



# Canadian Numbering Administrator Annual Report

January 1, 2024  
to  
December 31, 2024

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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 2024, the following three plenary meetings were held in-person in various locations:

**Table 1 – Summary of 2024 Plenary CSCN Sessions**

<b>Date</b>	<b>CSCN Session</b>	<b>Location</b>
21 February 2024	CSCN 128	Gatineau, QC
11 and 12 June 2024	CSCN 129	Montreal, QC
8, 9 October 2024	CSCN 130	Brampton, ON

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 sessions<sup>1</sup> (minutes were not recorded for meetings of the Contribution Development Teams):

**Table 2 – Summary of 2024 CSCN Extra-Plenary Virtual Sessions**

<b>Date</b>	<b>Meeting Topic</b>
05 January 2024	TIF 112 CDT
16 January 2024	TIF 112
7 February 2024	CSCN 128 agenda setting conference call
9 February	TIF 112 CDT
14 February 2024	TBP Conference Call
15 February 2024	TBP Conference Call
16 February 2024	TIF 112 CDT
20 February 2024	TBP Question Team Meeting
23 February 2024	TIF 112 CDT
27 February 2024	TBP Question Team Meeting
1 March 2024	TIF 112 CDT
5 March 2024	TBP Question Team Meeting
12 March 2024	TBP Question Team Meeting
14 March 2024	TBP Conference Call
15 March 2024	TIF 112
19 March 2024	TIF 117
19 March 2024	TBP Question Team Meeting
26 March 2024	TIF 117
26 March 2024	TBP Question Team Meeting
5 April 2024	TBP Conference Call
12 April 2024	TIF 120
16 April 2024	TIF 119
19 April 2024	TIF 118
25 April 2024	TIF 119 CDT
1 May 2024	TIF 105
2 May 2024	TIF 118

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

<b>Date</b>	<b>Meeting Topic</b>
6 May 2024	TIF 119 CDT
8 May 2024	TIF 118
13 May 2024	TIF 119 CDT
16 May 2024	TIF 118
24 May 2024	TIF 119
28 May 2024	TIF 118
28 May 2024	CSCN 129 Agenda Setting Conference Call
4 June 2024	TIF 117
5 June 2024	TIF 119 CDT
6 June 2024	TIF 118
18 June 2024	TIF 117
18 June 2024	TIF 118
20 June 2024	TIF 118
21 June 2024	TIF 118
25 June 2024	TIF 118
26 June 2024	TIF 118
3 July 2024	TIF 119
10 July 2024	TIF 119
11 July 2024	TIF 118
17 July 2024	TIF 119
19 July 2024	TIF 119
22 July 2024	Non-Geographic and 950 Access Codes Conference Call
23 July 2024	TIF 119
25 July 2024	TIF 119
20 August 2024	TIF 117
27 August 2024	TIF 118
28 August 2024	TIF 118
4 September 2024	TIF 117
5 September 2024	TIF 120
12 September 2024	TIF 112
16 September 2024	TIF 117
24 September 2024	CSCN 130 Agenda Setting Conference Call
25 September 2024	TIF 118
17 October 2024	TIF 120
24 October 2024	TIF 120
13 November 2024	CSCN meeting to review Letter from CSCN to CRTC Recommending Canada follow ATIS NPA Allocation Plan and Assignment Guidelines
15 November 2024	TIF 117
19 November 2024	TIF 112
20 November 2024	TBP Rollout Plan

Date	Meeting Topic
26 November 2024	TIF 112 CDT
26 November 2024	TIF 119
27 November 2024	CSCN meeting to review the draft letter from CSCN Chair to CRTC
2 December 2024	TIF 117
3 December 2024	TIF 112
17 December 2024	TIF 118
18 December 2024	TIF 118

## 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 2024 CISC Meetings Attended**

Date	Meeting Type
22 & 25 April 2024	Virtual Meeting
3 September 2024	Email Walkaround

Two CSCN Chair reports were presented to the CISC during 2024, 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 (BIRRDs) 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](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 2024, 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 2024. 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 2024. 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 2024 was 6.20 calendar days.

**Table 4 – Summary of CO Code Administration Activity in 2024**

<b>Month</b>	<b>Part 1 Initial/Growth</b>	<b>Part 1 Update</b>	<b>Bulk A</b>	<b>Bulk B</b>	<b>Reclaimed</b>	<b>Other</b>	<b>Total</b>
<b>January</b>	65	4	0	0	0	9	<b>78</b>
<b>February</b>	27	1	0	0	51	4	<b>83</b>
<b>March</b>	44	28	0	0	4	5	<b>81</b>
<b>April</b>	35	20	0	0	2	5	<b>62</b>
<b>May</b>	64	6	0	0	0	4	<b>74</b>
<b>June</b>	29	14	0	0	0	6	<b>49</b>
<b>July</b>	15	13	0	0	3	1	<b>32</b>
<b>August</b>	89	4	0	0	1	8	<b>102</b>
<b>September</b>	64	3	0	0	0	7	<b>74</b>
<b>October</b>	46	1	0	0	0	1	<b>48</b>
<b>November</b>	27	2	0	0	0	0	<b>29</b>
<b>December</b>	53	36	0	0	1	3	<b>93</b>
<b>2023 Total</b>	558	132	0	0	62	53	<b>805</b>

The following table summarizes CO Code Administration annually from 2001 to 2024.

**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
2024	558	132	0	0	62	53	805

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.

Prior to 1 November 2024, 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*. On 1 November 2024, the CRTC approved updates to the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline* that were recommended by the CSCN. As of 1 November 2024, when an NPA is on or about 36 months from exhaust, the CNA begins conducting R-NRUFs and 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 2024, the CNA conducted the following G-NRUF, R-NRUF, J-NRUF and S-NRUF as indicated in the following table.

**Table 6 – Summary of 2024 NRUFs**

<b>NRUF Type</b>	<b>Due Date</b>	<b>NPAs/Complexes</b>
G-NRUF	1 February 2024	All geographic NPAs (excluding those in the R-NRUF)

NRUF Type	Due Date	NPAs/Complexes
G-NRUF	1 February 2024	Non-Geographic NPAs using resources in NPAs: 5XX, 600, 6YY and 9YY
R-NRUF	1 February 2024	<ul style="list-style-type: none"> <li>• 226/382/519/548 (Southwestern Ontario)</li> <li>• 236/250/257/604/672/778 (British Columbia)</li> <li>• 416/437/647/942 (Metro Toronto)</li> <li>• 428/506 (New Brunswick)</li> </ul>
R-NRUF	29 July 2024	<ul style="list-style-type: none"> <li>• 236/250/257/604/672/778 (British Columbia)</li> <li>• 249/683/705 (North-Central Ontario)</li> <li>• 289/365/742/905 (Southern Ontario)</li> <li>• 343/613/753 (Eastern Ontario)</li> <li>• 367/418/581 (Eastern Québec)</li> <li>• 368/403/587/780/825 (Alberta)</li> <li>• 416/437/647/942 (Metro Toronto)</li> <li>• 782/902 (Nova Scotia and Prince Edward Island)</li> </ul>
S-NRUF	29 July 2024	<ul style="list-style-type: none"> <li>• 622/633 (Non-Geographic)</li> </ul>

The 2024 NRUF results may be found at <https://www.cnac.ca/NRUF/NRUF.htm#Results>.

The following joint conference calls were held with the CSCN and corresponding RPCs to review NRUF results in 2024:

**Table 7 – Summary of 2024 NRUF Results Conference Calls**

Date	Description
11 April 2024	January 2024 All NRUF results
18 September 2024	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)<sup>2</sup> of CO Code growth has been calculated for each 1<sup>st</sup> of January based on the previous January 1<sup>st</sup> submissions. Using the total number of Central Office codes assigned to all TSPs compared to the total number of Central Office codes that the TSPs

<sup>2</sup> 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:

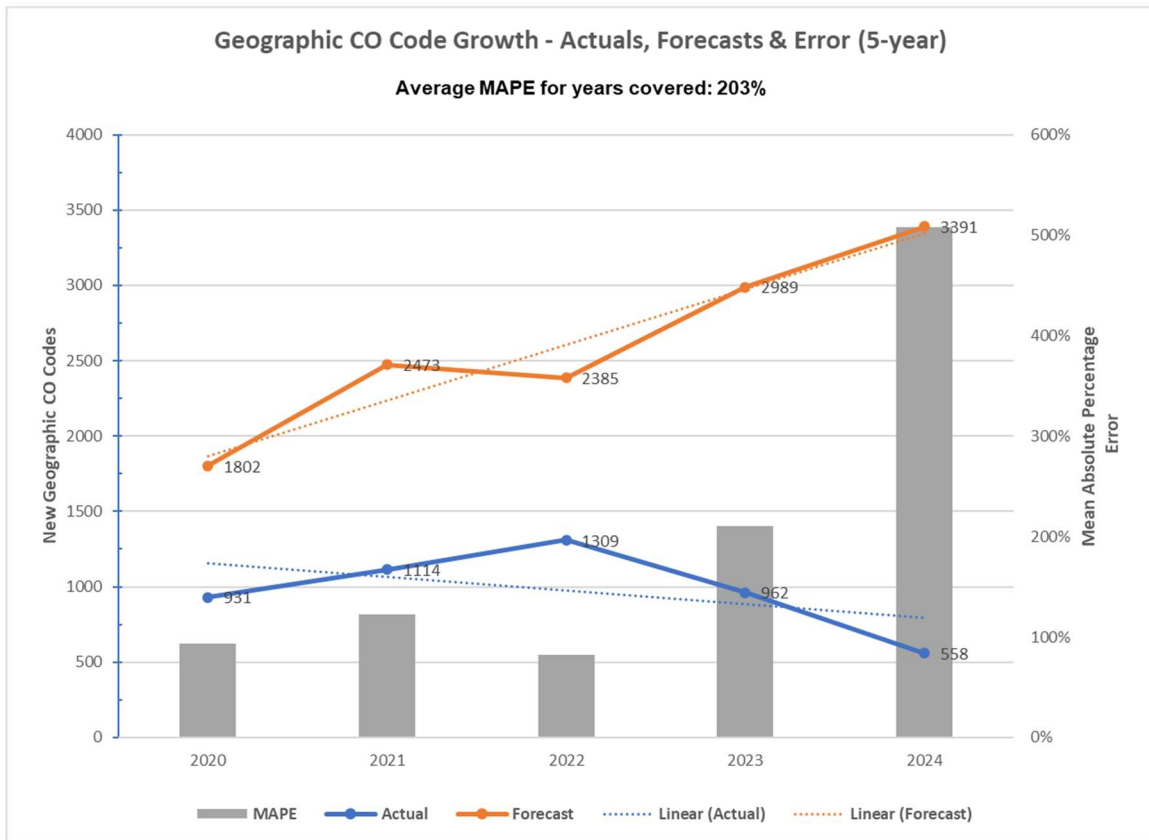
$$MAPE = 100 \frac{1}{n} \sum_{t=1}^n \left| \frac{A_t - F_t}{A_t} \right|$$

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](https://en.wikipedia.org/wiki/Mean_absolute_percentage_error)

forecasted. 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**



While the MAPE figures were impacted by the CRTC interim measures to limit the assignment of geographic CO Codes (noted previously), the maximum additional error that they could have introduced would be 20% error. That 20% figure is even much lower in reality as the restrictions on individual growth submissions over 20 codes were likely less than 25% of all submissions.

## 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 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 3 RPC meetings held in 2024 which were not related to NRUF results<sup>3</sup>:

**Table 8 – Summary of 2024 RPC Meetings**

<b>Date</b>	<b>Committee</b>	<b>Description</b>
23 January 2024	NPA 709 RPC	Review NITF & CATF Reports
27 March 2024	NPA 709 RPC	Review NITF & CATF Reports
2 December 2024	NPA 416/437/647 RPC	Review NITF & CATF 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 was one RPC chair report prepared for the CISC concerning the ad hoc relief planning committees' activities during 2024.

## 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 properly completed. Once the NANPA has assigned a code, confirmation is forwarded to the CNA, who

<sup>3</sup> NRUF result calls are recorded elsewhere in this annual report. See Table 7.

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).

No Geographic NPA Codes were assigned in 2024 leaving the total quantity of Canadian Geographic NPAs assigned, as of 31 December 2024, of 55. Additionally, no Non-Geographic NPAs were assigned in 2024. The following table would summarize the NPAs assigned to Canada in 2024 and is left empty as a placeholder for report comparison purposes.

**Table 9 – Summary of NPAs Assigned to Canada in 2024**

NPA	Purpose	Date of Assignment
	No NPAs assigned in 2024	

During 2024, the following NANPA-controlled resource activity occurred (counts during the year represent confirmations that were received back from NANPA):

**Table 10 – Summary of 2024 NANPA Controlled Resource Activity**

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

## 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 2024 Other Canadian Numbering resource activity that occurred and includes the average time to process in days:

**Table 11 – Summary of 2024 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	29	0	0	29	9.3
MBI Blocks	53	0	0	53	8.2
SIDs	0	0	0	0	-
MNCs	11	2	1	14	10.7
6YY NXXs	243	0	0	243	9.3

#### **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 sunset 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 2024:

- 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
- TIF 117 – TBP Implementation Monitoring
- TIF 118 - Update CSCN-Administered Guidelines for Thousands-Block Pooling
- TIF 119 - Report of inclusion of unused numbers from previously assigned CO Codes in pool
- TIF 120 - Report on LIR expansion or Exchange Area consolidation opportunities
- TIF 121 - PROPOSED - Sunsetting the Canadian System Identifier (SID) Guideline

In August 2024, the CNA also provided a contribution to the CSCN to address the 2025 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 2024. CNA staff attended 1 of the 4 sessions in person and the remainder virtually.

**Table 12 – Summary of 2024 CIGRR Meetings Attended**

Date	Meeting
23-25 January 2024	CIGRR Full Session
23-25 April 2024	CIGRR Full Session
23-25 July 2024	CIGRR Full Session
22-24 October 2024	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 2024. One of the 5 sessions was a face-to-face meeting in Ottawa to facilitate specialized BIRRDs training for Thousands-Block Pooling. The remainder were attended as virtual sessions:

**Table 13 – Summary of 2024 Canadian CIGRR Meetings Attended**

<b>Date</b>	<b>Meeting</b>
14 March 2024	Canadian CIGRR Full Session
8 April 2024	Canadian CIGRR Full Session
20 June 2024	Canadian CIGRR Full Session
7-8 August 2024	Face to Face Canadian CIGRR Full Session and BIRRDs training
17 October 2024	Canadian CIGRR Full Session

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

**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 sessions virtually during 2024:

**Table 14 – Summary of 2024 INC Meetings Attended**

<b>Date</b>	<b>Meeting</b>
9 January 2024	Interim meeting to discuss letter to NAOWG (virtual)
30, 31 January & 1 February 2024	INC 185 (in virtual)
23 February 2024	Interim meeting to discuss Issue 951 (virtual)
7 March 2024	Interim meeting to discuss Issue 934 (virtual)
20 March 2024	Interim meeting to discuss Issue 934 (virtual)
2, 3, 4 April 2024	INC 186 (virtual)
17 April 2024	Interim meeting to discuss guideline updates (virtual)
1 May 2024	Interim meeting to discuss Issue 951 (virtual)
8 May 2024	Interim meeting to discuss guideline updates (virtual)
3 June 2024	Interim meeting to discuss guideline updates (virtual)

Date	Meeting
17 June 2024	Interim meeting to discuss guideline updates (virtual)
26, 27 June 2024	INC 187 (virtual)
2 July 2024	Interim meeting (virtual)
11 July 2024	Interim meeting to discuss guideline updates (virtual)
30 July 2024	Interim meeting to discuss guideline updates (virtual)
13, 14, 15 August 2024	INC 188 (virtual)
4 September 2024	Interim meeting to discuss TBCOCAG for new NAS (virtual)
29, 30, 31 October 2024	INC 189 (virtual)
9 December 2024	Interim meeting to discuss NARUC presentation and new issues (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 instructions<sup>4</sup>;
12. Current Schedule of CSCN meetings and conference calls;

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<sup>4</sup> 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.

- 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 2024 the website generated the following statistics from Google Analytics:

**Table 15 – Summary of 2024 www.cnac.ca Website Analytics**

Metric	Value
Sessions <sup>5</sup>	306,790
Pageviews <sup>6</sup>	461,795

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.

## CNA Secure Web Portal

CNA has deployed a Secure Web Portal for secure submission of CO Code Part 1, Part 4 forms and for NRUF files. The portal was completed and user accounts for production submissions by TSPs started in October 2024. The following table lists the submission counts for CO Code Part 1s, CO Code Part 4s and NRUFs from the period of November 2024 through April 2025 inclusive. Submissions do not necessarily represent a 1-to1 match with applications as some applications may have failed validation and required re-submission etc., and a single submission may have multiple CO Codes listed.

**Table 16 – Summary of Secure Web Portal submissions 2024-11 through 2025-04**

Category	Submission Count
CO Code Part 1	77
CO Code Part 4	9
NRUF Forms	9

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<sup>5</sup> **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>)

<sup>6</sup> **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>)