



Canadian Numbering Administrator Annual Report

January 1, 2023
to
December 31, 2023

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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:

1. Developing number planning and implementation strategies for the Canadian telecommunications industry;
2. Ensuring the equitable assignment of numbering resources in a competitive Canadian telecommunications industry environment;
3. Ensuring that adequate and appropriate numbering resources are always available for Canadian public telecommunication services and customers;
4. 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;
5. Ensuring the efficient, effective and equitable use of numbering resources in Canada including the assignment, administration, forecasting and conservation of these resources;
6. Providing input and support about Canadian numbering practices to the CRTC via the CISC process;
7. Promoting CISC-agreed positions on numbering issues in the North American telecommunications industry fora; and,
8. Recommending to the CRTC, via the CISC process, allocations of numbering resources for the Canadian telecommunications industry.

Subjects worked on by the CSCN are identified as Tasks. Each Task is given a serialised number, and its details are maintained on a Task Information Form (TIF).

Canadian Numbering Administrator (CNA) Organization

The mandate of the Canadian Numbering Administrator (CNA) is to provide a numbering administration service to the Canadian telecommunications industry under contract to the Canadian Numbering Administration Consortium Inc. The administration of Canadian numbering resources is under the regulatory oversight of the CRTC.

Effective January 1, 2019, the CNA operates via a division of COMsolve Inc. Kelly T. Walsh serves as the Program Manager of the CNA. The CNA office is located at 880 Taylor Creek Drive, Room 102, Orleans, ON K4A 0Z9.

Canadian Numbering Administrator Duties and Functions

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 and conference calls of the 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 a current and accurate CSCN distribution list;
4. Prepares and ensures the timely distribution of the 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.

Central Office (CO) 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 Number Plan Areas (NPAs – i.e., Area Codes) 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).

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 North American Numbering Plan Administrator (NANPA):

- 1) Receives, validates, and forwards applications from Canadian entities to NANPA for assignment of:
 - a. NPA Codes;
 - b. NPA 9YY NXX Codes;

- c. NPA 800 855-XXXX line numbers; and
 - d. Carrier Identification Codes (CICs).
- 2) Reclaims resources in certain circumstances.

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., NPA 600 NXX Codes, NPA 6YY, and NPA 9YY resources), International Mobile Station Identity (IMSI)/Mobile Network Codes (MNCs), 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 Implementation Plans & Notices for 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, CRTC and Innovation, Science and Economic Development (ISED) 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 ISED 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, ISED, 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

The CNA performs Secretarial services for the CSCN. There are generally 3 plenary sessions and various other extra-plenary virtual sessions throughout the year.

During 2023, the following one plenary meeting was held virtually over 2 days, and the remaining two sessions were held in-person in Ottawa, Ontario:

Table 1 – Summary of 2023 Plenary CSCN Sessions

Date	CSCN Session
22 February 2023, and 23 February 2023	CSCN 125 (2 virtual sessions)
13 June 2023	CSCN 126 (in-person)
11 October 2023	CSCN 127 (in-person)

Copies of the meeting minutes are located at <https://crtc.gc.ca/cisc/eng/cisf3fa.htm#minutes>.

In addition to the regular plenary-session CSCN meetings, the CSCN Secretary recorded minutes and/or updated documentation for the following extra-plenary CSCN virtual sessions¹ (minutes were not recorded for meetings of the Contribution Development Teams):

Table 2 – Summary of 2023 CSCN Extra-Plenary Virtual Sessions

Date	Meeting Topic
10 January 2023	TIF 112
24 January 2023	TIF 112
7 February 2023	TIF 112
8 February 2023	CSCN 125 Agenda
21 February 2023	TIF 112
7 March 2023	TIF 112
21 March 2023	TIF 112
4 April 2023	TIF 112
9 May 2023	TIF 112
5 May 2023	CSCN 126 Agenda
20 June 2023	TIF 112
10 July 2023	TIF 112
18 July 2023	TIF 112
15 August 2023	TIF 112
29 August 2023	TIF 112
8 September 2023	TIF 112 Contribution Development Team
12 September 2023	TIF 112 Contribution Development Team
15 September 2023	TIF 112 Contribution Development Team
22 September 2023	TIF 112 Contribution Development Team
27 September 2023	CSCN 127 Agenda
29 September 2023	TIF 112 Contribution Development Team
7 October 2023	TIF 112 Contribution Development Team
14 October 2023	TIF 112 Contribution Development Team

¹ NRUF result and RPC calls are recorded elsewhere in this annual report. See Tables 7 and 8.

Date	Meeting Topic
21 October 2023	TIF 112 Contribution Development Team
28 October 2023	TIF 112 Contribution Development Team
1 November 2023	TIF 113
10 November 2023	TIF 112 Contribution Development Team
17 November 2023	TIF 112 Contribution Development Team
21 November 2023	Review CNA January 2024 NRUF contribution
24 November 2023	TIF 112 Contribution Development Team
1 December 2023	TIF 112 Contribution Development Team
8 December 2023	TIF 112 Contribution Development Team
15 December 2023	TIF 112 Contribution Development Team
22 December 2023	TIF 112 Contribution Development Team

CSCN Chair

The CSCN Chair is required to chair all CSCN meetings and virtual sessions and attend all CISC meetings and virtual sessions as well as prepare and present reports to the CISC concerning CSCN activities. CNA staff also participated in the following CISC meetings:

Table 3 – Summary of 2023 CISC Meetings Attended

Date	Meeting Type
13 January 2023	Email Walkaround
16 May 2023	Email Walkaround
2 August 2023	Email Walkaround
31 October 2023	Email Walkaround

Two CSCN Chair reports were presented to the CISC during 2023, providing updates about the current CSCN TIFs.

Geographic 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 (i.e., 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 submitted to the CNA requesting 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 iconectiv® TruOps Telecom Routing Administration (TRA) Business Integrated Routing & Rating Database System (BIRRRDS) 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 and the CNA subsequently updates the CNAS with the in-service condition.

The CO Code listings are updated daily on the CNA website at https://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 <https://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 2023, 40 applications were denied, suspended or cancelled because the applicants did not respond to the CNA's requests for additional documentation, had not obtained CRTC staff approval within the fourteen-calendar day processing period allowed by the Canadian COCA Guideline, had cancelled the application themselves or were denied because the applying entity was on the CNAC suspended list.

On 30 October 2023, the CNA received direction via a CRTC Secretary General letter to immediately implement interim measures of limiting the assignment of geographic CO Codes. The following excerpt is from the direction:

"...the Commission directs, effective immediately, the implementation of an interim measure requiring the CNA to limit the assignment of geographic CO codes to the July 2023 round of Numbering Resource Utilization Forecast (NRUF) on a yearly, per carrier, and per Numbering Plan Area (NPA) complex basis, for all carriers, and 80% of the forecasts for any carrier who has forecasted more than 20 codes for any given year and NPA complex. Under this measure, carriers will still be able to obtain telephone numbers to grow their business as the forecast covers the period from 2023 to 2029. However, if a carrier requests CO codes beyond those levels, it will have to apply to both the CNA and the Commission, justifying why additional resources are required."

This direction caused an increase in denied CO Code Part 1 applications in November and December of 2023. The CRTC letter and subsequent correspondence with the CNA may be found using the following CNA website links:

- [CRTC Secretary General letter to the CNA \(dated 2023-10-30\)](#)
- [CNA Letter to CRTC Secretary General with implementation assumptions \(dated 2023-11-08\)](#)
- [CRTC staff letter concurring with CNA implementation assumptions \(dated 2023-11-15\)](#)

The following table lists the Geographic CO Code Administration activity by month in 2023. It should be noted that all the CO Code administration activities were completed within the timeframes stipulated in the Canadian COCA Guideline. The average time to process a CO Code application in 2023 was 7.8 calendar days.

Table 4 – Summary of CO Code Administration Activity in 2023

Month	Part 1 Initial/Growth	Part 1 Update	Bulk A	Bulk B	Reclaimed	Other	Total
January	84	2	0	0	1	2	89
February	116	1	0	0	0	0	117
March	50	4	0	0	14	2	70
April	48	0	0	0	3	1	52
May	75	16	0	0	1	0	92
June	121	1	0	0	2	10	134
July	83	0	0	0	0	8	91
August	76	6	0	0	25	2	109
September	120	7	0	0	4	1	132
October	101	1	0	0	0	0	102
November	41	11	0	0	0	15	67
December	47	9	0	0	1	0	57
2023 Total	962	58	0	0	51	41	1112

The following table summarizes CO Code Administration annually from 2001 to 2023.

Table 5 – Summary of Historical CO Code Administration

Year	Part 1 Initial/Growth	Part 1 Update	Bulk A	Bulk B	Reclaimed	Other	Total
2001	572	305	110	374	112	56	1529
2002	358	290	0	192	56	68	964
2003	335	343	0	64	30	21	793
2004	453	280	13	45	44	88	923
2005	649	259	116	0	40	30	1094
2006	933	359	330	55	51	41	1769
2007	1028	254	42	0	90	61	1475
2008	992	198	10	0	131	28	1359
2009	645	163	105	19	76	12	1020
2010	1022	180	15	41	54	20	1332
2011	808	214	149	56	29	7	1263
2012	829	122	112	23	27	13	1126
2013	808	134	0	104	48	33	1127
2014	687	167	108	117	63	13	1155
2015	869	103	53	63	36	15	1139
2016	1572	145	150	0	32	17	1916
2017	1149	261	486	0	52	42	1990
2018	1582	186	213	0	12	7	2000
2019	837	723	0	0	55	18	1633
2020	931	186	0	0	15	9	1141
2021	1114	464	0	0	6	79	1663
2022	1309	388	0	0	26	39	1762
2023	962	58	0	0	51	41	1112

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/Exchange Area 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 already 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 already 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 generally represents Cancelled, Suspended or Denied CO Code applications tracked as miscellaneous by the CNAS performance tracking.

Numbering Resource Utilization Forecast (NRUF)

Each NPA Code contains approximately 760 to 780 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 complex, that are assigned to them as well as forecast the number of CO Codes they expect to require, by NPA complex, 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 approval/action before the final aggregate data is published by posting on the CNA website and is presented to the CSCN. The CNA meets with CRTC staff to discuss the NRUF results in detail before they are released to the CSCN and NANPA.

When the G-NRUF indicates that an NPA will exhaust within or at about 72 months (the Relief Window), the CNA begins conducting Relief Planning NRUFs (R-NRUFs) at six-month intervals in accordance with the current CRTC-approved *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline*. When the exhaust is forecast to be within 36 months, the CNA notifies CRTC staff, who issue a Notice of Consultation. The Notice is used to stand up an NPA Relief Planning Committee and inform the public that NPA relief is required. Further, it solicits interested parties to be part of the Committee.

When NRUF results indicate that the forecasted demand for CO Codes in an NPA exceeds the supply of CO Codes under situations described in Section 9.1 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.

In cases where detailed forecasts of CO Code growth for a particular NPA is required in circumstances other than those covered by the other types of NRUFs, a Special NRUF (S-NRUF) may be conducted.

During 2023, the CNA conducted the following G-NRUF, R-NRUF, J-NRUF and S-NRUF as indicated in the following table.

Table 6 – Summary of 2023 NRUFs

NRUF Type	Due Date	NPAs/Complexes
G-NRUF	1 February 2023	All geographic NPAs (excluding those in the R-NRUF)
G-NRUF	1 February 2023	Non-Geographic NPAs using resources in NPAs: 5XX, 600, 6YY and 9YY
R-NRUF	1 February 2023	<ul style="list-style-type: none"> • 226/382/519/548 (Southwestern Ontario) • 236/250/257/604/672/778 (British Columbia) • 416/437/647/942 (Metro Toronto) • 428/506 (New Brunswick)
J-NRUF	28 April 2023	<ul style="list-style-type: none"> • 709/879 (Newfoundland and Labrador)

NRUF Type	Due Date	NPA/Complexes
R-NRUF	28 July 2023	<ul style="list-style-type: none"> • 236/250/257/604/672/778 (British Columbia) • 249/683/705 (North-Central Ontario) • 289/365/742/905 (Southern Ontario) • 343/613/753 (Eastern Ontario) • 367/418/581 (Eastern Québec) • 368/403/587/780/825 (Alberta) • 416/437/647/942 (Metro Toronto) • 782/902 (Nova Scotia and Prince Edward Island)
S-NRUF	28 July 2023	<ul style="list-style-type: none"> • 709/879 (Newfoundland and Labrador) • 622/633 (Non-Geographic)

All the 2023 NRUF results may be found at <https://www.cnac.ca/NRUF/NRUF.htm#Results>.

In addition to the January 2023 NRUFs, the CNA was directed in a CRTC staff letter dated 7 November 2022 (RE: 2023 Numbering Resource Utilization Forecast Survey) to conduct a Third-Party Numbering Utilization Survey. Code Holders were to complete a form detailing the quantity of TNs held by Third-Party users, grouped by NPA Complex/non-geographic NPA and Third-Party users, as of 1 January 2023. This request was based on the CNRE135A report submitted by the CSCN, wherein the committee agreed with consensus that a one-time, proof of concept utilization survey be conducted to obtain information on number utilization rates of Third-Party users. The results were provided to CRTC staff.

The following joint conference calls were held with the CSCN and corresponding RPCs to review NRUF results in 2023:

Table 7 – Summary of 2023 NRUF Results Conference Calls

Date	Description
6 April 2023	January 2023 All NRUF results
10 May 2023	April J-NRUF results
23 August 2023	July R-NRUF and S-NRUF results

Forecasting Error

To present the accuracy of NRUFs at an aggregate level (i.e., across all TSP submissions in all NPA complexes) the Mean Absolute Percentage Error (MAPE)² has been calculated for each 1st of January

² The **mean absolute percentage error (MAPE)**, also known as **mean absolute percentage deviation (MAPD)**, is a measure of prediction accuracy of a forecasting method in statistics. It usually expresses the accuracy as a ratio defined by the formula:

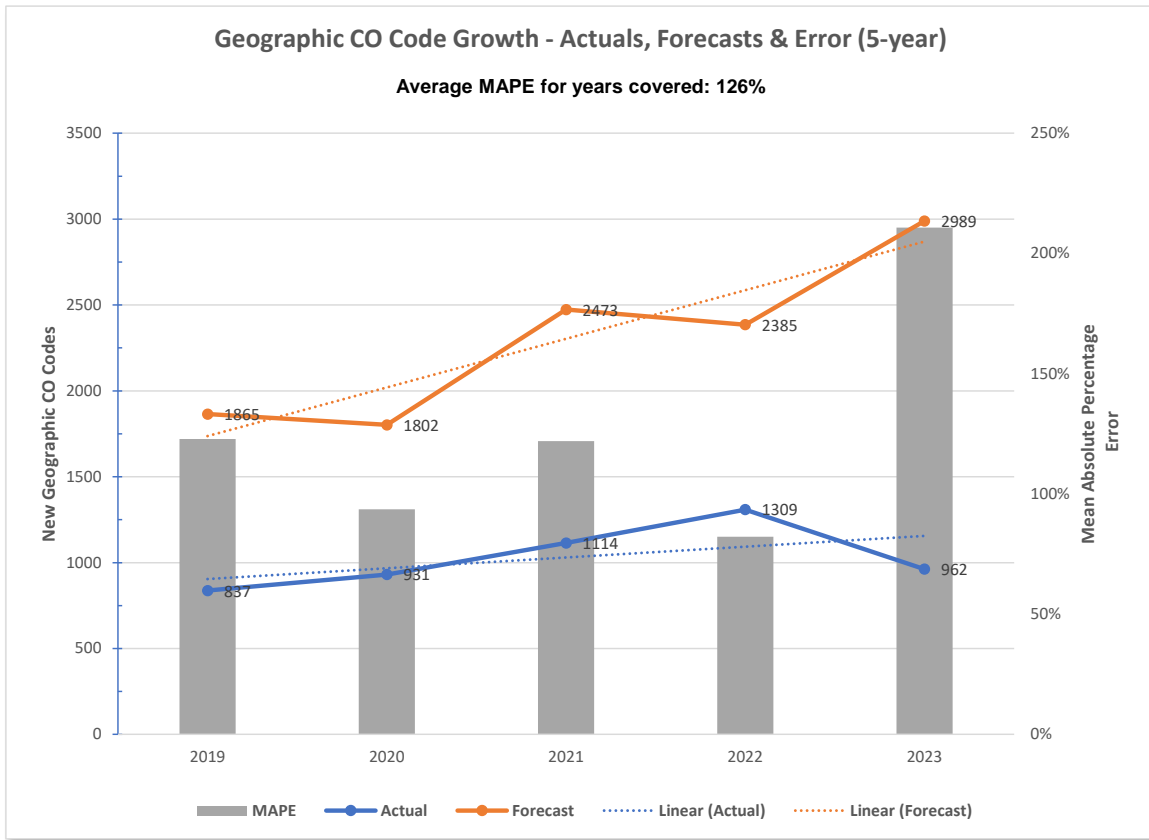
$$MAPE = 100 \frac{1}{n} \sum_{t=1}^n \left| \frac{A_t - F_t}{A_t} \right|$$

where A_t is the actual value and F_t is the forecast value. Their difference is divided by the actual value A_t . The absolute value in this ratio is summed for every forecasted point in time and divided by the number of fitted points n .

https://en.wikipedia.org/wiki/Mean_absolute_percentage_error

based on the previous January 1st submissions. Using the total number of Central Office codes held by all TSPs³ compared to the total number of Central Office codes that the TPSs reported they would hold. The following graph shows the historical error of annual forecasting. The chart also notes the straight average of annual MAPE numbers covered by the 5-year period shown.

Figure 1 – Forecasting Error (MAPE) for last 5 years



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 <https://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 NPA Relief Planning Committee distribution lists, which are frequently updated as participants in the relief planning process are not static.

The information provided by the various NRUFs is used in the development of relief options that are included in the Proposal for Relief of an Overlay [NPA] Complex (PROC) or the Initial Planning Documents (IPDs (in NPAs where 7-digit dialling is still in effect)). The PROC or IPD is posted on the CNA website and a notification is sent to current and prospective CO Code Holders in the affected NPA complex and to any other party that contacted the CNA with an interest in the ensuing NPA relief

³ Central Office codes held include those codes that are: Reserved, Assigned, In-Service or Being Recovered.

activities (e.g., municipalities, public interest groups and the Canadian Security Association). Parties are invited to submit contributions suggesting other relief planning options and to participate in the first RPC meeting.

The following table identifies the 6 RPC meetings held in 2023 which were not related to NRUF results⁴:

Table 8 – Summary of 2023 RPC Meetings

Date	Committee	Description
31 January 2023	NPA 226/519/548 RPC	Review NITF & CATF Progress Reports
21 March 2023	NPA 506 RPC	Review NITF & CATF Progress Reports
25 April 2023	NPA 226/519/548 RPC	Review NITF & CATF Progress Reports
4 May 2023	NPA 709 RPC	RPC meeting to Draft new Relief Implementation Plan and TIF Report
31 May 2023	NPA 506 RPC	Review NITF & CATF Progress Reports
21 July 2023	NPA 226/519/548 RPC	Review NITF & CATF Progress Reports

The initial and all subsequent RPC meetings are chaired by the CNA, which also supplies the NPA Relief Planning Co-ordinator and the RPC secretary. The meeting minutes are prepared by the RPC secretary.

At the initial meeting, IPDs/PROCs 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/PROC 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/PROC or an interested party contribution to become the Planning Document (PD). The Committee will normally come to consensus on a recommended Relief Option. Where an IPD is utilized, 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.

There were 2 RPC chair reports prepared for the CISC concerning the ad hoc relief planning committees' activities during 2023.

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 providers by the NANPA via the CNA. Applications for these resources are received by the CNA and reviewed for accuracy to ensure that the applicant meets Canadian regulatory requirements. Complete and correct applications are entered into the NANP Administration System (NAS) by CNA staff for processing by NANPA. 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

⁴ NRUF result calls are recorded elsewhere in this annual report. See Table 7.

properly completed. Once the NANPA has assigned a code, confirmation 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 most resources assigned to Canadian entities along with links to the associated Canadian guidelines, INC assignment guidelines and the associated Canadian Adjuncts to those guidelines. These items may be accessed through the CNA website at <https://www.cnac.ca/> by using the “Numbering Resources” drop-down menu item.

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

- NPA Codes (on behalf of Canada);
- NPA 9YY NXX Codes;
- NPA 800 855-XXXX line numbers; and
- Carrier Identification Codes (CICs).

Two Geographic NPA Codes were assigned in 2023 bringing the total quantity of Canadian Geographic NPAs assigned, as of 31 December 2023, to 55. Additionally, one Non-Geographic NPA was assigned in 2023. The following table summarizes the NPAs assigned to Canada in 2023.

Table 9 – Summary of NPAs Assigned to Canada in 2023

NPA	Purpose	Date of Assignment
NPA 633	Non-Geographic NPA Relief	10 April 2023
NPA 942	Geographic NPA Relief - Metro Toronto	10 May 2023
NPA 257	Geographic NPA Relief - British Columbia	10 May 2023

During 2023, the following NANPA-controlled resource activity occurred (counts during the year represent confirmations that were received back from NANPA):

Table 10 – Summary of 2023 NANPA Controlled Resource Activity

NANPA Resource	New Codes	Updated Codes	Recovered Codes	Total
NPAs	3	n/a	0	3
NPA 9YY NXXs	0	0	0	0
NPA 800 855-XXXX	0	0	0	0
CICs	0	5	0	5

CNA Role in iconectiv® Controlled Resources

SS7 resources are assigned to Canadian telecommunications entities by iconectiv with the assistance of the CNA in its capacity as a facilitator. The CNA does act as the Canadian telecommunications industry liaison with iconectiv when necessary.

A description of SS7 Network Codes and the Global Title Translation (GTT) Point Code Industry Notification Process, which is facilitated by CRTC staff, may be accessed through the CNA website at <https://www.cnac.ca/> by using the “Numbering Resources | Other Codes” drop-down menu item. It should be noted that a list of these resources does not currently appear on the CNA website at the request of the industry, as they are considered proprietary.

Other Administration Activities

Other Canadian Numbering Resources

The CNA is required to receive, validate, and process requests and maintain records of other Canadian administered numbering resources. A description of these resources and a listing of assignments may also be found on the CNA website at <https://www.cnac.ca/> by using the “Numbering Resources” drop-down menu item for the following resources:

- 600 NXX Codes
- Canadian Emergency Service Routing Digit (ESRD) Blocks
- Canadian MIN Block Identifier (MBI) Blocks
- System Identifier Codes (SIDs)
- Mobile Network Code (MNC) portion of International Mobile Station Identifier Codes (IMSI)
- Canadian Non-Geographic Code numbering resources (6YY NXX)

The following table summarizes the 2023 Other Canadian Numbering resource activity that occurred and includes the average time to process in days:

Table 11 – Summary of 2023 Other Canadian Numbering Resource Activity

Resource	New Codes	Updated Codes	Recovered Codes	Total	Average Processing Time (days)
600 NXXs	0	0	0	0	-
ESRD Blocks	79	0	0	79	6.5
MBI Blocks	169	0	0	0	4.4
SIDs	0	0	0	0	-
MNCs	4	9	0	13	8.2
6YY NXXs	224	50	0	274	3.8

Note on the Requirement of MBI Resource in Canada

In 2021 the CNA, as the Canadian MBI Administrator (CMA), presented a report at CSCN 120 titled “Canadian MBI Administrator Report on Industry Usage of MBIs” that detailed the results of an industry-wide survey of both users and non-users of MBI resources. Based on the survey and subsequent conversations with block holders, the CMA concluded that it appeared that MBIs are likely no longer required at a network level for wireless operations in Canada. It further concluded that only a single entity had built the MBIs into downstream administrative systems or processes and therefore still required the blocks for that reason.

The CMA made recommendations in the report, that the CSCN may find it prudent to examine sunsetting the use of MBIs by the Canadian industry and that the single entity could internally administer their own serial numbers going forward.

During the survey and research period, all MBI resource holders except for the single entity still utilizing the numbers, elected to return all their MBI resources to the CMA resulting in a return of 30,479 blocks as they were no longer required for their intended purpose.

On 14 March 2024, the CSCN approved Task Information Form (TIF) 114 report CNRE139A recommending the sunsetting of the *Canadian MIN Block Identifier (MBI) Assignment guideline*. On 22 April 2024 the Report was further accepted by the CISC for CRTC consideration. The CMA will continue to administer MBI codes pending a CRTC decision on the report.

Industry Fora Participation

CSCN

CNA staff members participated at the CSCN in reviewing contributions associated with the following TIFs during 2023:

- TIF 112 - Address assignment rate of Non-Geographic (6YY) CO Codes
- TIF 113 - Updating the Canadian Central Office Code (NXX) Assignment Guideline
- TIF 114 - Sunset the Canadian MIN Block Identifier (MBI) Assignment guideline
- TIF 115 - Sunset the Canadian Adjunct to the INC Personal Communications Services (PCS) 5YY NXX Code Assignment Guidelines
- TIF 116 - Setting aside of the 3 remaining reserved Canadian Geographic NPA Codes for relief of exhausting NPA complexes

In August 2023, the CNA also provided a contribution to the CSCN to address the 2024 NRUF process.

CIGRR

To ensure that the CNA is up to date with CSCN activities and to ensure that the CSCN can develop and modify number assignment guidelines, the CNA attends a number of industry fora in the United States (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. The CNA attended the following CIGRR meetings in 2023 as virtual sessions:

Table 12 – Summary of 2023 CIGRR Meetings Attended

Date	Meeting
24-26 January 2023	CIGRR Full Session
18-20 April 2023	CIGRR Full Session
16 May 2023	C284 - Review ACD and BCR/BCD Validations C297 - Auto-creation of NXD E and D Views based on ACD/BCR records
13 June 2023	C284 - Review ACD and BCR/BCD Validations C297 - Auto-creation of NXD E and D Views based on ACD/BCR records
11-13 July 2023	CIGRR Full Session

Date	Meeting
11 September 2023	C301 - Add notification to NANPA when an OCN no longer has an AOCN (EMB1)
17-19 October 2023	CIGRR Full Session

The CNA gave a CNA/CSCN liaison report presentation during each CIGRR Full session.

Canadian CIGRR

The Canadian Common Interest Group on Routing and Rating (CIGRR) was implemented to ensure that the Canadian industry is aware of routing and rating changes in the US that affect Canada, and to develop Canadian-only solutions to routing and rating issues. The CNA attended the following meetings during 2023, all as virtual sessions:

Table 13 – Summary of 2023 Canadian CIGRR Meetings Attended

Date	Meeting
16 March 2023	Canadian CIGRR Full Session
8 June 2023	Canadian CIGRR Full Session
5 October 2023	Canadian CIGRR Full Session

The CNA gave a CNA/CSCN liaison report presentation during each Canadian CIGRR session. Also, during 2023, the CNA contributed to the completion of the Canadian CIGRR Charter, which was published on 9 June 2023.

INC

The CNA is required to develop and maintain knowledge of numbering activities at the ATIS Industry Numbering Committee (INC) and assess the impacts of any of their activities on Canadian numbering administration processes and CNA functions. The CNA (through COMsolve) maintains an ATIS membership and receives all INC working group related correspondence, submissions and draft proposals. The CNA attended several INC meetings by virtual sessions. The CNA delivered four summaries of INC issues that could affect Canadian assignment guidelines to the CSCN following all INC general meetings.

The CNA gave a CNA/CSCN liaison report presentation during each INC numbered session.

The CNA attended the following INC virtual sessions during 2023:

Table 14 – Summary of 2023 INC Meetings Attended

Date	Meeting
7 February 2023	INC 181 Part 1 of 2 (virtual)
9 February 2023	INC 181 Part 2 of 2 (virtual)
9 May 2023	INC 182 Part 1 of 2 (virtual)
11 May 2023	INC 182 Part 2 of 2 (virtual)
8-9 August 2023	INC 183 (virtual)
28 August 2023	INC Interim Meeting (virtual)
24-26 October 2023	INC 184 (virtual)

Date	Meeting
30 November 2023	INC Interim Meeting (virtual)
11 December 2023	INC Interim Meeting (virtual)
15 December 2023	INC Interim Meeting (virtual)

Website

The CNA is required to establish and maintain a public Internet website at <https://www.cnac.ca/>. 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 (<https://nationalnanpa.com/>). 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:

1. CNA mandate, mailing address, contact names, telephone numbers, and email addresses;
2. Canadian Numbering Administration Consortium (CNAC) background, mailing address, contact names, telephone numbers, User Service Agreements, and email addresses;
3. Canadian Geographic NPA Information including a Map of Canada showing Canadian Geographic Area Codes (NPAs) and a list of CO Codes and the status of each (e.g., assigned, reserved, protected, test, available) in both a friendly and a downloadable data 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, experimental, available) in both a friendly and a downloadable data 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 Distribution List instructions⁵;
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, once every week. In 2023 the website generated the following statistics from Google Analytics:

⁵ In an agreement reached at CSCN 123 (2022-06-14), the committee requested that the CSCN Distribution List no longer be published on the CNA website.

Table 15 – Summary of 2023 www.cnac.ca Website Analytics

Metric	Value
Sessions ⁶	369,898
Pageviews ⁷	515,631

The website currently achieves a 98% 'A'-level rating for Web Content Accessibility Guidelines (WCAG) 2.0, with the major exception being 3rd-party documents, which the CNA is required to host.

⁶ **Session** - "The period of time a user is active on your site or app. By default, if a user is inactive for 30 minutes or more, any future activity is attributed to a new session. Users that leave your site and return within 30 minutes are counted as part of the original session." (<https://support.google.com/analytics/answer/6086069?hl=en>)

⁷ **Pageview** - "A pageview (or pageview hit, page tracking hit) is an instance of a page being loaded (or reloaded) in a browser. Pageviews is a metric defined as the total number of pages viewed." (<https://support.google.com/analytics/answer/6086080?hl=en>)