10D	10D	1+10D	
MI	906	7D	1+10D	10D	1+10D	
MI	947	10D	1+10D	10D	1+10D	
MI	989	7D	1+10D	10D	1+10D	
MN	218	7D	1+10D	7D	1+10D	
MN	320	7D	1+10D	7D	1+10D	
MN	507	7D	1+10D	7D	1+10D	
MN	612	7D	1+10D	10D	1+10D	
MN	651	7D	1+10D	10D	1+10D	
MN	763	7D	1+10D	10D	1+10D	
MN	952	7D	1+10D	10D	1+10D	
MO	314	7D	1+10D	10D	1+10D	
MO	417	7D	1+10D	10D	1+10D	
MO	573	7D	1+10D	10D	1+10D	
MO	636	7D	1+10D	10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
MO	660	7D	1+10D	10D	1+10D	
MO	816	7D	1+10D	10D	1+10D	
MS	228	7D	1+10D	10D	1+10D	
MS	601	10D	1+10D	10D	1+10D	
MS	662	7D	1+10D	10D	1+10D	
MS	769	10D	1+10D	10D	1+10D	
MT	406	7D	1+10D	7D	1+10D	
NC	252	7D	1+10D	10D	1+10D	
NC	336	10D	1+10D	10D	1+10D	
NC	704	10D	1+10D	10D	1+10D	
NC	743	10D	1+10D	10D	1+10D	
NC	828	7D	1+10D	10D	1+10D	
NC	910	7D	1+10D	10D	1+10D	
NC	919	10D	1+10D	10D	1+10D	
NC	980	10D	1+10D	10D	1+10D	
NC	984	10D	1+10D	10D	1+10D	
ND	701	7D	1+10D	7D	1+10D	
NE	308	7D	1+10D	7D	1+10D	
NE	402	10D	1+10D	10D	1+10D	
NE	531	10D	1+10D	10D	1+10D	
NH	603	7D	7D	1+10D	1+10D	
NJ	201	10D	10D	1+10D	1+10D	7
NJ	551	10D	10D	1+10D	1+10D	7
NJ	609	10D	10D	1+10D	1+10D	
NJ	640	10D	10D	1+10D	1+10D	
NJ	732	10D	10D	1+10D	1+10D	8
NJ	848	10D	10D	1+10D	1+10D	8
NJ	856	7D	7D	1+10D	1+10D	
NJ	862	10D	10D	1+10D	1+10D	9
NJ	908	7D	7D	1+10D	1+10D	
NJ	973	10D	10D	1+10D	1+10D	9
NM	505	7D	1+10D	10D	1+10D	
NM	575	7D	1+10D	10D	1+10D	
NV	702	10D	1+10D	10D	1+10D	
NV	725	10D	1+10D	10D	1+10D	
NV	775	7D	1+10D	10D	1+10D	
NY	212	1+10D	1+10D	1+10D	1+10D	
NY	315	10D	10D	1+10D	1+10D	
NY	347	1+10D	1+10D	1+10D	1+10D	
NY	332	1+10D	1+10D	1+10D	1+10D	
NY	516	7D	7D	1+10D	1+10D	
NY	518	10D	10D	1+10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
NY	585	7D	7D	1+10D	1+10D	
NY	607	7D	7D	1+10D	1+10D	
NY	631	10D	10D	1+10D	1+10D	
NY	646	1+10D	1+10D	1+10D	1+10D	
NY	680	10D	10D	1+10D	1+10D	
NY	718	1+10D	1+10D	1+10D	1+10D	
NY	838	10D	10D	1+10D	1+10D	
NY	914	7D	7D	1+10D	1+10D	
NY	917	1+10D	1+10D	1+10D	1+10D	
NY	929	1+10D	1+10D	1+10D	1+10D	
OH	216	7D	1+10D	10D	1+10D	10
OH	220	10D	1+10D	10D	1+10D	10
OH	234	10D	1+10D	10D	1+10D	10
OH	330	10D	1+10D	10D	1+10D	10
OH	419	10D	1+10D	10D	1+10D	10
OH	380	10D	1+10D	10D	1+10D	10
OH	440	7D	1+10D	10D	1+10D	10
OH	513	7D	1+10D	10D	1+10D	10
OH	567	10D	1+10D	10D	1+10D	10
OH	614	10D	1+10D	10D	1+10D	10
OH	740	10D	1+10D	10D	1+10D	10
OH	937	7D	1+10D	10D	1+10D	10
OK	405	7D	1+10D	7D	1+10D	
OK	539	10D	1+10D	10D	1+10D	
OK	580	7D	1+10D	7D	1+10D	
OK	918	10D	1+10D	10D	1+10D	
OR	458	10D	1+10D	10D	1+10D	
OR	503	10D	1+10D	10D	1+10D	
OR	541	10D	1+10D	10D	1+10D	
OR	971	10D	1+10D	10D	1+10D	
PA	215	10D	10D	(see note)	1+10D	11
PA	223	10D	10D	1+10D	1+10D	
PA	267	10D	10D	(see note)	1+10D	11
PA	412	10D	10D	(see note)	(see note)	12
PA	445	10D	10D	(see note)	1+10D	11
PA	484	10D	10D	(see note)	1+10D	11
PA	570	10D	10D	1+10D	1+10D	
PA	610	10D	10D	(see note)	1+10D	11
PA	717	10D	10D	1+10D	1+10D	
PA	724	10D	10D	(see note)	(see note)	12
PA	814	7D	7D	1+10D	1+10D	
PA	878	10D	10D	(see note)	(see note)	12

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
Puerto Rico	787	10D	1+10D	10D	1+10D	
Puerto Rico	939	10D	1+10D	10D	1+10D	
RI	401	7D	7D	1+10D	1+10D	
SC	803	7D	1+10D	10D	1+10D	
SC	843	10D	1+10D	10D	1+10D	
SC	854	10D	1+10D	10D	1+10D	
SC	864	7D	1+10D	10D	1+10D	
SD	605	7D	1+10D	7D	1+10D	
TN	423	7D	1+10D	10D	1+10D	
TN	615	10D	1+10D	10D	1+10D	
TN	731	7D	1+10D	10D	1+10D	13
TN	865	7D	1+10D	10D	1+10D	
TN	901	7D	1+10D	10D	1+10D	
TN	931	7D	1+10D	7D	1+10D	
TX	210	10D	1+10D	10D	1+10D	
TX	214	10D	1+10D	10D	1+10D	
TX	254	7D	1+10D	10D	1+10D	
TX	281	10D	1+10D	10D	1+10D	
TX	325	7D	1+10D	10D	1+10D	
TX	346	10D	1+10D	10D	1+10D	
TX	361	7D	1+10D	10D	1+10D	
TX	409	7D	1+10D	10D	1+10D	
TX	430	10D	1+10D	10D	1+10D	
TX	432	7D	1+10D	10D	1+10D	
TX	469	10D	1+10D	10D	1+10D	
TX	512	10D	1+10D	10D	1+10D	
TX	682	10D	1+10D	10D	1+10D	
TX	713	10D	1+10D	10D	1+10D	
TX	726	10D	1+10D	10D	1+10D	
TX	806	7D	1+10D	10D	1+10D	
TX	817	10D	1+10D	10D	1+10D	
TX	830	7D	1+10D	10D	1+10D	
TX	832	10D	1+10D	10D	1+10D	
TX	903	10D	1+10D	10D	1+10D	
TX	915	7D	1+10D	10D	1+10D	
TX	936	7D	1+10D	10D	1+10D	
TX	940	7D	1+10D	10D	1+10D	
TX	956	7D	1+10D	10D	1+10D	
TX	972	10D	1+10D	10D	1+10D	
TX	979	7D	1+10D	10D	1+10D	

Location	NPA	Home NPA Local Calls	Home NPA Toll Calls	Foreign NPA Local Calls	Foreign NPA Toll Calls	Notes
USVI	340	7D	1+10D	NA	1+10D	
UT	385	10D	1+10D	10D	1+10D	
UT	435	7D	1+10D	7D	1+10D	
UT	801	10D	1+10D	10D	1+10D	
VA	276	7D	1+10D	10D	1+10D	
VA	434	7D	1+10D	10D	1+10D	
VA	540	7D	1+10D	10D	1+10D	
VA	571	10D	1+10D	10D	1+10D	
VA	703	10D	1+10D	10D	1+10D	
VA	757	7D	1+10D	10D	1+10D	
VA	804	7D	1+10D	10D	1+10D	
VT	802	7D	1+10D	1+10D	1+10D	
WA	206	7D	1+10D	10D	1+10D	
WA	360	10D	1+10D	10D	1+10D	
WA	425	7D	1+10D	10D	1+10D	
WA	509	7D	1+10D	10D	1+10D	
WA	564	10D	1+10D	10D	1+10D	
WI	262	7D	1+10D	1+10D	1+10D	
WI	414	7D	1+10D	1+10D	1+10D	
WI	534	10D	1+10D	1+10D	1+10D	
WI	608	7D	1+10D	1+10D	1+10D	
WI	715	10D	1+10D	1+10D	1+10D	
WI	920	7D	1+10D	1+10D	1+10D	
WV	304	10D	1+10D	10D	1+10D	
WV	681	10D	1+10D	10D	1+10D	
WY	307	7D	1+10D	7D	1+10D	

The dialing plan associated with all geographic area codes in service in the NANP can be found on the NANPA website (www.nanpa.com) under Reports, NPA.

Notes:

1. Other dialing plans may apply at the discretion of the local service provider.
2. Intentionally left blank
3. Home NPA local calls are 7D in Brevard County.
4. See Planning Letter 291 for local dialing into the 954-754 NPAs.
5. All Extended Calling Service (ECS) calls directed to a presubscribed carrier will be dialed as 1+10D (PL 311).
6. Some cross-boundary 7D local dialing exists.
7. Calls between the 551 and 201 NPAs may be dialed as 10D.
8. Calls between the 732 and 848 NPAs may be dialed as 10D.
9. Calls between the 973 and 862 NPAs can be dialed as 10D.

10. Carriers must provide permissive 1+10D dialing for Foreign NPA Local Calls in areas where they provide optional Extended Area Service (EAS).
11. All calls within and between the 215, 267, 445,484, and 610 NPAs can be dialed as 10D or 1+10D. Calls to other NPAs must be dialed as 1+10D.
12. All calls within and between NPAs 412, 724, and 878 can be dialed as 10D or 1+10D. Calls to other NPAs must be dialed as 1+10D.
13. Note that some local calls may require dialing 10D or 1+10D depending on area and service provider.

Attachment 6 – October 2018 North American Numbering Plan (NANP) Exhaust Analysis

Introduction

NANPA projects the exhaust of the NANP based upon the utilization and forecast data submitted by service providers via the NRUF process. The following assumptions were used in this exhaust analysis.

October 2018 NANP Exhaust Projection Assumptions

The following is a list of assumptions used in the development of the October 2018 NANP exhaust projection prepared by NANPA.

1. The NANP exhaust study uses as its basis the CO code demand, which includes service provider and Pooling Administrator forecasts, historical CO code assignments and other NPA-specific information, calculated for each respective NPA. The monthly CO code demand as calculated in the NPA exhaust analysis using statistical analyses similar to the analysis NANPA uses to forecast the exhaust of NPAs, i.e., SP forecasts and historical CO code assignment data.

2. For NPAs in rationing, NANPA compared the actual CO code demand over the past year(s) with the rationed amount. In addition, NANPA compared the forecasted CO code demand provided by service providers and/or the Pooling Administrator to the rationed amount. Based upon this analysis, NANPA identified an average annual CO code demand rate for the NPA.

3. A new NPA will be required when the number of assigned and unavailable CO codes reaches 800.

4. It is assumed that each new NPA will require the same number of unassignable codes as the current NPA. It appears that most of the unassignable codes in the existing NPAs are duplicated in the new NPA. There may be times, however, when additional codes in the new NPA are marked unassignable.

5. No assumptions were made with regard to the relief method implemented (*i.e.,* NPA split vs. overlay). However, it was assumed that the selected relief method did not require the duplication or protection of central office codes other than those identified in number 4 above.

6. The CO code demand for an exhausting NPA will be continued after NPA relief. By doing so, the demand for both the existing and new NPAs will be taken into account for the geographic area covered by the original NPA.

7. The total quantity of available NPA codes will be 672 NPAs. This figure is derived as follows: 800 NPAs less NPAs reserved for NANP expansion (80), N11 codes (8), 555 and

950 NPAs (2), toll-free NPAs (9)[1] and non-geographic NPAs (29)[2].

8. To account for the variability of demand, a sensitivity analysis was performed to the CO code demand (i.e., demand will be increased and decreased by increments of 10%) to understand the impact on NANP exhaust.

Results based on Assumptions

As recognized in previous NANP exhaust analyses, the model is sensitive to the yearly CO code demand rate. Using the October 2018 NPA Exhaust Analysis and the CO code demand included in NRUF submissions, an average yearly demand rate of 2,830 CO codes was calculated. This yearly demand rate was compared with U.S. CO code demand rates in 2013 through 2018.

Year	Annual Gross CO Code Demand	Annual Net CO Code Demand
2013	2,700	2,400
2014	3,400	3,200
2015	3,700	3,500
2016	3,500	3,300
2017	2,700	2,500
2018	2,800	2,500

To project the exhaust of the NANP, an average annual demand of 4,870 CO codes was used. This demand factors in the forecast data submitted as part of the February 2018 NRUF process and the demand in non-US NANP member area codes.[3]

Model Based on Projected Demand

Using an average CO code demand rate of 4,870 codes assigned per year, the projected NANP exhaust date is beyond 2048, assuming the quantity of NPAs available remains 672.[4]

Sensitivity Analysis

For comparison purposes, NANPA performed a sensitivity analysis using an average annual demand to 5,840 CO codes, a 20% increase in the base model demand. This analysis also resulted in a projected exhaust beyond 2048

[1] NPAs 880, 881, 882, 883, 884, 885, 886, 887 and 889.
[2] These include the 24 codes reserved for non-geographic services (524, 525, 526, 527, 528, 529, 532, 538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546 and 558) and 5 of the codes reserved for Canada (633, 644, 655, 677 and 688).
[3] NANPA included an annual forecast of 2,040 CO codes for non-US NANP member countries.
[4] The base model used in the April 2018 study used an average demand rate of 4,100 codes and projected an exhaust date beyond 2047.

Attachment 7 – 2018 NRUF and NPA exhaust analysis

NANPA projects NPA exhaust on a semi-annual basis. These projections were produced in April and October 2018. The table below shows the current quarter/year in which each NPA is projected to exhaust, based on analysis performed in October 2018 and any subsequent changes made through December 31, 2018. The table also provides forecasted NPA exhaust information from previous exhaust projections developed by NANPA. The current forecast is based on NRUF data as it existed on October 1, 2018 for the US and January 1, 2018 for Canada, except where noted. Forecasts marked "R" are based on rationed assignment limits. The change between the current and previous forecasts is given in quarters. A positive number indicates that the exhaust date has moved out to a later date. A negative number indicates that the exhaust is now projected to occur sooner than previously expected.

NPA exhaust forecasts sorted by area code:

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
New Jersey	201/551	2047	2Q			-15Q	b
District of Columbia	202	2022	4Q	2022	4Q	N/C	
Connecticut	203/475						k
Canada	204/431	2026	1Q	2026	1Q	N/C	
Alabama	205	2020	1Q	2020	4Q	-3Q	b,i
Washington	206	2028	1Q	2025	4Q	9Q	a
Maine	207	2027	4Q	2027	4Q	N/C	
Idaho	208/986						k
California	209	2025	2Q	2024	2Q	4Q	a
Texas	210/726						k
New York	212/646/332			2047	4Q		k
California	213/323	2029	2Q	2028	1Q	5Q	a
Texas	214/469/972	2021	3Q	2021	3Q	N/C	
Pennsylvania	215/267/445	2046	4Q	2045	2Q	6Q	a
Ohio	216						k
Illinois	217	2021	3Q	2021	1Q	2Q	a
Minnesota	218						k
Indiana	219						k
Ohio	220/740						k
Pennsylvania	223/717						k
Illinois	224/847	2040	2Q	2037	4Q	10Q	a
Louisiana	225						k

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Canada	226/519/548	2029	1Q	2029	1Q	N/C	c
Mississippi	228						k
Georgia	229						k
Michigan	231						k
Ohio	234/330						k
Canada	236/250/604/778	2020	1Q	2020	3Q	-2Q	c
Florida	239						k
Maryland	240/301	2024	1Q	2024	3Q	-2Q	b
Michigan	248/947						k
Canada	249/705	2026	2Q	2026	2Q	N/C	c
Alabama	251						k
North Carolina	252						k
Washington	253						k
Texas	254	2048	4Q	2043	2Q	22Q	a
Alabama	256/938						k
Indiana	260						k
Wisconsin	262	2048	4Q			-14Q	b
Michigan	269						k
Kentucky	270/364						k
Pennsylvania	272/570						k
Virginia	276						k
California	279/916						k
Texas	281/346/713/832	2027	4Q	2027	2Q	2Q	a
Canada	289/365/905	2021	4Q	2022	4Q	-4Q	c
Delaware	302	2047	2Q			-85Q	b
Colorado	303/720	2023	4Q	2023	1Q	3Q	a
West Virginia	304/681						k
Florida	305/786	2024	1Q	2024	1Q	N/C	
Canada	306/639	2022	3Q	2022	2Q	1Q	c
Wyoming	307						k
Nebraska	308					54Q	k
Illinois	309	2031	2Q	2031	2Q	N/C	
California	310/424	2042	4Q	2041	4Q	4Q	a
Illinois	312/773/872			2043	2Q		k
Michigan	313	2031	4Q	2030	1Q	7Q	a
Missouri	314	2025	4Q	2024	2Q	6Q	a
New York	315/680						k

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Kansas	316	2041	3Q	2037	2Q	17Q	a
Indiana	317/463						k
Louisiana	318	2029	4Q	2029	1Q	3Q	a
Iowa	319						k
Minnesota	320						k
Florida	321/407	2019	3Q	2020	3Q	-4Q	b,i
Florida	321A						g, k
Texas	325						k
Illinois	331/630						k
Alabama	334	2038	4Q	2034	4Q	16Q	a
North Carolina	336/743						k
Louisiana	337						k
Massachusetts	339/781						k
Virgin Islands	340						k
Canada	343/613	2022	3Q	2024	1Q	-6Q	c
New York	347/718/929	2029	3Q	2028	4Q	3Q	a
Massachusetts	351/978						k
Florida	352	2038	3Q	2043	3Q	-20Q	b
Washington	360/564						k
Texas	361						k
Ohio	380/614						k
Utah	385/801	2043	2Q	2040	3Q	11Q	a
Florida	386						k
Rhode Island	401						k
Nebraska	402/531						k
Canada	403/587/780/825	2022	1Q	2022	3Q	-2Q	c
Georgia	404/470/678/770	2023	2Q	2023	2Q	N/C	
Oklahoma	405	2021	4Q	2021	2Q	2Q	a
Montana	406	2029	2Q	2029	3Q	-1Q	b
California	408/669						k
Texas	409						k
Maryland	410/443/667						k
Pennsylvania	412/724/878						k
Massachusetts	413						k
Wisconsin	414						k
California	415/628			2046	4Q		k
Canada	416/437/647	2027	1Q	2027	1Q	N/C	c

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Missouri	417	2033	4Q	2035	1Q	-5Q	b
Canada	418/581/367	2038	3Q	2038	3Q	N/C	c
Ohio	419/567						k
Tennessee	423	2028	1Q	2030	1Q	-8Q	b
Washington	425			2047	1Q		k
Texas	430/903						k
Texas	432						k
Virginia	434						k
Utah	435						k
Canada	438/514	2026	1Q	2026	1Q	N/C	c
Ohio	440	2024	3Q	2023	4Q	3Q	a
California	442/760			2051	4Q		k
Canada	450/579	2021	1Q	2021	2Q	-1Q	c
Oregon	458/541						k
Georgia	478						k
Arkansas	479						k
Arizona	480	2025	1Q	2024	4Q	1Q	a
Pennsylvania	484/610	2022	3Q	2021	4Q	3Q	a
Arkansas	501						k
Kentucky	502	2038	1Q	2034	2Q	15Q	a
Oregon	503/971						k
Louisiana	504			2045	4Q		k
New Mexico	505	2040	3Q	2039	2Q	5Q	a
Canada	506	2022	1Q	2021	4Q	1Q	c
Minnesota	507	2032	1Q	2032	2Q	-1Q	b
Massachusetts	508/774	2045	3Q	2043	2Q	9Q	a
Washington	509	2029	1Q	2028	4Q	1Q	a
California	510	2019	4Q	2019	2Q	2Q	a
Texas	512/737						k
Ohio	513	2024	4Q	2024	1Q	3Q	a
Iowa	515	2041	1Q			-29Q	b
New York	516	2024	3Q	2023	4Q	3Q	a
Michigan	517						k
New York	518/838			2047	4Q		k
Arizona	520			2040	4Q		k
California	530	2028	3Q	2027	1Q	6Q	a
Wisconsin	534/715						k
Oklahoma	539/918	2046	2Q	2042	4Q	14Q	a

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Virginia	540	2022	2Q	2024	2Q	-8Q	b
California	559	2032	2Q	2029	2Q	12Q	a
Florida	561	2033	3Q	2032	3Q	4Q	a
California	562	2046	4Q	2045	4Q	4Q	a
Iowa	563	2038	4Q	2035	3Q	13Q	a
Virginia	571/703	2038	2Q	2039	1Q	-3Q	b
Missouri	573	2026	3Q	2024	4Q	7Q	a
Indiana	574						k
New Mexico	575	2048	1Q			-10Q	b
Oklahoma	580	2030	4Q	2027	3Q	13Q	a
New York	585	2046	3Q	2045	1Q	6Q	a
Michigan	586	2037	4Q	2032	2Q	22Q	a
Mississippi	601/769						k
Arizona	602	2032	1Q	2033	1Q	-4Q	b
New Hampshire	603	2034	4Q	2031	3Q	13Q	a
South Dakota	605	2031	4Q	2030	2Q	6Q	a
Kentucky	606	2045	2Q	2044	3Q	3Q	a
New York	607						k
Wisconsin	608	2027	4Q	2026	2Q	6Q	a
New Jersey	609/640						k
Minnesota	612	2038	2Q	2036	1Q	9Q	a
Tennessee	615/629						k
Michigan	616						k
Massachusetts	617/857	2041	3Q	2038	1Q	14Q	a
Illinois	618	2027	3Q	2025	3Q	8Q	a
California	619/858	2037	1Q	2036	1Q	4Q	a
Kansas	620	2042	3Q	2039	3Q	12Q	a
Arizona	623						k
California	626	2032	4Q	2030	2Q	10Q	a
New York	631/934						k
Missouri	636						k
Iowa	641						k
California	650	2030	4Q	2029	4Q	4Q	a
Minnesota	651						k
California	657/714	2042	3Q	2039	1Q	14Q	a
Missouri	660						k
California	661	2046	1Q	2040	2Q	23Q	a

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Mississippi	662	2039	1Q	2034	4Q	17Q	a
CNMI	670						k
Guam	671						k
Texas	682/817						k
American Samoa	684						k
North Dakota	701	2031	2Q	2030	4Q	2Q	a
Nevada	702/725						k
North Carolina	704/980	2042	2Q	2042	1Q	1Q	a
Georgia	706/762						k
California	707	2025	3Q	2025	3Q	N/C	
Illinois	708	2021	1Q	2020	3Q	3Q	a
Canada	709	2023	1Q	2023	2Q	-1Q	b
Iowa	712	2045	4Q			-79Q	b
New York	716	2025	2Q	2025	2Q	N/C	
Colorado	719	2047	4Q	2046	1Q	7Q	a
Florida	727	2046	3Q	2041	4Q	19Q	a
Tennessee	731	2041	3Q	2037	2Q	17Q	a
New Jersey	732/848						k
Michigan	734	2036	4Q	2042	2Q	-22Q	b
California	747/818						k
Florida	754/954						k
Virginia	757	2021	4Q	2023	1Q	-5Q	b
Minnesota	763						k
Indiana	765						k
Florida	772						k
Nevada	775						k
Illinois	779/815						k
Canada	782/902	2033	1Q	2033	1Q	N/C	c
Kansas	785	2034	4Q			-55Q	b
Puerto Rico	787/939	2038	3Q			-24Q	b
Vermont	802						k
South Carolina	803	2020	2Q	2020	4Q	-2Q	b
Virginia	804	2025	4Q	2027	2Q	-6Q	b
California	805/820						k
Texas	806	2023	1Q	2021	4Q	5Q	a
Canada	807						d

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Hawaii	808	2040	1Q	2036	2Q	15Q	a
Michigan	810						k
Indiana	812/930						k
Florida	813	2022	4Q	2021	4Q	4Q	a
Pennsylvania	814	2021	2Q	2021	2Q	N/C	
Missouri	816	2025	3Q	2025	3Q	N/C	
Canada	819/873	2026	4Q	2026	4Q	N/C	c
North Carolina	828	2036	1Q	2036	2Q	-1Q	b
Texas	830						k
California	831						k
South Carolina	843/854						k
New York	845	2028	1Q	2027	2Q	3Q	a
Florida	850	2022	1Q	2027	2Q	-19Q	b
New Jersey	856						k
Kentucky	859						k
Connecticut	860/959						k
New Jersey	862/973						k
Florida	863						k
South Carolina	864	2028	3Q	2027	2Q	5Q	a
Tennessee	865						k
Canada	867	2039	2Q	2039	2Q	N/C	c
Arkansas	870	2023	3Q	2023	3Q	N/C	
Tennessee	901	2043	1Q	2038	1Q	20Q	a
Florida	904	2031	2Q	2030	1Q	5Q	a
Michigan	906						k
Alaska	907			2045	4Q		k
New Jersey	908	2039	3Q	2046	3Q	-28Q	b
California	909	2021	3Q	2020	3Q	4Q	a,i
North Carolina	910	2024	1Q	2024	1Q	N/C	
Georgia	912			2046	2Q		k
Kansas	913	2046	4Q	2045	2Q	6Q	a
New York	914	2039	3Q	2044	4Q	-21Q	b
Texas	915						k
New York	917						e
North	919/984						k

LOCATION	NPA	2018.2 FCST		2018.1 FCST		Change	Notes Comments
		Year	Quarter	Year	Quarter	2018.1 to 2018.2	
Carolina							
Wisconsin	920	2031	3Q	2030	1Q	6Q	a
California	925						k
Arizona	928						k
Tennessee	931			2045	2Q		k
Texas	936						k
Ohio	937	2020	3Q	2020	3Q	N/C	
Texas	940						k
Florida	941						k
California	949	2032	1Q	2031	1Q	4Q	a
California	951	2036	2Q	2035	2Q	4Q	a
Minnesota	952						k
Texas	956	2033	3Q	2031	1Q	10Q	a
Colorado	970	2032	1Q	2030	1Q	8Q	a
Texas	979						k
Louisiana	985						k
Michigan	989	2036	1Q	2039	3Q	-14Q	b

Notes:

a. Reduced historical and projected demand.
b. Increased historical and projected demand.
c. Forecast based upon information provided by the Canadian Numbering Administration (CNA). The CNA normally provides only one projection per year. Change is from last forecast provided.
d. Canadian NPA. With an exhaust date beyond 2038, there is no exhaust date provided.
e. NPA is at exhaust. No codes available except for returns.
f. New NPA added.
g. Area Code 321A includes only Brevard County Florida; 407/321 includes the Counties around Orlando in Central Florida
h. Area Code 305/786 includes the KEYS rate center. NPA 305A, the KEYS previously, has been eliminated.
i. Reflects Delta NRUF forecast.
j. Intentionally Left Blank.
k. NPA Exhaust is beyond 30 years or the NPA exhaust moves to less than 30 years.

Attachment 8 - October 2018 5XX NPA Exhaust Analysis

Introduction

NANPA projects the exhaust of the 5XX NPA resource based upon the utilization and forecast data submitted by service providers via the NRUF process. The following assumptions were used in this exhaust analysis. The 5XX NPAs currently in service include the 500, 521, 533, 544, 566, 577, 588, and 522 codes.

October 2018 5XX Exhaust Projection Assumptions

The following is a list of assumptions used in the development of the October 2018 5XX NPA exhaust projection prepared by NANPA.

1. The 5XX NPA exhaust study uses as its basis the NXX code forecasts submitted via the NRUF reporting process and historical NXX code assignment information. The five-year total forecasted demand is used to calculate the number of 5XX NPAs that will be needed over the next five years. This demand is also used to forecast when the current quantity of assigned and reserved 5XX NPAs will exhaust.[1]

2. A new NPA will be required when the number of assigned and unassignable NXX codes reaches 800.

3. It is assumed that each new NPA will require the same number of unassignable codes as the current NPA.

Results based on Assumptions

Using the October 2018 NRUF data, the aggregated forecasted demand for 5XX-NXXs for 2018 through 2022 ranges from 800 codes to 1,200 NXXs per year. This demand rate was compared to actual assignment data from 2010 through 2017.

Year	Annual Gross 5XX NXX Code Demand	Annual Net 5XX NXX Code Demand
2010	717	717
2011	757	707
2012	365	357
2013	341	330
2014	639	570
2015	658	630
2016	827	777
2017	781	700

[1] The 5XX NPAs reserved for future expansion include the following: (523, 524, 525, 526, 527, 528, 529, 532, 538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546 and 558).

This comparison shows the yearly forecasted demand starting in 2018 (800 NXXs) is in line with the actual demand experienced from 2016 and 2017.

To project the exhaust of the currently-assigned 5XX NPAs, an average annual demand of 1,000 5XX-NXX codes was used. This quantity is higher than 2017 demand and accounts for an increase in forecasted demand over the next five years. Using this demand rate, the projected 5XX exhaust date of the assigned 5XX NPAs is second half of 2018. Further, it is expected that seven new 5XX NPAs will be needed over the next five years.

In projecting the exhaust of the assigned and reserved 5XX NPAs (8 assigned 5XX NPAs and 25 reserved 5XX NPAs), an annual demand rate of 1,000 5XX-NXXs was used, resulting in the projected exhaust in 20 years. For comparison purposes, NANPA performed a sensitivity analysis using an average annual demand of 1,500 NXX codes, which represented a 50% increase in the base model demand. Using this annual demand, the projected exhaust of the 5XX resource is approximately 13 years.

Attachment 9 – Where to find numbering information

Many key numbering documents are available through the Internet. Here are some useful sites.

www.nanpa.com

This is the official NANPA website. Its contents include:

- Assignment listings for NANP numbering resources, including area codes, CICs, 5XX NXX codes, 900-NXX codes, N11 codes, and vertical service codes.
- Relief planning information for the U.S. and its territories, including an NPA relief planning status chart, planning letters, and information on the relief planning process.
- Central office code assignment information for the U.S. and its territories.
- Contact information for numbering resources.
- Information for NRUF submissions.
- Area code maps.

www.cnac.ca

This is the Canadian Numbering Administrator's site. This site is the master reference for Canadian numbering assignment information and includes information similar to that provided by www.nanpa.com for the U.S. and its territories.

www.nationalpooling.com

This is the National Thousands-Block Pooling Administration's site. Information concerning thousands-block assignments and availability can be found here.

www.npac.com

This is the site for the Number Portability Administration Center or NPAC. The NPAC facilitates local number portability, the ability to change your service provider while retaining your telephone number.

- **www.npac.com/the-npac/portable-open-codes** – provides a listing of central office codes open in the NPAC.

www.fcc.gov

Sections of the FCC's website of particular interest are:

- www.fcc.gov/wireline-competition-bureau – the home page of the Wireline Competition Bureau. Orders related to numbering topics, including the Number Resource Optimization (NRO) orders, can be found here.
- www.fcc.gov/encyclopedia/north-american-numbering-council **– the home page for the North American N**umbering Council (NANC), a federal advisory committee of the FCC that provides analysis and recommendations to the FCC on numbering issues. This site contains their charter, meeting minutes and membership lists.

- http://apps.fcc.gov/cgb/form499/499a.cfm - provides an address and telephone number for each provider and identifies whether the provider offers local, wireless or toll services. The listed providers are those filing FCC Form 499-A, Telecommunications Reporting Worksheets.

www.crtc.gc.ca

This is the site for the Canadian Radio-television and Telecommunications Commission, the Canadian regulator.

www.nanc-chair.org

This is the home page for the Chair of the NANC. It contains presentations and reports provided to the NANC on issues currently being addressed by the Council. Also included is documentation from the various NANC working groups and issue management groups.

www.atis.org

This is the Alliance for Telecommunications Industry Solutions (ATIS) site. It has several sections of interest for numbering. Of particular interest is the Industry Numbering Committee (INC). All finalized INC documents are available for download, including assignment guidelines for numbering resources.

www.itu.int

This is the home page of the International Telecommunications Union in Geneva, Switzerland, the group that sets international standards for telephone numbers. Although much of the information on the site is available to ITU members only, some documents are available to all, including a list of assigned country codes.

www.naruc.org

This is the home page of the National Association of Regulatory Utility Commissioners. NARUC and its committees frequently take positions on numbering issues. Links to all of the state commissions' websites can be found at this site.

- https://www.naruc.org/about-naruc/regulatory-commissions/ - provides links to state regulatory commission websites.

www.somos.com

This site contains information about the 800 Service Management System (SMS/800) which is the central administration system for the management of Toll-Free Services.

www.nationalpani.com

This is the site of the permanent Routing Number Administrator (RNA) for the pseudo Automatic Number Identification (p-ANI) codes which are used for routing emergency calls for Voice over Internet Protocol (VoIP) services.

www.mbiadmin.com

This is the home page for the U.S. and Puerto Rico wireless number resource administrator for Mobile Identification Numbers (MIN), called the MIN Block Identifier (MBI). MBI Administration was created in 2002 when the MIN was separated from the

Mobile Directory Number (MDN) and became a new number resource to support nationwide roaming, wireless number portability and number pooling.

www.neca.org
This is the site of the National Exchange Carriers Association (NECA). NECA administers the FCC's "access charge" plan. (Access charges are the fees long distance companies pay to access the local phone network to complete calls.)

www.nanpfund.com
The North American Numbering Plan (NANP) is a numbering scheme for the Public Switched Telecommunications Network within the United States, Canada and participating Caribbean countries. The NANP Fund was established to cover the costs of the NANP and is funded by United States telecommunication service providers, and from Canada and Caribbean member countries. Section 52.17 of the Federal Communications Commission's rules state that all telecommunications carriers in the United States shall contribute on a competitively neutral basis to meet the costs of establishing numbering administration.

www.trainfo.com
This is the home page for Telecom Routing Administration, compilers and publishers of the LERG™ Routing Guide and other numbering documentation.

www.nena.org
This is the site of the National Emergency Number Association (NENA). NENA's mission is to foster the technological advancement, availability and implementation of universal emergency telephone number system (9-1-1).

www.usshortcodes.com
This is the site of the Common Short Code Administration (CSCA). CSCA administers Common Short Codes. Short codes are codes to which an SMS or text message can be sent. Short codes are common across many wireless service providers in the U.S.

Attachment 10 - Contacts in the Countries Participating in the North American Numbering Plan

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Anguilla	Mr. Kenneth Banks Ministry of Infrastructure, Communications, Utilities and Housing P.O. Box 60 The Valley Anguilla. British West Indies Tel: 264 497-2651 Fax: 264-497-3651 kbanks@gov.ai	Mr. Kenneth Banks Ministry of Infrastructure, Communications, Utilities and Housing P.O. Box 60 The Valley Anguilla. British West Indies Tel: 264 497-2651 Fax: 264-497-3651 kbanks@gov.ai	Mr. Kenneth Banks Ministry of Infrastructure, Communications, Utilities and Housing P.O. Box 60 The Valley Anguilla. British West Indies Tel: 264 497-2651 Fax: 264-497-3651 kbanks@gov.ai
Antigua and Barbuda	Hon. Melford Nicholas Minister of Information, Broadcasting, Telecommunications, Science and Technology Coolidge Business Complex, Sir George Walter Highway St. John's, Antigua, West Indies www.ab.gov.ag	Joan Joseph Jackson Permanent Secretary Ministry of Information, Broadcasting, Telecommunications, Science and Technology Telecommunications Division Coolidge Business Complex, Sir George Walter Highway St. John's, Antigua, West Indies Phone: 268- 468-4616	

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Bahamas	Stephen Bereaux Chief Executive Officer, Utilities Regulation and Competition Authority (URCA) Fredrick House Fredrick Street P O Box N 4860 Nassau, N.P., The Bahamas Phone: 242-393-0234 Fax: 242-393-0153 info@urcabahamas.bs		
Barbados	Jehu Wiltshire Division of Energy and Telecommunications Office of the Prime Minister Trinity Business Centre Country Road St Michael Barbados. BB11081 permanentsecretary@energy.gov.bb jwiltshire@energy.gov.bb	Reginald Bourne Chief Telecommunications Officer Telecommunications Unit Trinity Business Centre Country Road, St. Michael, Barbados. BB11081 Phone: 246- 535-2502 Reginald.bourne@telecoms.gov.bb	
Bermuda	Matthew Copeland Chief Executive Bermuda Regulatory Authority Craig Appin House, 1st Floor 8 Wesley Street Hamilton HM 11, Bermuda Phone: 441-405-6000 Fax: 441-474-6048 info@rab.bm	Matthew Copeland Chief Executive Bermuda Regulatory Authority Craig Appin House, 1st Floor 8 Wesley Street Hamilton HM 11, Bermuda Phone: 441-405-6000 Fax: 441-474-6048 info@rab.bm	

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
British Virgin Islands	Hon. Mark Vanterpool Minister of Communications and Works 33 Admin Drive Road Town, Tortola British Virgin Islands, VG1110 Phone: 284-468-2183 Fax: 284-468-3090 mcw@gov.vg	Guy L. Malone Chief Executive Officer, Telecommunications Regulatory Commission P.O. Box 4401 Road Town, Tortola British Virgin Islands, VG1110 Phone: 284-468-4165 Fax: 284-494- 6786 contact@trc.vg gmalone@trc.vg	
Canada		Joseph Cabrera Senior Analyst - Dispute Resolution and Regulatory Implementation Canadian Radio-television and Telecommunications Commission 1 Promenade du Portage Gatineau QC J8X 4B1 Canada Phone: 819-934-6352 Fax: 819-997-4610 joseph.cabrera@crtc.gc.ca	Glen Brown Project Manager Canadian Numbering Administrator Leidos Canada 1516-60 Queen Street Ottawa, Ontario Canada K1P 5Y7 Phone: 613-683-3291 Fax: 613-563-9293 browng@leidos.ca www.cnac.ca

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Cayman Islands	Alee Fa'amoe Executive Director ICT OfReg P.O. Box 2502 Grand Cayman KY 1-1104 Cayman Islands Phone: 345-946-4282 Fax: 345-945-8284 alee.faamoe@ofreg.ky	Utility Regulation and Competition Office 3rd Floor, Alissta Towers, 85 North Sound Rd. Grand Cayman, Cayman Islands Phone: 345-946-4282 Fax: 345-945-8284 info@ofreg.ky	Utility Regulation and Competition Office 3rd Floor, Alissta Towers, 85 North Sound Rd. Grand Cayman, Cayman Islands Phone: 345-946-4282 Fax: 345-945-8284 info@ofreg.ky
Dominica	Honorable Kelver Darroux Minister for Information, Science, Telecommunications and Technology 3rd Floor, Government Headquarters, Roseau Commonwealth of Dominica Phone: 767-266-3294 Fax: 767-448-0182 information@dominica.gov.dm	Executive Director National Telecommunications Regulatory Commission 26 King George V Street P.O. Box 649 Roseau, Commonwealth of Dominica Phone: 767-440-0627 Fax: 767-440-0835 director@ntrcdom.org	Executive Director National Telecommunications Regulatory Commission 26 King George V Street P.O. Box 649 Roseau, Commonwealth of Dominica Phone: 767-440-0627 Fax: 767-440-0835 director@ntrcdom.org
Dominican Republic	INDOTEL Av. Lincoln No. 962, Santo Domingo, Road 10148 Phone: 829-732-5555 dau@indotel.gob.do	Executive Management and Technical Management of INDOTEL Phone: 829-732-5555 Ext. 6171 serviciosDT@indotel.gob.do	Executive Management and Technical Management of INDOTEL Phone: 829-732-5555 Ext. 6171 serviciosDT@indotel.gob.do

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Grenada	Hon. Gregory Bowen Minister for Communications, Works, Physical Development, Public Utilities, ICT & Community Development Ministerial Complex, Botanical Gardens, St. George's, Grenada Phone: 473-440-2271/2 Fax: 473-440-4122 ministryofworks@gov.gd	Dr. Spencer Thomas, Chairman National Telecommunications Regulatory Commission Maurice Bishop Highway Grand Anse P.O. Box 854, St. George, Grenada Phone: 473-435-6872 Fax: 473-435-2132 gntrc@ectel.int	ECTEL 5th Floor, Conway Business Center Waterfront PO Box 1886 Castries, Saint Lucia Phone: 758-458-1701/1702 ectel@ectel.int
Jamaica	Maurice Charvis Deputy Director General Office of Utilities Regulation 3rd Floor, PCJ Resource Centre 36 Trafalgar Road Kingston 10, Jamaica Phone: 876-968-6053 Fax: 876-929-3635 mcharvis@our.org.jm	Curtis N. Robinson Consultant - Numbering Administration and ICT Networks Office of Utilities Regulation 3rd Floor, PCJ Resource Centre 36 Trafalgar Road Kingston 10, Jamaica Phone: 876-968-6053 Fax: 876-929-3635 crobinson@our.org.jm	Curtis N. Robinson Consultant - Numbering Administration and ICT Networks Office of Utilities Regulation 3rd Floor, PCJ Resource Centre 36 Trafalgar Road Kingston 10, Jamaica Phone: 876-968-6053 Fax: 876-929-3635 crobinson@our.org.jm
Montserrat	Hon. Mr. Paul J. Lewis Honorable Minister of Communications, Works, Energy & Labour P.O. Box 344, Mahogany Drive, Woodlands, Montserrat Phone: 664-491-2521/2522 Fax: 664-491-6659 lewisp@gov.ms or mcw@gov.ms	Mr. Clifton Riley Executive Manager - Montserrat Info-Communications Authority P.O. Box 165 St. Peters Montserrat, West Indies Phone: 664-491-3789 Fax: 664-491-3789 rileyc@mica.ms	Mr. Clifton Riley Executive Manager - Montserrat Info-Communications Authority P.O. Box 165 St. Peters Montserrat, West Indies Phone: 664-491-3789 Fax: 664-491-3789 rileyc@mica.ms

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
St. Kitts & Nevis	Hon. Vincent Byron Jr. Attorney General and Minister of Justice, Legal Affairs and Communications Church Street, P.O. Box 186 Basseterre St. Kitts and Nevis Tel: 869-467-2812 Fax: 869-465-0198	Mr. Ervin Williams Director National Telecommunications Regulatory Commission (NTRC) P.O. Box 1958 Corner of Wigley Avenue & Jones St. Fortlands Basseterre, St. Kitts Phone: 869-466-6872 Fax: 869-466-6817 ntrcskn@ectel.int	Mr. Ervin Williams Director National Telecommunications Regulatory Commission (NTRC) P.O. Box 1958 Corner of Wigley Avenue & Jones St. Fortlands Basseterre, St. Kitts Phone: 869-466-6872 Fax: 869-466-6817 ntrcskn@ectel.int
Saint Lucia	Hon. Guy Joseph Minister for Economic Development, Housing, Urban Renewal, Transport and Civil Aviation 7th Level, Castries Car Park, Waterfront Castries, Saint Lucia	ECTEL 5th Floor, Conway Business Center Waterfront PO Box 1886 Castries, Saint Lucia Phone: 758-458-1701/1702 ectel@ectel.int	ECTEL 5th Floor, Conway Business Center Waterfront PO Box 1886 Castries, Saint Lucia Phone: 758-458-1701/1702 ectel@ectel.int

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Sint Maarten	Antony Carty Director Bureau Telecommunications and Post St. Maarten C.A. Cannegieter Street #15 – Unit 5.1 Philipsburg, St. Maarten, Dutch Caribbean Phone: 721-542-4699 Fax: 721-542-4817 info@sxmregulator.sx	Antony Carty Director Bureau Telecommunications and Post St. Maarten C.A. Cannegieter Street #15 – Unit 5.1 Philipsburg, St. Maarten, Dutch Caribbean Phone: 721-542-4699 Fax: 721-542-4817 info@sxmregulator.sx	
St. Vincent and the Grenadines	Apollo Knights Director National Telecommunications Regulatory Commission 2nd Floor NIS Building Upper Bay Street Kingstown, St. Vincent and the Grenadines Phone: 784-457-2279 Fax: 784-457-2834 ntrc@ntrc.vc	Apollo Knights Director National Telecommunications Regulatory Commission 2nd Floor NIS Building Upper Bay Street Kingstown, St. Vincent and the Grenadines Phone: 784-457-2279 Fax: 784-457-2834 ntrc@ntrc.vc	Apollo Knights Director National Telecommunications Regulatory Commission 2nd Floor NIS Building Upper Bay Street Kingstown, St. Vincent and the Grenadines Phone: 784-457-2279 Fax: 784-457-2834 ntrc@ntrc.vc

Country	Contact for Formal Letters and Policy Issues	Contact for Day-to-Day Regulatory Numbering Issues	Contact for Central Office Code Administration
Trinidad and Tobago	Dr. John Prince Chief Executive Officer Telecommunications Authority of Trinidad and Tobago #5, Eighth Avenue Extension, off Twelfth Street, Barataria, Republic of Trinidad and Tobago Phone: 868-675-8288 Fax: 868-674-1055 Info@tatt.org.tt	Kirk Sookram Executive Officer, Technical Services and Development Telecommunications Authority of Trinidad and Tobago #5, Eighth Avenue Extension, off Twelfth Street, Barataria, Republic of Trinidad and Tobago Phone: 868-675-8288 Fax: 868-674-1055 Info@tatt.org.tt	Kirk Sookram Executive Officer, Technical Services and Development Telecommunications Authority of Trinidad and Tobago #5, Eighth Avenue Extension, off Twelfth Street, Barataria, Republic of Trinidad and Tobago Phone: 868-675-8288 Fax: 868-674-1055 Info@tatt.org.tt
Turks and Caicos Islands	John Williams Director General TCI Telecommunications Commission PO Box 203 Business Solutions Building Leeward Highway Providenciales Turks & Caicos Islands Phone: 649-946-1900 Fax: 649-946-1119 johnwilliams@tcitelecommission.tc	John Williams Director General TCI Telecommunications Commission PO Box 203 Business Solutions Building Leeward Highway Providenciales Turks & Caicos Islands Phone: 649-946-1900 Fax: 649-946-1119 johnwilliams@tcitelecommission.tc	John Williams Director of Technology TCI Telecommunications Commission PO Box 203 Business Solutions Building Leeward Highway Providenciales Turks & Caicos Islands Phone: 649-946-1900 Fax: 649-946-1119 kenvawilliams@tcitelecommission.tc
United States	Kris Monteith Acting Chief, Wireline Competition Bureau, Federal Communications		Beth Sprague Director, NANPA Somos, Inc.

	Commission 445 12th St., SW Washington, DC 20554 Phone: 202-418-1500 Fax: 202-418-2825		2411 Dulles Corner Park Suite 250 Herndon, VA 20171 Phone: 571-363-3821 bsprague@somos.com

Attachment 11 – List of Acronyms

ABEC – Alternate Billing Entity Code

ACNA – Access Customer Name Abbreviation

AOCN – Administrative Operating Company Number

ANI – Automatic Number Identification

ASR – Access Service Request

ATIS – Alliance for Telecommunications Industry Solutions

CIC – Carrier Identification Code

CLEC – Competitive Local Exchange Carrier

CD – Compact Disc

CMRS – Commercial Mobile Radio Service

CNA – Canadian Numbering Administrator

CO – Central Office

COCAG – Central Office Code (NXX) Assignment Guidelines

CRTC – Canadian Radio-television and Telecommunications Commission

DDR – Donation Discrepancy Report

EFT – Electronic File Transfer

ERC – Easily Recognizable Code

FCC – Federal Communications Commission

FG B – Feature Group B

FG D – Feature Group D

FoN – Future of Numbering

FRN – FCC Registration Number

FTP – File Transfer Protocol

ILEC – Incumbent Local Exchange Carrier

INC – Industry Numbering Committee

IPD – Initial Planning Document

ITU – International Telecommunications Union

LEC – Local Exchange Carrier

LRN – Location Routing Number

MTE – Months-to-Exhaust

NANC – North American Numbering Council

NANP – North American Numbering Plan

NANPA – North American Numbering Plan Administrator

NARUC – National Association of Regulatory and Utility Commissioners

NAS – NANP Administration System

NNS – NANP Notification System

NAOWG – Numbering Administration Oversight Working Group

NPA – Numbering Plan Area

NRO – Number Resource Optimization

NRUF – Numbering Resource Utilization/Forecast

OCN – Operating Company Number

p-ANI – Pseudo-Automatic Number Identification

PA – Pooling Administrator

PAS – Pooling Administration System

POTS – Plain Old Telephone Service

PSTN – Public Switched Telephone Network

TBPAG – Thousands-Block Number (NXX-X) Pooling Administration Guidelines

TN – Telephone Number

UMR – Utilization Missing Report

VoIP – Voice over Internet Protocol

VSC – Vertical Service Code

USB – Universal Serial Bus

WCB – Wireline Competition Bureau