Canadian Numbering Administrator Annual Report

January to December 28, 2018

CNA Staff

1516-60 Queen Street, Ottawa, Ontario
613-563-7242
browng@leidos.ca
www.cnac.ca

Table of Contents

Canadian Numbering Administration Consortium (CNAC)

The Canadian Numbering Administration Consortium Inc. (CNAC) was formed in 1998, under the regulatory authority of the Canadian Radio-television & Telecommunications Commission (CRTC), to oversee numbering administration activities in Canada. CNAC is an incorporated entity with a Board of Directors, and shares held by many Canadian Telecommunications Service Providers (TSPs). The primary function of CNAC is to oversee and fund the numbering administration activities of the Canadian Numbering Administrator (CNA).

CRTC Interconnection Steering Committee (CISC)

The CISC is a committee comprised of various industry representatives that facilitates the implementation of Telecom Decision CRTC 97-8 Local Competition and related Commission decisions. The mandate of the CISC is to undertake tasks related to technological, administrative and operational issues on matters assigned by the CRTC or originated by the public, that fall within the CRTC's jurisdiction.

Canadian Steering Committee on Numbering (CSCN)

The CSCN is an open public forum established in 1991 to consider and resolve numbering resource issues. It became a subtending Working Group of the CISC in 1998. In addition to the mandate defined in Appendix 1, Item 6, of the CISC Administrative Guidelines, the CSCN is responsible for:

a)   Developing number planning and implementation strategies for the Canadian telecommunications industry;

b)   Ensuring the equitable assignment of numbering resources in a competitive Canadian telecommunications industry environment;

c)   Ensuring that adequate and appropriate numbering resources are always available for Canadian public telecommunication services and customers;

d)   Ensuring that the administration of numbering resources does not confer an undue advantage on any entity nor inhibit the timely introduction of new telecommunication services or competition in these services in Canada;

e)   Ensuring the efficient, effective and equitable use of numbering resources in Canada including the assignment, administration, forecasting and conservation of these resources;

f)   Providing input and support about Canadian numbering practices to the CRTC via the CISC process;

g)   Promoting CISC-agreed positions on numbering issues in the North American telecommunications industry fora; and,

h)   Recommending to the CRTC, via the CISC process, allocations of numbering resources for the Canadian telecommunications industry.

Canadian Numbering Administrator (CNA) Organization

The CNA is a project of the Information, Environmental and Engineering Solutions Division of Leidos Canada Inc. Glen Brown serves as both the Division Manager of Leidos Canada Inc. and the Program Manager of the CNA. The CNA was located at 1516 - 60 Queen Street, Ottawa, Ontario, until December 31, 2018. On January 1, 2019 COMsolve will take over the CNA function.

Canadian Numbering Administrator Duties and Functions

A)   CSCN Secretary

The CNA performs the duties of the CSCN Secretary in accordance with the CSCN Adjunct to the CISC Administrative Guidelines including:

1)   Attends all meetings of the full CSCN and records the attendance and the proceedings of all such CSCN meetings and conference calls;

2)   Maintains centralized files, including logs, of all CSCN documents;

3)   Maintains current and accurate CSCN participant distribution list(s);

4)   Prepares and ensures the timely distribution of the full CSCN meeting minutes;

5)   Performs such other duties as may be prescribed from time to time by the CSCN; and,

6)   Sends CSCN Minutes, Agendas and other documents identified by the CSCN for posting to the CRTC CISC Website.

B)   Central Office Code Administration including NPA Relief Planning

The CNA performs CO Code administration functions in accordance with the *Canadian Central Office Code (NXX) Assignment Guideline* (Canadian COCA Guideline) for geographic NPAs assigned for use in Canada including NPA Relief Planning functions in accordance with the *Canadian NPA Relief Planning Guideline* and the *Canadian Adjunct to the INC NPA Allocation Plan and Assignment Guidelines*.

The CNA also performs CO Code administration functions in accordance with the *Canadian NPA 600 NXX Code Assignment Guideline* and the *Canadian Non-Geographic Code Assignment Guideline* for non-geographic NPAs assigned for use in Canada (i.e. 6YY).

C) **CNA Role in NANPA Administered Resources**

The CNA performs the following tasks with respect to North American Numbering Plan (NANP) number resources, which are controlled by the NANPA:

1) Receives, validates and forwards applications from Canadian entities to NANPA for assignment of:

    a) NPA Codes;
    b) International Inbound NPA 456 NXX Codes;
    c) PCS/N00 NXX Codes (NPA 500 NXXs);
    d) NPA 9YY NXX Codes;
    e) NPA 800 855-XXXX line numbers; and
    f) Carrier Identification Codes (CICs).

2) Reclaims resources in certain circumstances.

D) **Administration of Canadian Numbering Resources**

The CNA performs the following administrative tasks:

1) Receives, validates and processes requests and maintains records for Non-Geographic Code Assignments (e.g., 5XX line numbers, NPA 600 NXX Codes, NPA 6YY and NPA 9YY resources), International Mobile Station Identity (IMSI) Codes, System Identifier Codes (SIDs); Emergency Service Routing Digit (ESRD) Blocks and MIN Block Identifier (MBI) Codes;

2) Maintains and publishes lists containing assignment information for Canadian numbering resources and approved applications of N11 codes in Canada;

3) Prepares and publishes a CNA Annual Report on the status of Canadian numbering resources;

4) Seeks clarification of guidelines approved by CRTC and/or the Alliance for Telecommunications Industry Solutions (ATIS) Industry Numbering Committee (INC) from the CSCN, CRTC staff or CRTC, as necessary;

5) Provides 'on request' reports to CSCN related to various numbering topics and data;

6) Provides clarification to interested parties with respect to the application of numbering resource guidelines and CRTC regulations applicable in Canada;

7)   Participates in the CNA performance review process;

8)   Investigates number assignment and administration issues, as necessary;

9)   Seeks resolution, as necessary, from CSCN, CRTC staff or CRTC of number assignments and administration issues (including, but not limited to, frequency, format and content of NRUFs; Relief NPA selection; liaising with other numbering forums in North America);

10)   Participates in and provides supporting data to the CSCN and CSCN Contribution Development Teams on request;

11)   Liaises and coordinates the CNA's activities with NANPA to ensure effective and efficient use of NANP resources in Canada;

12)   Establishes and maintains relationships with Innovation, Science and Economic Development Canada (formerly, Industry Canada) and the CRTC;

13)   Develops and maintains knowledge of numbering activities at the INC and assesses the impacts of any INC activities on Canadian numbering administration and CNA functions;

14)   Responds to requests from entities, including but not limited to, participants in the Canadian telecommunications industry, Innovation, Science and Economic Development Canada, the CRTC and the media about Canadian numbering resources and their administration;

15)   Is the primary repository for numbering resource information for the Canadian telecommunications industry; and,

16)   Communicates, orally and in writing, in both official languages, English and French.

CSCN Secretary

All of the CSCN secretary activities were carried out as required. Of particular interest, the CNA recorded the minutes and updated documentation for three one-day CSCN face-to-face meetings. The dates of the CSCN face-to-face meetings held in 2018 were 27 February, 12 June, and 16 October. Copies of these meeting minutes are located at http://www.crtc.gc.ca/cisc/eng/cisf3fa.htm#MINUTES.

In addition to the regular CSCN face-to-face meetings, the CSCN Secretary recorded the minutes and updated documentation for three CSCN agenda-setting teleconferences, and six (20 March, 20 July, 7 August, 8 August, 5 September, 10 September) CSCN teleconferences. These minutes can also be found at the website mentioned above.

CSCN Chair

The CSCN Chair is required to chair all CSCN meetings and teleconferences and attend all CISC Steering Committee meetings and teleconferences as well as prepare and present reports to the CISC concerning CSCN activities. CNA staff also participated in seven (20 February, 23 April, 10 May, 22 June, 27 September, 31 October, 10 December) CISC walk-around processes or conference calls, two of which required Work Group Status Reports to the CISC.

Central Office (CO) Code Administration

Canada is a member of the NANP. NANP telephone numbers are in the format NXX-NXX-XXXX where N is equal to 2 through 9 and X is equal to 0 through 9. The first NXX in a telephone number is the Numbering Plan Area (NPA) Code or Area Code, the second NXX is the CO Code and the XXXX is the line number.

When an eligible TSP in Canada requires the assignment of a block of telephone numbers, an application is made to the CNA for the assignment of a CO Code and its associated 10,000 line numbers. The CNA reviews the application to ensure that the service provider is eligible for the assignment of the CO Code in accordance with the CRTC-approved Canadian COCA Guideline. Once it is determined that the applicant has met all eligibility criteria and the application is completed with the correct data, a CO Code is selected and the data is entered into the Canadian Numbering Administration System (CNAS) and the Telcordia^{TM} Technologies, Inc., dba iconectiv, Assigned Code Record (ACD) screen. After the data is entered, the applicant is officially notified of the assignment using a Part 3 form. A Part 4 form is submitted to the CNA once the CO Code has been placed in-service by the Code Holder. The CNA subsequently updates the CNAS. The CO Code listings are updated on a daily basis on the CNA website at http://www.cnac.ca/co_codes/co_code_status.htm. The Canadian COCA Guideline, which was developed by the CSCN and approved by the CRTC, may be found at http://www.crtc.gc.ca/cisc/eng/cisf3fg.htm.

An applicant is never denied the assignment of a CO Code due to the improper completion of an application. CNA staff members work with the applicant until the application is completed correctly. However, in 2018, eight applications were denied because the applicants either did not respond to the CNA's requests for additional documentation or had not obtained CRTC staff approval, within the fourteen calendar day processing period allowed by the Canadian COCA Guideline.

The following table lists the CO Code Administration activity by month in 2018. It should be noted that all CO Code administration activities were completed within the timeframes stipulated in the Canadian COCA Guideline.

CO Code Administration activity in 2018

Month	Part One Initial/ Growth	Part One Update	Bulk A	Bulk B	Reclaimed	Other
				0		
January	99	10	31	0	0	2
February	106	14	26	0	3	1
March	189	13	32	0	1	1
April	279	2	0	0	0	0
May	355	13	23	0	2	0
June	143	4	0	0	0	0
July	73	25	57	0	0	1
August	86	55	0	0	0	0
September	95	9	27	0	0	1
October	36	24	0	0	2	0
November	76	8	17	0	2	1
December	45	9	0	0	2	0
Total	1582	186	213	0	12	7

The following table summarizes CO Code Administration by year from 2001 to 2017.

Historical CO Code Administration

Year	Part One Initial/ Growth	Part One Update	Bulk A	Bulk B	Reclaimed	Other
2001	572	305	110	374	112	56
2002	358	290	0	192	56	68
2003	335	343	0	64	30	21
2004	453	280	13	45	44	88
2005	649	259	116	0	40	30
2006	933	359	330	55	51	41
2007	1028	254	42	0	90	61
2008	992	198	10	0	131	28
2009	645	163	105	19	76	12
2010	1022	180	15	41	54	20
2011	808	214	149	56	29	7
2012	829	122	112	23	27	13
2013	808	134	0	104	48	33
2014	687	167	108	117	63	13
2015	869	103	53	63	36	15
2016	1572	145	150	0	32	17
2017	1149	261	486	0	52	42

Part One Initial/Growth applications are the quantity of CO Code Applications processed by the CNA that resulted in the assignment of new CO Codes. These would include

applications for Initial, Additional Codes for Growth or Additional Codes for a Unique Purpose.

Part One Update applications are the quantity of CO Code Applications processed by the CNA to update data in the CNAS and the ACD screens. These applications are made using Part 1 - CO Code Assignment, Reservation, Information Change, or Return forms detailing the appropriate changes, for the affected CO Code. This process includes changes such as, but not limited to, the OCN, switching entity/POI and Rate Center name.

Part One Bulk A applications are the quantity of CO Code Applications processed by the CNA that are received in volume and require a significantly reduced level of effort to process, compared to the Part 1 applications discussed above. The CNAC Board has agreed that Bulk A applications will meet the following criteria:

- A Part One Application is required in accordance with the *Canadian Central Office Code (NXX) Assignment Guideline*;
- The Assigned Code Record (ACD) screen must be opened;
- One or two identical changes to the same data element;
- No error checking on the part of the CNA is required;
- Applications relate to updated information only;
- There must be at least ten NXXs involved; and,
- The normal fourteen calendar day processing time does not apply.

Part One Bulk B applications are the quantity of CO Code Applications that are processed by the CNA and are received in volume and meet the following criteria as agreed to by the CNAC Board:

- A Part One Application is required in accordance with the *Canadian Central Office Code (NXX) Assignment Guideline*;
- The Assigned Code Record (ACD) screen must be opened;
- Three or more changes to the same data elements are required; or
- Identical changes to three or more data elements are required; or
- Differing changes made to three or more or numerous data elements are required;
- Error checking is provided by the CNA;
- Applications relate to updated information only;
- There must be at least ten NXXs involved; and,
- The normal fourteen calendar day processing time does not apply.

Part One Recovered CO Code applications are the quantity of CO Code Applications processed by the CNA to reclaim CO Codes for the following reasons:

a) The CO Code is no longer required by the Code Holder for the purpose originally assigned;
b) The service for which the CO Code was assigned is discontinued;

c)   The CO Code Holder has ceased operation;

d)   The CO Code was assigned, but not used in conformance with the *Canadian Central Office Code (NXX) Assignment Guideline*; or

e)   The CO Code was not placed In-Service within the time frame specified in the *Canadian Central Office Code (NXX) Assignment Guideline*.

These applications are made using Part 1 - CO Code Assignment, Reservation, Information Change, or Return forms or through the CO Code reclamation process.

The "Other" column is the number of modifications made to the CNAS to correct the data received by the CNA during and since the CO Code Administration transition period.

Numbering Resource Utilization Forecast (NRUF)

Each NPA Code contains approximately 750 assignable CO Codes, depending on the NPA. The CNA is required to determine the approximate date when all assignable CO Codes will exhaust in each NPA to begin NPA relief planning activities to ensure that enough telephone numbers and CO Codes remain available for assignment prior to the introduction of a new NPA. This is achieved by conducting the annual NRUF.

In accordance with the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline*, during the fourth quarter of each year the CNA requests all existing and prospective CO Code Holders to complete the General Numbering Resource Utilization Forecast (G-NRUF) worksheet and return it to the CNA by February for analysis. On the worksheet, the Code Holders list the number of CO Codes, by NPA, that are assigned to them as well as forecast the number of CO Codes they expect to require, by NPA, in each of the next six years.

During the CNA's analysis of the data provided on the worksheets, any discrepancy between the CNA database and the number of assigned CO Codes that the Code Holder has indicated on the worksheet is discussed with the Code Holder to ensure that the data is correct. The CNA also scrutinizes the Code Holder's forecast data to compare it against previous years' forecasts to detect any large deviations. The CNA contacts the Code Holder to determine why the deviation has occurred and to ensure that no errors were made. Additionally, the CNA verifies any forecasts from new entrants that appear to be inflated. The CNA discusses the forecast with the new entrant and offers educated assistance to ensure that the forecast is valid. Any large discrepancies or unusual forecasts are reported to CRTC staff for their information and action before the final aggregate data is posted on the CNA website and presented to the CSCN. CRTC and CNA staff meet to discuss the NRUF results, in detail, before they are released to the CSCN and NANPA. Once the G-NRUF data is presented to CRTC staff and the CSCN, it is forwarded to the NANPA to be used in its analysis for determining the exhaust date of the NANP.

On 15 December 2017, the CNA requested all existing and prospective CO Code Holders to provide their year 2018 G-NRUF to the CNA by 01 February 2018. The aggregate G-NRUF data was reviewed with CRTC staff before it was posted to the CNA website on 8 March 2018. It was then presented to the CSCN and forwarded to the NANPA.

When the G-NRUF indicates that an NPA will exhaust within or at about 72 months (the Relief Window), the CNA informs CRTC staff, who normally initiate the publication of a CRTC Notice of Consultation. The Notice is used to inform the public that NPA relief is required and also solicits interested parties to be part of the NPA Relief Planning Committee. Subsequently, the CNA NPA Relief Planner conducts a Relief NRUF (R-NRUF), which is similar to the annual G-NRUF except that existing CO Code assignments and the forecast CO Code requirements are generally reported at the exchange area level of detail and at six month intervals, depending on the applicable CRTC determination and requirements set by the Relief Planning Committee (RPC).

Based on previous NRUFs and the January 2018 G-NRUF results the following NPAs were forecast to exhaust within the Relief Window and were being monitored with semi-annual R-NRUFs:

- 236/250/604/778
- 289/365/905
- 306/639
- 343/613
- 403/587/780/825
- 418/581
- 450/579
- 506
- 709

During 2018, the CNA conducted various R-NRUFs for the above NPAs as indicated in the following table.

Summary of 2018 NRUF Activity

NRUFs	DUE DATE	NPAs
R-NRUF	01 Feb 2018	NPA 236/250/604/778, 289/365/905, 403/587/780/825, 418/581, 450/579, 506 and 709
G-NRUF	01 Feb 2018	All geographic NPAs (excluding exhausting NPAs)
G-NRUF	01 Feb 2018	Non-Geographic NPAs using numbers in NPAs 5XX, 600 and 9YY
R-NRUF	10 June 2018	NPA 306/639
R-NRUF	07 Aug 2018	NPAs 236/250/604/778, 289/365/905, 343/613, 403/587/780/825, 450/579, 506 and 709

All the 2018 NRUF results may be found at:
http://www.cnac.ca/NRUF/NRUF.htm#Results.

There were three conference calls held to review NRUF results in 2018.

When NRUF results indicate that the forecast demand for CO Codes in an NPA exceeds the supply of CO Codes under situations described in Section 8.1 of the *Canadian NPA Relief Planning Guideline*, a Jeopardy Condition is declared. Under a Jeopardy Condition, the CNA conducts quarterly Jeopardy NRUFs (J-NRUFs). In the event of a J-NRUF, Code Holders and prospective Code Holders submit two versions of their forecast – one that includes code assignment restrictions based on the Jeopardy Contingency Plan and one that includes no code assignment restrictions. No Jeopardy Conditions existed in 2018.

NPA Relief Planning

NPA relief planning is a public process that is described in the *Canadian NPA Relief Planning Guideline*, which may be found at http://www.crtc.gc.ca/cisc/eng/cisf3fg.htm. To increase public awareness and participation in the NPA relief planning process, the CRTC has determined that NPA Relief Planning Committees (RPCs) are to be established as ad hoc sub-committees of the CISC. The CNA is required to create and maintain an NPA Relief Planning distribution list, which is frequently updated as participants in the relief planning process are not static.

The information provided by the various NRUFs was used in the development of several viable relief options that were included in the Initial Planning Documents (IPDs) for NPAs 289/365/905, 306/639, 343/613, 403/587/780/825 and 450/579. The IPDs were sent to current and prospective CO Code Holders in the affected NPAs and to any other party that the CNA believed should have an interest in the ensuing NPA relief activities (e.g., municipalities, public interest groups and the Canadian Security Association).

When the IPDs were distributed to the NPA RPC mailing lists, the members were invited to submit contributions suggesting other relief planning options and to attend the first RPC meeting, which is held at a location within the NPA in question. In 2018, the following face-to-face RPC meetings were held:

- NPA 450/579 – Laval, Quebec on 12-13 September
- NPA 403/587/780/825 - Calgary, Alberta on 20-21 November
- NPA 306/639 – Regina, Saskatchewan on 27 November

The initial and all subsequent RPC meetings are chaired by the CNA, which also supplies the NPA Relief Planner and the RPC secretary.

At the initial meeting, IPDs are discussed in detail so the Committee members can become familiar with the NPA from a geographic, demographic, Exchange Area and

NRUF point of view. Additionally, the Relief Options contained in the IPD are discussed in detail as are any contributions received by the CNA from any interested party.

During the RPC meetings, the Committee modifies the IPD or an interested party contribution to become the Planning Document (PD). The Committee will normally come to consensus on a recommended Relief Option. The recommended relief option will be compared to other relief options either proposed in the IPD or considered by the RPC and this comparison will be included in the PD, which is forwarded to the CRTC via the CISC process. During 2018 the RPCs for NPAs 306/639, 403/587/780/825, 450/579 and 506 recommended Relief Plans to the CRTC. The RPCs also created Relief Implementation Plans for submission to the CRTC via the CISC process. Once the public process is completed the CRTC may accept the RPC recommendations, alter the recommendations or order a completely different relief plan.

In addition, the PD and RIP for NPA 506 that were drafted in 2017 were updated by the CNA to include results from the January 2018 R-NRUF, as directed by the NPA 506 RPC. A final version was approved by the RPC, sent to the CRTC on 31 May and approved by the CRTC in Telecom Decision CRTC 2018-332 on 30 August. Based on Telecom Decision CRTC 2018-59, the NPA 709 RPC was tasked with revising the NPA 709 Relief Implementation Plan. A revised plan was finalized by the RPC on 15 May and sent to the Secretary General of the CRTC. Telecom Decision CRTC-2018-333 was released approving the revised Relief Implementation Plan.

During 2018 the CNA chaired, supplied a Secretary and Relief Planner and prepared minutes for two two-day and one one-day face-to-face RPC meetings and six conference calls. Additionally, the CNA maintained six Relief Planning Documents (three Planning Documents and three Relief Implementation Plans) and performed thirteen J-, R-, and G-NRUFs as listed above. The CNA was required to develop three NPA Relief Planning Reports for the CSCN.

CNA Role in NANPA Controlled Resources

In addition to NPA Codes, the NANP contains other numbering resources. These numbering resources are also assigned to Canadian telecommunications entities by the NANPA via the CNA. Applications for these resources are received by the CNA and reviewed for accuracy and to ensure that the applicant meets Canadian regulatory requirements. Complete and correct applications are forwarded to the NANPA along with a recommendation for assignment. The CNA will deny the assignment of these resources and return the application where the applicant does not meet Canadian regulatory requirements or the requirements of the applicable assignment guideline or its Canadian adjunct. No application is rejected because it is not completed correctly unless it is impossible to acquire the necessary information from the applicant. The CNA works with the applicant until the application is properly completed. Once the NANPA has assigned a code, it is forwarded to the CNA who informs the applicant of the assignment. The CNA acts as the Canadian telecommunications industry liaison with the NANPA.

The CNA keeps a separate listing of all resources assigned to Canadian entities along with links to the associated Canadian guidelines, Industry Numbering Committee assignment guidelines and the associated Canadian Adjunct to those guidelines. These items may be accessed through the CNA website at http://www.cnac.ca/ by using the drop down list under the "Numbering" button.

The CNA is required to receive, validate and forward applications from Canadian entities to NANPA for assignment of the following resources:

- NPA Codes;
- International Inbound NPA 456 NXX Codes;
- PCS/N00 NXX Codes (NPA 500 NXXs) reserved for Canadian entities;
- NPA 9YY NXX Codes;
- NPA 800 855-XXXX line numbers; and
- Carrier Identification Codes (CICs).

During 2018, three CICs were recovered and 14 were updated.

Two NPA Codes (428, 672) were assigned in 2018.

CNA Role in Telcordia^{TM} Technologies, Inc. dba iconectiv Controlled Resources

In addition to the NANPA controlled resources, SS7 resources are assigned to Canadian telecommunications entities by iconectiv with the assistance of the CNA. iconectiv is under contract by the American National Standards Institute (ANSI) to administer these resources in North America. Applications for these resources are submitted online to iconectiv and require an upfront fee payment before the application is processed. Most applicants require the CNA's assistance to determine if they require a Small Network Code or a Network Code Block and to determine if they meet the regulatory requirements to be eligible for an assignment. The CNA is normally required to assist new applicants to locate the SS7 related website and complete the online form. Once iconectiv has assigned a code, notice of its assignment is forwarded to the CNA and the applicant. The CNA acts as the Canadian telecommunication industry liaison with iconectiv.

A description of SS7 Network Codes and the Global Title Translation (GTT) Point Code Industry Notification Process, which is facilitated by CRTC staff, can be found at the CNA website at http://www.cnac.ca/ by using the drop down list under the "numbering" button. It should be noted that a list of these resources does not currently appear on the CNA website at the request of the industry.

During 2018, one SS7 Small Network Code and one Network Point Code Blocks were assigned.

Other Administration Activities

The CNA is required to receive, validate and process requests and maintain records for NPA 600 NXX Codes. A description of these resources and a listing of assignments may also be found on the CNA website. No NPA 600 NXX Codes were assigned in 2018.

The CNA is required to receive, validate and process requests and maintain records for Canadian Emergency Service Routing Digit (ESRD) Blocks. A description of these resources and a listing of assignments may also be found on the CNA website. There were 138 ESRD Blocks assigned during 2018.

The CNA is required to receive, validate and process requests and maintain records for Canadian MIN Block Identifier (MBI) Codes. A description of these resources and a listing of assignments may also be found on the CNA website. During 2018, there were 315 Codes assigned and six reclaimed.

The CNA is required to receive, validate and process requests and maintain records for System Identifier Codes (SIDs). A description of these resources can be found on the CNA website. There were no SID assignments in 2018.

The CNA is required to receive, validate and process requests and maintain records for the Mobile Network Code (MNC) portion of International Mobile Station Identifier Codes (IMSIs) used in Canada. A description of these resources and a listing of assignments can be found on the CNA website. Four MNCs were assigned in 2018.

The CNA is required to seek clarification of CSCN and INC Industry Guidelines from the CSCN or CRTC, as necessary. There have been a number of occasions when this has been required. In 2018, the CNA developed one TIF report and assisted with the development of another three as a participant in the CSCN. Additionally, the CNA is usually a member of any Contribution Development Team that submits a contribution to the CSCN, though there were no Contribution Development Teams active during 2018. The CNA submitted six stand-alone contributions in 2018. The CNA also acted as the Task Sponsor for two new TIFs initiated during 2018.

The CNA is required to receive, validate and process requests and maintain records for Canadian Non-Geographic Code numbering resources. Canadian Non-Geographic NPAs include 622, 633, 644, 655, 677, and 688. These are referred to as "6YY" NPAs.

During 2018, 54 Non-Geographic Codes were assigned by the CNA. The CNA continues to closely monitor these assignments to ensure that these Codes are put in-service within the appropriate timeframes.

Industry Fora

To ensure that the CNA is up-to-date with CSCN activities and to ensure that the CSCN is able to develop and modify number assignment guidelines, the CNA attends a number of industry fora in the US. The CNA attended Common Interest Group on Routing and Rating (CIGRR) meetings to ensure that the Canadian industry is aware of rating and routing changes in the US that affect Canada and Canadian assignment guidelines. Generally, there is no other Canadian entity attending these meetings. The CNA attended 4 CIGRR meetings in 2018.

The CNA is required to develop and maintain knowledge of numbering activities at the INC and assess the impacts of any INC activities on Canadian numbering and CNA functions. The CNA attended five face-to-face INC meetings in 2018 and has delivered six summaries of INC issues that could affect Canadian assignment guidelines to the CSCN following all INC general meetings. The CNA also participated in ATIS conference calls as they developed position papers/responses. No other Canadian entity attends the INC meetings.

The CNA also participates in ATIS's International Mobile Subscriber Identity (IMSI) Oversight Council (IOC) conference calls. In 2018 the IOC created a guideline for the assignment of an IMSI Block Number (IBN) as part of the shared Home Network Identifier (HNI) for Citizens Broadband Radio Service (CBRS) 3550-3700 MHz spectrum users.

Representatives from the CNA also participated in two Innovation, Science and Economic Development Canada combined face-to-face/conference calls.

It should also be noted that the CNA attended one North American Numbering Council (NANC) meeting due to the volatile regulatory situation in the US concerning numbering issues.

In 2018, the CNA also attended eleven Local Number Portability Administration Transition Outreach and Education Planning webcasts.

Canadian CIGGR

The Canadian Common Interest Group on Routing and Rating (CIGRR) was implemented to ensure that the Canadian industry is aware of rating and routing changes in the US that affect Canada, and to develop Canadian-only solutions to rating and routing issues. The CNA participated in three teleconferences in 2018.

Website

The CNA is required to establish and maintain a public Internet website. The CNA website contains numbering information, which is unique to Canada, and generally it does not duplicate information that is available on the NANPA website. The CNA website provides a brief description of the information that is contained on the NANPA website, including the NANPA Internet website address.

The following information is available on the CNA Internet website at www.cnac.ca:

1) CNA mandate, mailing address, contact names, telephone and facsimile numbers, and E-mail addresses;

2) Canadian Numbering Administration Consortium (CNAC) background, mailing address, contact names, telephone and facsimile numbers, and E-mail addresses;

3) Canadian Geographic NPA Information including a Map of Canada showing Canadian geographic NPAs and a list of CO Codes and the status of each (e.g., assigned, reserved, protected, test, available) in a downloadable spreadsheet file format;

4) Canadian Non-Geographic NPA and CO Code information. Non-Geographic NPA CO Codes are not associated with Exchange Areas and cannot be shown on a map. A list of Non-Geographic CO Codes and the status of each (e.g., assigned, reserved, protected, test, available) in a downloadable spreadsheet file format is available;

5) A list of Canadian National Numbering Resources;

6) Unique CRTC-approved Number Resource Assignment Guidelines, including the CSCN Adjunct to the CISC Administrative Guidelines and links to the CRTC website;

7) List of INC Number Resource Assignment Guidelines which apply in Canada plus the address of the website where copies may be obtained;

8) Other CNA information or reports as directed by CNAC and the CRTC;

9) CNA Annual Reports;

10) CSCN Information;

11) CSCN Membership List including company name, contact name, mail address, telephone and facsimile number, and e-mail address;

12) Current Schedule of CSCN meetings and conference calls;

13)   Most recent Draft CSCN Meeting Minutes;

14)   Applicable NPA Relief Planning documentation; and,

15)   Historical NRUF results and the latest NRUF forms and instructions.

This information is updated on a timely basis when the CNA receives new information and at a minimum of once every week. On the evening of Friday, December 21, 2018 the cnac.ca domain was transferred to COMsolve. In 2018 prior to the transfer of the domain the website had 273,000 sessions comprising 456,716 page views.