**CRTC INTERCONNECTION STEERING COMMITTEE**

**TIF REPORT**

**Date Submitted:                 2024-05-17**

**WORKING GROUP: CSCN**

**REPORT #:      141A                                                                    File ID: CNRE141A**

**REPORT TITLE**: Proposed changes to the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline* (pre- Thousands-Block Pooling requirements)

**OUTCOME: CONSENSUS**

**RELATED TASK(s) #:** 105

**BACKGROUND:**

TIF 105 was approved by the CSCN on 19 June 2019 to review the relief planning and number forecast processes associated with Relief of an Overlay NPA Complex. The following TIF Reports have been submitted as part of TIF 105:

* CNRE126A (Revised Appendix B, Canadian NPA Relief Planning Timeline, to the Canadian NPA Relief Planning Guideline)
* CNRE129A (Revised Appendix E, Relief Implementation Plan Template, and revised Appendix I, Proposal for Relief of an Overlay NPA Complex Template, to the Canadian NPA Relief Planning Guideline)
* CNRE130A (New Appendix J, Expedited Process for Deferral of Relief, to the Canadian NPA Relief Planning Guideline)

Both CNRE126A and CNRE129A significantly changed the relief planning timeline for new overlay NPAs in Canada and the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline* needed to be updated to align with those changes.

**FACTORS:**

* The relief planning timeline is now approximately 36 months according to the *Canadian NPA Relief Planning Guideline,* Version 8.0, dated 15 May 2023.
* The process of relief implementation has been streamlined with the introduction of Appendix I (Proposal for Relief of an Overlay NPA Complex Outline) of the *Canadian NPA Relief Planning Guideline.*
* These changes do not consider Thousands-Block Pooling (TBP) requirements and is meant to provide a clean baseline for application of TBP changes.

**ALTERNATIVES:** n/a

**ANALYSIS:**

* Reduce R-NRUF window from 72 months to approximately 36 months
	+ Changes to the *Canadian NPA Relief Planning Guideline* reduced the relief planning window to 36 months. Subsequently, there is no reason to begin conducting R-NRUFs at 72 months.
* Eliminate the requirement for conducting NRUFs at the Exchange Area level of detail
	+ In *Canadian NPA Relief Planning Guideline*, Version 8.0, dated 15 May 2023, all future reliefs of NPAs with previous Distributed Overlays will be accomplished via distributed overlay. Accordingly, there is no benefit to conducting NRUFs at the Exchange Area level of detail where an overlay is already in place.
* Remove the requirement for NRUF reports
	+ The CSCN determined at CSCN 128 that there was no longer any value to the NRUF reports and the requirement to produce the report could be removed from the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline.*
* Updating references from Telcordia to iconectiv
* Deleted Appendix B contents
	+ It was determined that the contents of Appendix B were superfluous. A majority of the items contained in the timelines are previously defined in section 3.4 and there are no details in the typical timelines that are not defined elsewhere in the guideline.
* Update the timeframe for when results are delivered to NANPA
	+ It was determined that results published by the CNA need not be accepted by the CSCN and so there was no reason to wait on the CSCN before the results could be sent to NANPA for NANP exhaust calculation.
* Update the timeline in section 3.4
	+ Section 3.4 was primarily updated to remove the requirement for Exchange Area level of reporting, eliminating the NRUF report requirements, and to clarify specific due dates.
* Remove the requirement for forecasting NPA 5YY
	+ The CSCN is working on TIF 115 where they are going to propose sunsetting the *Canadian Adjunct to the INC Personal Communications Services (PCS) 5YY NXX Code Assignment Guidelines* as the resource is no longer available and that guideline no longer exists.
* Change the forecasting requirement for NPAs 600 and 9YY
	+ During CSCN 121 on 26 October 2021, the CSCN decided that Carriers do not need to submit forecasts for NPAs 600 or 9YY if they are not forecasting any growth in those NPAs and that the CNA does not have to follow-up with companies that have been assigned 600 or 9YY codes that do not submit NRUFs.

**CONCLUSIONS:**

The *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline* needs to be updated to align with the *Canadian NPA Relief Planning Guideline* and the individual items listed in the Analysis were identified as additional changes that would streamline the NRUF process.

This will also provide a clean baseline document for incorporation of requirements for Thousands-Block Pooling.

**RECOMMENDATIONS:**

The CSCN recommends that the CRTC approve the proposed changes to the *Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline.*

**ATTACHMENTS:**

Updated version of the Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline

**Canadian**

**Numbering Resource Utilization Forecast**

**(C-NRUF)**

**Guideline**

**Version 6.0**

**Approved by Telecom Decision CRTC XXXX-XXX**

**Dated: DD MMMM YYYY**

**Developed by:**

**The Canadian Steering Committee on Numbering (CSCN)**

**Date: 17 May 2024**

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## 1. PURPOSE AND SCOPE

This Guideline describes and specifies procedures for conducting the Canadian Numbering Resource Utilization Forecast (C-NRUF).

Current and prospective Central Office (CO) Code Holders are required by the Canadian Radio-television and Telecommunications Commission (CRTC) to participate in C-NRUF processes, including the submission of actual and forecast data for CO Codes (NXXs) for geographic Numbering Plan Area (NPA) codes assigned in Canada.

This data is used by the Canadian Numbering Administrator (CNA) to project the exhaust dates of Canadian geographic NPAs as well as to provide input to the North American Numbering Plan Administrator (NANPA) for projecting the life span of the North American Numbering Plan (NANP).

It is important to note that the submission of C-NRUF data does not give the entity submitting the data any guarantees or rights to obtain CO Codes. The over-estimation or under-estimation of CO Code requirements neither increases nor limits the quantity of CO Codes available for assignment to entities; however, the terms and conditions of the Jeopardy Contingency Plan may affect the quantity of CO Codes that may be assigned to an entity in the event that a Jeopardy Condition occurs. The major purpose of the C-NRUF is to assist the industry in forecasting Projected Exhaust Dates and conducting Relief Planning activities in an effective and timely manner.

To ensure timely and efficient use of industry and consumer resources (e.g., CNA and Carrier staff resources, capital and operating expenditures, customer and Carrier equipment and network modifications, etc.) it is important that Carriers accurately forecast their CO Code requirements. Over-estimation of CO Code requirements causes an early Projected Exhaust Date and an unnecessarily early implementation of relief, creating customer inconvenience, and customers and the industry to incur expenses sooner than necessary. Under-estimation of requirements causes a late Projected Exhaust Date, resulting in a shortage of CO Codes and telephone numbers for Carriers and customers, creating customer inconvenience and unanticipated advancement of industry expenditures.

This Guideline applies throughout Canada subject to Canadian regulatory and governmental policies and requirements.

Procedures defined in other Canadian guidelines, such as the Canadian NPA Relief Planning Guideline and the Canadian Central Office Code (NXX) Assignment Guideline, may initiate the processes outlined in this Guideline.

## 2. ASSUMPTIONS AND CONSTRAINTS

This Guideline is based upon the following assumptions and constraints:

1. The C-NRUF shall be conducted under the regulatory oversight of the CRTC.
2. This Guideline facilitates and standardizes the C-NRUF process throughout Canada.
3. The CNA will conduct the C-NRUF in accordance with this Guideline.
4. CO Codes and NPA Codes are public resources. CO Codes allocated to carriers under the Canadian Central Office Code (NXX) Assignment Guideline are not the property of the carriers to which they are assigned. Similarly, telephone numbers assigned to customers or users are not the property of those entities. In certain circumstances, such as but not limited to the implementation of NPA relief and Carriers ceasing to operate, the telephone numbers assigned to customers might be reclaimed or changed.
5. The CRTC has the authority, under the Telecommunications Act, to review, modify and approve the C-NRUF process.
6. It is mandatory for current and prospective CO Code Holders to participate in the C‑NRUF process.
7. NPAs in the NANP are managed by the NANPA. CO Codes in NPAs allocated to Canada are managed by the CNA. Telephone numbers within the CO Codes in geographic NPAs allocated to Canada are generally managed by the Carriers that are assigned these CO Codes (CO Code Holders). All of these resources are managed based upon administrative guidelines developed by industry fora (e.g., CSCN, INC) under the oversight of the North American regulatory authorities (e.g., CRTC, FCC).
8. When submitting C-NRUF data inputs to the CNA, current and prospective CO Code Holders must ensure that their C-NRUF forecast and actual data are in accordance with the Canadian Central Office Code (NXX) Assignment Guideline.
9. Prospective CO Code Holders must advise the CRTC of their intentions to request CO Codes for the purpose of providing telecommunications services and register with the CRTC (e.g., request to be on the CRTC Proposed CLECs List). The CNA is not required to seek other prospective CO Code Holders that choose not to advise the CRTC of their intentions. Any entity that requests to be on the CRTC Proposed CLECs List or that receives a spectrum license to be a Wireless Carrier must submit C-NRUF data to the CNA on request.

## 3. C-NRUF ATTRIBUTES

There are four types of C-NRUFs:

1. General C-NRUF (G-NRUF);
2. Relief Planning C-NRUF (R-NRUF);
3. Jeopardy C-NRUF (J-NRUF); and,
4. Special C-NRUF (S-NRUF).

## G-NRUF

The purpose of the G-NRUF is to provide an annual forecast to aid the CNA in projecting NPA exhaust, and the NANPA in predicting NANP exhaust. The G-NRUF requires current and prospective CO Code Holders to submit actual and forecast annual data regarding their existing and future CO Code assignments to the CNA on an annual basis. Typically, the G-NRUF will be conducted using Format 1 in Appendix A, i.e., with CO Code quantities by NPA for areas served by a single NPA, by multiple NPAs for areas served by a distributed overlay, and by NPA(s) and/or relevant portions of an NPA for areas defined by a concentrated overlay.

The CNA shall send out the G-NRUF requests to current and prospective CO Code Holders by mid-December (e.g. Dec. 15) of each year. The CNA shall send out a reminder email message to all current and prospective CO Code Holders in early‑January each year to remind them of the due dates for the G-NRUF. Within 10 days of the due date for submission of data by current and prospective Code Holders, the CNA shall contact any such CO Code Holders who, in the CNA’s judgement, may require a further reminder of the due date or additional encouragement to comply (e.g., those who have missed the due date in the past, prospective CLECs). Current and prospective CO Code Holders are required to submit the G-NRUF data to the CNA on or before the due date which the CSCN shall establish each year in accordance with the C-NRUF attributes table and the typical C-NRUF schedule and timeline contained in this Guideline.

The G-NRUF data to be submitted includes:

1. the total quantity of existing CO Codes assigned to and reserved for the CO Code Holder as of January 1 of the current year (*Actual*); and
2. the total quantity of existing and future CO Codes forecast to be assigned to and reserved for the current or prospective Code Holder as of January 1 for each year of the next six years (*Forecast*).

An assigned CO Code is a CO Code for which a Part 3 form (CNA's Response/Confirmation) has been provided to the CO Code Holder by the CNA confirming the CO Code assignment; and a reserved CO Code is a CO Code for which a Part 3 form has been provided to the Code Holder by the CNA confirming the reservation.

The G-NRUF is used to develop the 20-year forecasts and Projected Exhaust Dates for all Canadian NPAs. This 20-year forecast shall be provided to the CSCN, the CRTC and the NANPA.

The assumptions and methodologies to be used in extrapolating from the 7 to 20-year forecast shall be agreed to by the CSCN before the G-NRUF requests are sent out each year.

If the CNA conducts an R-NRUF, J-NRUF or S-NRUF for a specific NPA with a date for “Actual” (Total Quantity of Existing CO Codes Assigned and Reserved as of January 1 of the Current Year) that is the same as the G-NRUF “Actual” date, then the CNA shall not request G-NRUF data for that NPA and shall use the R-NRUF, J-NRUF or S-NRUF data in the G-NRUF results.

Per section 9 of the Canadian Adjunct to the INC 9YY NXX Code Assignment Guideline, current and prospective Canadian 9YY NXX Code Holders must submit a six year NPA 9YY NXX code forecast to the CNA on an annual basis at the same time as the G‑NRUF. However, as per direction received from the CSCN during CSCN 121 held on 26 October 2021, the CNA does not have to follow-up with any companies and companies are not required to fill out that part of the NRUF unless they are going to forecast any growth.

## R-NRUF

When an NPA is entering the timeframe for NPA Relief Planning (e.g., within or about 36 months before the Projected Exhaust Date), an initial R-NRUF is conducted to obtain actual and forecast annual data. The purpose of the initial R-NRUF is to validate the Projected Exhaust Date for an exhausting NPA, and to provide the CNA with detailed information to be used to identify a potential Relief Date and to prepare the Proposal for Relief of an Overlay NPA Complex (PROC) or Initial Planning Document (as applicable) as outlined in the Canadian NPA Relief Planning Guideline. Typically, the initial R-NRUF will utilize Format 1 in Appendix A. In general, the CNA will conduct the initial R-NRUF when needed; however, the CNA should attempt to choose dates for the initial and subsequent R-NRUFs that will coincide with the annual G-NRUF and mid-year R/S‑NRUF dates (e.g., as of January 1 and July 1 each year).

Subsequent R-NRUFs will be conducted semi-annually in order to monitor CO Code forecast changes prior to implementing relief. These R-NRUFs shall be conducted until three months of when relief is implemented, or until they are replaced by S‑NRUFs or J-NRUFs. An alternative level of detail for R‑NRUFs may be proposed by the RPC and implemented upon either agreement by CRTC staff, or approval by the CRTC.

In the event that the Projected Exhaust Date for an NPA moves out beyond the relief planning timeframes contained in the Canadian NPA Relief Planning Guideline, the R‑NRUF requirement may be suspended until the NPA re-enters the relief planning window. While relief planning for an NPA is suspended, NRUFs for the NPA should be G-NRUFs unless the CRTC has directed otherwise or the RPC has recommended and the CRTC approved otherwise. For any further steps with respect to the NPA that requires relief planning, refer to the Canadian NPA Relief Planning Guideline.

R-NRUFs conducted concurrently with the G-NRUF should follow the Typical G-NRUF Schedule and Timeline contained in Appendix B. R-NRUFs conducted at mid-year should follow the Typical mid-year R-NRUF and S-NRUF Timeline contained in Appendix B.

The R-NRUF data to be submitted includes:

1. the total quantity of existing CO Codes assigned to and reserved for the Code Holder typically as of January 1 or July 1 of the current year (*Actual*); and
2. the total quantity of existing and future CO Codes forecast to be assigned to and reserved for the current or prospective Code Holder as of January 1 for each year of the next six years (*Forecast*).

## J-NRUF

When an NPA is declared by the CNA to be in a Jeopardy Condition, the CNA initiates a J-NRUF to obtain actual and forecast data to assist in the monitoring and management of the limited numbering resources available for assignment until relief is provided. The J-NRUF is normally conducted on a quarterly basis from the date that the Jeopardy Condition is declared by the CNA until three months of when relief is implemented.

Typically, the J-NRUF will utilize Format 3 in Appendix A. The CNA may also request detail at the switch/Point of Interconnection (POI) level where appropriate in special circumstances. The level of detail of the J-NRUF, from a timing perspective (e.g., monthly detail for first twelve months, quarterly detail for the second twelve months and annual detail for the third twelve months and subsequent years), shall be left to the discretion of the CNA. If the RPC determines that changes are required to J-NRUF details, timing or reporting level, the RPC may request the CNA to change the J‑NRUF details, timing or reporting level. If the RPC and CNA cannot achieve a consensus then the matter shall be addressed via the CISC dispute resolution process.

Upon receipt of the notice of a Jeopardy Condition from the CNA, each current and prospective CO Code Holder shall review the status of all CO Codes assigned to it that have not yet been placed in service as well as their forecast demand data and provide the information requested on the J-NRUF Worksheets to the CNA within 30 days. After this 30-day period, any requests for a CO Code in the exhausting NPA by a current or prospective CO Code Holder will be refused unless a current J-NRUF is on file with the CNA. Subsequent J-NRUFs shall be conducted by the CNA on a quarterly basis until three months of when relief is implemented, unless otherwise directed by the Commission.

The CNA will conduct the J‑NRUF using one form, however, when CO Code assignment restrictions are included in the Jeopardy Contingency Plan and/or directed by the CRTC, two forms are required:

1. Form 1 - CO Code assignment restrictions are included in the JCP and/or directed by the CRTC, and
2. Form 2 - CO Code assignment restrictions are not included in the JCP and/or directed by the CRTC.

## S-NRUF

In circumstances other than those covered by the preceding types of C-NRUFs, Special NRUFs may be conducted to provide detailed information regarding a particular NPA. For example, an S-NRUF may be used to monitor changes in the forecasts for the NPA undergoing relief to ensure that sufficient CO Codes remain to satisfy the requirements in the NPA.

S-NRUFs can be initiated by the CRTC or RPC at any time, utilizing whatever formats the CRTC or RPC may recommend.

The following table summarizes the differences between the above four types of C-NRUFs. The level of detail required, as well as the timing, varies for each of the four types of C-NRUFs.

**C-NRUF Attributes Table**

| **ATTRIBUTE** | **G-NRUF** | **R-NRUF** | **J-NRUF** | **S-NRUF** |
| --- | --- | --- | --- | --- |
| **Reporting Entity** | By OCN | By OCN | By OCN | By OCN |
| **Frequency** | Annually | When relief planning is initiated and every 6 months thereafter (coordinated with G-NRUF if possible, e.g., January & July) | Approximately every 3 months after Jeopardy Condition is declared by the CNA (coordinated with G-NRUF if possible, e.g., January, April, July & October) | To be determined by CRTC or the RPC |
| **Level of Detail** | Annual Data By NPA | For initial R-NRUF: Actuals as of Jan. 1 or Jul. 1Annual data by NPAFor subsequent R-NRUFs, Actuals as of Jan. 1 or Jul. 1Annual data by NPAAlternatively, as otherwise proposed by the RPC and approved by the CRTC staff or CRTC | By NPA:For Initial J-NRUF:Generally, at quarterly level for 12 months and annual level for subsequent years, at CNA discretionFor subsequent J-NRUF:As determined by RPC or CNA | As determined by CRTC or the RPC |
| **When Requested** | By December 15 of previous year | For Initial R-NRUF:In accordance with the Canadian NPA Relief Planning Guideline (generally within or about 36 months prior to the Projected Exhaust Date)For subsequent R-NRUF:At least 45 days in advance of due date | For Initial J-NRUF:Within 14 days after the declaration of a Jeopardy ConditionFor subsequent J-NRUF:At least 30 days in advance of the due dates | As determined by CRTC or the RPC |
| **Actuals as of** | January 1 of current year | Actuals will be at least 15 days in advance of the due date. Typically, actuals will be as of January 1 or July 1 of the current year or as otherwise determined by the CNA, RPC, CRTC staff, or CRTC. | For Initial J-NRUF: First day of the month following declaration of the Jeopardy Condition For subsequent J-NRUF:Every 3 months after the first day of the month following declaration of the Jeopardy Condition  | As determined by CRTC or the RPC |
| **Forecasts as of** | January 1 of the six years following the current year | January 1 of the six years following the current year | As determined by CNA, RPC, CRTC staff or CRTC | As determined by CRTC or the RPC |
| **Due Date for TSP Data Submission to CNA** | Set by CSCN each year to be by 1 February | At least 45 days after the request from the CNA or as determined by CRTC staff or the RPC, until within 3 months of when relief is implemented | For Initial J-NRUF: Last day of the month following the month in which the Jeopardy Condition is declaredFor subsequent J-NRUF:Every 3 months after the Initial J-NRUF submission, until within 3 months of when relief is implemented | As determined by CRTC or the RPC |
| **Explanation of variances of more than both +/- 3 CO Codes and +/- 5% (1)** | Not Required (however CNA may/will request explana-tions for significant variances or if an NPA unexpect-edly enters the relief planning window) | Required for the total growth variance over the common years of the 6 year forecast (i.e., applies to the growth variance between the last common period of the previous 6 year forecast and the new forecast; not to the individual years or portions of years within the forecast)  | Required for all variances for each time period in the forecast\* (e.g., portions of years and individual years).  | Not required unless specifically addressed in the S‑NRUF instructions  |
| **Due Date for release of Aggregate Results by CNA** | Results published by March 29 and submitted to NANPA | Within two months of the due date for submission of data to the CNA | Within five weeks of the due date for submission of data to the CNA | As determined by CRTC or the RPC |

(1) If the growth variance does not exceed that required for explanations within the reporting period (e.g., a 6 month period in the case of an R-NRUF or a 3 month period in the case of a J-NRUF), then no explanation will be required. Nevertheless the CNA may request and Code Holders must provide explanations of growth variances at any time such as during a Jeopardy Condition when the CNA considers such explanations to be required (e.g., when the total growth quantity over the time period up to the Relief Date has not changed but the dates when the growth Codes will be requested has advanced).

The +/- 3 CO Codes and +/- 5% growth variance is calculated based on the growth projections from the previous forecast as opposed to the increase/decrease in quantity and the percentage variance of the total number of CO Codes assigned to and forecast by a Code Holder.

For example:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Actual** | **Forecast** | **Growth** |
| **Example 1** |  |  |  |  |
|  | Forecast 1 | 20 | 23 | 3 |
|  | Forecast 2 | 20 | 26 | 6 |
|  | Growth Variance |  |  | 3 codes (6-3) and 3/3 = 100%No Explanation Required as both criteria have not been met for explanations |
| **Example 2** |  |  |  |  |
|  | Forecast 1 | 800 | 820 | 20 |
|  | Forecast 2 | 800 | 823 | 23 |
|  | Growth Variance |  |  | 3 codes (23-20) and 3/20 = 15%No Explanation Required as both criteria have not been met for explanations |
| **Example 3** |  |  |  |  |
|  | Forecast 1 | 800 | 820 | 20 |
|  | Forecast 2 | 800 | 824 | 24 |
|  | Growth Variance |  |  | 4 codes (24-20) and 4/20 = 20%Explanation Required as both criteria have been met for explanations |

## 4. CNA RESPONSIBILITIES

1. The CNA shall be the single point of contact for collection of C-NRUF forecast data.
2. The CNA shall maintain an updated confidential contact list of current and prospective CO Code Holders and their Authorized Representatives who are responsible for submitting the C-NRUF data.
3. The CNA shall use information from the list of Proposed Competitive Local Exchange Carriers on the CRTC website and from other relevant sources to create a list of prospective CO Code Holders. When the CNA obtains prospective CO Code Holder information that differs from the CRTC website, the CNA shall provide such information to CRTC staff.
4. The CNA shall secure all data received and treat each current and prospective CO Code Holder’s actual and forecast data as confidential.
5. The CNA shall be responsible for conducting the various types of C-NRUFs based on the formats contained in Appendix A, or as developed for the S-NRUF. With respect to the G-NRUF, on an annual basis, the CNA shall submit, by September 1 of each year, the G-NRUF forms, instructions, and covering letter as a contribution to the CSCN for consideration and approval prior to conducting the G-NRUF. The CSCN shall review this contribution and provide guidance to the CNA regarding the G-NRUF forms, instructions, covering letter, methodology, assumptions and timelines by the end of November each year.
6. In conducting the various C-NRUFs, the CNA shall:
7. Monitor the CO Code assignment rate.
8. Provide current and prospective CO Code Holders with the current C-NRUF instructions and data input forms, including appropriate email and courier address information, in its official request for C-NRUF inputs.
9. Issue the requests for C-NRUF information in accordance with the requirements in this Guideline.
10. Collect and maintain on file available information related to historical actual CO Code assignments and forecasts (industry aggregate data by NPA as well as by individual CO Code Holder).
11. Advise appropriate parties and CRTC staff of the status of each NPA whenever a C-NRUF is conducted. Any information released to any party other than CRTC staff will be provided only on an aggregate basis.
12. Assess whether the C-NRUF data inputs from each current and prospective CO Code Holder are reasonable (e.g., consistent with historical C-NRUF data inputs and actual assignment data, consideration of new service offerings, economic viability, justification for significant differences from previous C-NRUF data inputs), consult with the entity regarding any concerns about the reasonableness of the data, and, if necessary, request CRTC staff assistance.
13. Utilize modern forecasting techniques and tools in order to establish reasonable and accurate Projected Exhaust Dates for all Canadian geographic NPAs. Such techniques and tools could include C-NRUFs, tracking the assignment of CO Codes, tracking the entry of Carriers into Canadian geographic NPAs, tracking of population and economic growth factors in Canadian geographic NPAs, time series and sensitivity analysis of data, and demand modeling. The CNA shall consult at least once annually with the CSCN regarding the forecasting techniques and tools to be utilized in the C-NRUFs. The CSCN shall provide guidance to the CNA regarding the C-NRUF methodologies and assumptions, as and when it deems necessary.
14. Assess by mid-March of each year whether the C-NRUF results at a total aggregate level are reasonable and the Projected Exhaust Dates for all NPAs are realistic (based upon other available forecasts of population, economic and market growth, estimates of the quantity of competitors including new entrants in each NPA, and assessments of the probable net impacts of all telecommunications service providers’ market expansion and growth plans which might reasonably be applied to such forecasts as reflected by their C-NRUF data inputs). After conducting this assessment the CNA will determine if the status of an NPA has changed (i.e., whether an NPA is in a Jeopardy Condition, whether an NPA has been brought into the relief planning window due to an advance in the Projected Exhaust Date, whether the Projected Exhaust Date for an NPA is no longer in the relief planning window). If the status of an NPA has changed such that the NPA has entered a Jeopardy Condition or the relief planning window, then the CNA shall immediately apply the procedures specified in section 7, below, to all current and prospective CO Code Holders in that NPA.
15. The CNA shall request that current and prospective CO Code Holders whose forecasts differ from their previous forecasts by more than both +/- 3 CO Codes and +/- 5% provide an explanation for the changes in the "Remarks" section of the NRUF forms:
16. for all variances when an NPA is in or entering a Jeopardy Condition (for each time period in the forecast (e.g., portions of years and individual years));
17. for the total variance over the common years of the 6 year forecast when an NPA is in or entering the relief planning window (i.e., applies to the growth variance between the last common period of the previous 6 year forecast and the new forecast; not to the individual years or portions of years within the forecast).

If the CNA receives forms with forecasts that differ from previous forecasts by more than the above criteria with no explanation provided, the CNA shall return the deficient forms to the current or prospective CO Code Holder with a request that a reasonable explanation for the difference(s) be provided in the "Remarks" section of the NRUF forms. If the explanation is not provided within 7 calendar days as requested, the CNA shall immediately suspend all numbering administration activity for the CO Code Holder and bring the matter to the attention of CRTC staff so that the next steps can be determined. At any time the CNA may also request current and prospective CO Code Holders to provide additional information explaining inconsistent data or significant differences from previously submitted data (e.g., when a G-NRUF indicates that the PED advances significantly causing an NPA to unexpectedly enter relief planning).

|  |  |  |  |
| --- | --- | --- | --- |
|  | Apply criteria for each portion of the year or years common to the forecast\* | Apply criteria to the total growth variance over the common periods of the 6 year forecast (i.e., applies to the growth variance between the last common year of the previous 6 year forecast and the new forecast; not to the individual years or portions of years within the forecast | Do Not Apply criteria |
| NPA in Jeopardy Condition | X |  |  |
| NPA brought into Jeopardy Condition | X |  |  |
| NPA in relief planning window |  | X |  |
| NPA brought into relief planning window due to significant advance of PED |  | X |  |
| NPA not in relief planning window |  |  | X |

\* "Each portion of the year or the years common to the forecast" should be interpreted to mean that the preceding forecast will be compared with the corresponding months, quarters, or years in the current forecast. Actuals in the current forecast will be compared with the preceding forecast for the same month, quarter, or year. Year 6 of the current forecast will not be included in the comparison.

* The CNA will analyse the data that is submitted for bi‑annual R-NRUFs and quarterly J‑NRUFs in the same way that the annual G-NRUF data is analysed. This means that the CNA will require explanations for variations that increase or decrease forecasts within the +/- 3 CO Code and the +/- 5% requirement since the NPA has already entered relief planning.
1. In conducting the G-NRUF, the CNA shall:
	1. Review the G-NRUF data inputs, results, Projected Exhaust Dates, and outstanding concerns, with CRTC staff within a week of completing its assessment in item 6 h) above.
	2. Post the G-NRUF aggregate results on the CNA website no later than March 29, and notify the CSCN via email so that a CSCN conference call can be scheduled. During the conference call, the CSCN shall review and may comment on and question the aggregate G-NRUF results. The CNA shall respond to any CSCN questions, comments and concerns either during the first CSCN conference call or during a second conference call to be scheduled about one week later if necessary, and revise the results as appropriate.
	3. Submit the G-NRUF results to NANPA when they are published.
2. In conducting the R-NRUF, the CNA shall post the aggregate R-NRUF results on the CNA website and notify the CSCN, the CRTC and the appropriate RPC(s) within two months after the due date for submission of data to the CNA. The RPC may review the aggregate R-NRUF results and may submit questions, comments or concerns to the CNA. If necessary and after consultation with CRTC staff, R-NRUF results may subsequently be revised by the CNA and posted to the website.
3. The CNA shall submit aggregate J-NRUF results to the CRTC, CSCN, and the appropriate Relief Planning Committee within five weeks of the due date for submission of data to the CNA.
4. When the CNA submits final aggregate results of an NRUF or an NRUF Report to the CSCN as detailed above, the CNA shall make those results or that Report publicly available, e.g. by posting on the CNA website at www.cnac.ca. If the CSCN requests the CNA to modify an NRUF report after it has been submitted to the CSCN, then the period of time allowed to the CNA to make the modified NRUF Report publicly available shall be as agreed upon by the CSCN and the CNA.
5. The CNA shall respond to reasonable questioning from current and prospective CO Code Holders pertaining to any aspect of the C-NRUF Report process, forms, instructions, data assumptions, etc. The CNA is not responsible for completing the NRUF Forms for, nor for training the staff of, current or prospective CO Code Holders. The CNA may be able to advise as to which independent entities may provide training with regards to the C-NRUF process.
6. The CNA shall implement the compliance activities as required in section 6.

## 5. CURRENT & PROSPECTIVE CO CODE HOLDER RESPONSIBILITIES

Current and prospective CO Code Holders operating in Canada are required to participate in the various C-NRUF processes in accordance with this Guideline.

Specifically, such CO Code Holders are required to do the following:

1. Comply with all requirements in this Guideline.
2. Provide or have previously provided the CNA with a letter on the organization’s official stationery, signed by a corporate officer or other designated individual, certifying a list of the current or prospective CO Code Holder’s Authorized Representative(s), and shall provide updates to maintain the list in an accurate state. The list shall include the name, telephone number, fax number, e‑mail address and geographic address of each Authorized Representative certified to sign and submit CO Code requests and other documentation per the Canadian Central Office Code (NXX) Assignment Guideline. Only Authorized Representative(s) who are certified to submit CO Code requests shall be permitted to submit C-NRUF data and other documentation described in this Guideline to the CNA. This certification provides control over the CO Code assignment and C-NRUF process.
3. Maximize the quality of C-NRUF data inputs by utilizing modern forecasting techniques and tools, including, as appropriate:
4. Tracking current and historical CO Code assignments and forecasting CO Code requirements on a switching entity basis.
5. Cooperating with the CNA in reconciling the list of CO Codes assigned to the CO Code Holder with the iconectiv TRA and CNA records.
6. Tracking telephone number utilization rates.
7. Aggregating the switching entity forecasts to NPA level to match the inputs required on the C-NRUF forms.
8. Assessing population and economic growth factors.
9. Assessing market growth, plans for new services, and changes in market share, including estimating the impact of competing Carriers in the market.
10. Assessing whether their C-NRUF inputs appear reasonable and realistic at the entity’s aggregate level.
11. Checking the reasonableness of the current C-NRUF data versus past historical C-NRUF data previously submitted. CO Code Holders whose forecasts within an NPA change by the lesser of more than +/- 5% or more than +/- 3 CO Codes over the 6-year forecast period from one forecast to the next shall provide an explanation for these variances in the "Remarks" section of the NRUF forms.
12. Assessing any other factors that may affect CO Code requirements.
13. Maintain information related to their individual historical actual CO Code assignments and records of previous C-NRUF forecasts, and provide such information to the CNA upon request.
14. Compare actual CO Code assignments with those previously forecast, and provide such information, including an explanation for the differences between actual and forecast quantities, to the CNA.
15. When a current or prospective CO Code Holder submits NRUF data that is inconsistent with or is significantly different from previously submitted data, the current or prospective CO Code Holder shall submit a written explanation to the CNA with the NRUF in order to assist the CNA in the assessment of the data. Current and prospective CO Code Holders whose forecasts differ from their previous forecasts more than both +/- 3 CO Codes and +/- 5%over shall provide an explanation for these changes in the "Remarks" section of the NRUF forms:
16. for all variances when an NPA is in or entering a Jeopardy Condition (for each time period in the forecast (e.g., portions of years and individual years));
17. for the total variance when an NPA is in or entering the relief planning window (i.e., applies to the growth variance between the last common period of the previous 6 year forecast and the new forecast ; not to the individual years or portions of years within the forecast).

The above criteria may be modified by CRTC staff if circumstances warrant. Current and prospective CO Code Holders may also be required to provide additional information explaining inconsistent data or significant differences from previously submitted data at the request of the CNA. See section 4 item 7) for a table indicating how the criteria is to be applied for various situations.

1. Electronically submit accurate and complete “actual” CO Code data, as well as complete, reasonable and valid forecast C-NRUF data to the CNA, in the format defined by the CNA, on or before the requested due dates.
2. Submit separate C-NRUF data to the CNA for each of its Operating Company Numbers (OCNs), except in the following situations:
3. An entity with multiple OCNs shall submit detailed C-NRUF data only for OCNs where it currently has CO Code assignments and/or reservations or where the entity intends to request CO Codes during the C-NRUF six-year forecast period. Entities with multiple OCNs that have no intention of requesting CO Codes for an OCN during the C-NRUF six-year forecast period shall advise the CNA accordingly.
4. Prospective CO Code Holders that have not yet been assigned an OCN are required to submit C-NRUF data but are not required to complete the OCN field of the form.
5. Participate in discussions at the CSCN regarding the forecasting techniques and tools to be utilized in the C-NRUFs.
6. Respond to all requests and notifications from the CNA in accordance with this Guideline.
7. Provide C-NRUF forecasts that are reasonable and do not contain inconsistencies or irregularities in order to minimize negative industry impacts such as untimely Relief Planning and implementation, or a Jeopardy Condition.
8. Provide updates of the C-NRUF forecasts to the CNA as soon as significant changes occur in the CO Code Holder's projected annual growth (i.e., change of +/- 7 CO Codes per year per NPA, compared to the last filed forecast).

## 6. COMPLIANCE

All current and prospective CO Code Holders shall comply with the requirements in this Guideline. In the event of non-compliance, the following measures and process will be used.

* 1. During the 7 calendar day period starting on the due date for C-NRUF submission, the CNA may contact via telephone or e‑mail any entities that:
	2. have not submitted their C-NRUF data inputs by the due date; or,
	3. have submitted data that appears to be unreasonable or contains inconsistencies or irregularities.

If, by the end of the above 7 calendar day period, an entity has not submitted complete C-NRUF data including all actual and forecasted quantities of CO Code assignments and reservations, then the CNA shall formally notify the Authorized Representative(s) of that entity, via e-mail or letter, of their non-compliance and request the entity to submit the C-NRUF data immediately (i.e., the First Formal Written Notice).

If the entity does not submit the requested C-NRUF data within 7 calendar days from the CNA’s First Formal Written Notice, then the CNA shall advise CRTC staff and immediately suspend all numbering administration activity for that entity until the entity provides the requested C-NRUF data to the CNA.

If the entity submits the requested C-NRUF data within 7 calendar days from the CNA’s First Formal Written Notice to the entity, but that data appears to be unreasonable or contains inconsistencies or irregularities, then the CNA shall contact the Authorized Representative(s) of that entity again in an attempt to resolve the issue within a further 7 calendar day period. If the issue has not been resolved to the CNA’s satisfaction within this further 7 calendar day period, then the CNA may send a letter via email or facsimile to a senior manager of that entity, with a courtesy copy to CRTC staff, describing the problem and the basis for the CNA’s concerns and requesting the entity to resolve the problem within an additional 7 calendar days (i.e., the Second Formal Written Notice). If the matter is not resolved to the CNA’s satisfaction, the CNA shall consult with CRTC staff to determine what additional action, if any, should be taken by the CNA to resolve the matter (e.g., suspension of numbering administration activity). In this case, any such additional action (e.g., suspension of numbering administration activity) shall be undertaken only upon the written direction of CRTC staff.

In all cases, if the CNA’s concerns have not been resolved within 28 calendar days from the due date of the C-NRUF, then the CNA shall consult with CRTC staff to determine what data should be utilized in compiling the C-NRUF results.

Seven calendar days after the C-NRUF due date, the CNA will compile and submit to CRTC staff a 7-day Compliance Report containing a list of all current and prospective Code Holders which shall identify whether the Code Holders have submitted their C‑NRUF data to the CNA by the seventh day after the due date. The CNA may submit additional clarifying information with this list. CRTC staff shall, where appropriate, contact current and prospective Code Holders who have not submitted their C-NRUF data to the CNA, to encourage those Code Holders to comply with the C-NRUF process. The CNA shall track compliance and, at the end of the 28 calendar day period, submit to CRTC staff a 28-day Compliance Report containing an updated list of all current and prospective Code Holders which shall identify whether the Code Holders have submitted their C-NRUF data to the CNA by the twenty-eighth day after the due date.

The CNA shall use this data to assist in tracking individual entities’ compliance with the Guideline (e.g., meeting of due dates) and to provide inputs for C-NRUF reports, as necessary, to the appropriate Relief Planning Committees, the CSCN and the CRTC. Reports that are provided to the Relief Planning Committees or the CSCN should not disclose the names of the non-compliant Code Holders.

The CSCN shall use such aggregate information in order to improve the process and the Guideline.

The CNA, after consultation with CRTC staff, shall advise the CSCN and appropriate Relief Planning Committees of how non-compliance with the C-NRUF process by current and prospective Code Holders is affecting the accuracy and validity of the forecast, and what actions the CNA has taken to both encourage compliance and provide a reasonable and valid forecast.

* 1. In situations where numbering administration activity has been suspended by the CNA for a particular entity due to the failure to submit requested C-NRUF data during the specified time period, the CNA will resume numbering administration activity for that entity if the CNA is satisfied that any data that is subsequently submitted is complete and reasonable, and advise CRTC staff that numbering administration activity has been resumed.

In situations where numbering administration activity has been suspended by the CNA for a particular entity due to the failure to submit requested C-NRUF data during the specified time period and the entity subsequently submits data to the CNA that the CNA does not consider to be reasonable, then the CNA shall consult with CRTC staff to determine whether numbering administration activity should resume or remain suspended. Numbering administration activity shall continue to be suspended only upon the written direction of CRTC staff.

In situations where numbering administration activity for a particular entity has been suspended by the CNA or the CNA has taken other additional action based upon the written direction of CRTC staff due to concerns about the reasonableness of the data, the CNA shall resume numbering administration activity for that entity or discontinue the other additional actions taken with respect to that entity when directed in writing by CRTC staff.

* 1. When the CNA compares an entity’s actual assignments with its previous forecasts, and determines that an entity shows a continuing pattern of significant over- or underestimation of requirements, the CNA shall send a letter to a senior manager of that entity with a courtesy copy to CRTC staff informing the entity of the negative impacts to the Industry of the overestimation or underestimation, requesting improvement and, where appropriate, making recommendations with respect to improvements that could be made to the entity’s forecasting methodology. The CNA shall monitor the entity’s future C-NRUF submissions and, if the problem persists, seek the assistance of the CRTC to resolve the problem.
	2. When the CNA determines that an existing or prospective Code Holder repeatedly submits C-NRUF inputs after the due date, the CNA shall send a letter to a senior manager of the entity with a courtesy copy to CRTC staff informing the entity of the negative impacts to the Industry of these delays and requesting the entity to comply with the due date requirements in the Guideline. The CNA shall monitor the entity’s future C-NRUF submissions and, if the problem persists, seek the assistance of the CRTC to resolve the problem.

## 7. GLOSSARY

|  |  |
| --- | --- |
| 7-day Compliance Report | A listing of current and prospective Code Holders identifying whether the Code Holders have submitted their C-NRUF data to the CNA by the seventh day after the due date. |
| 28-day Compliance Report | A listing of current and prospective Code Holders identifying whether the Code Holders have submitted their C-NRUF data to the CNA by the twenty-eighth day after the due date.  |
| Authorized Representative | A person authorized by the current or prospective Code Holder under section 6.0 of the Canadian Central Office Code (NXX) Assignment Guideline to submit CO Code requests and other documentation. |
| Carrier | A Local Exchange Carrier or Wireless Carrier. |
| Central Office (CO) Code | The CO Code is the three digit code that occupies the D, E, and F digits in the 10 digit NANP format (ABC-DEF-GHIJ, where ABC is the NPA or area code, DEF is the CO Code, and GHIJ is the line number). Central Office Codes (CO Codes) are in the format “NXX”, where N is a number from 2 to 9 and X is a number from 0 to 9. Central Office Codes may also be referred to as “NXX codes.” |
| CRTC Interconnection Steering Committee (CISC) | The CISC is an organization established by the CRTC to assist in developing information, procedures, and guidelines that may be required in various aspects of the CRTC’s regulatory activities. |
| Canadian Numbering Administrator (CNA) | The administration of Canadian numbering resources is performed by the CNA. Current contact information is as follows: Canadian Numbering AdministratorSuite 1516, 60 Queen St.Ottawa, Ont. K1P 5Y7Tel: 613 563-7242 Fax: 613 563-9293Web Page: [www.cnac.ca](http://www.cnac.ca) |
| Canadian Numbering Resource Utilization Forecast (C-NRUF) | Formerly, Central Office Code Utilization Survey (COCUS).There are four types of C-NRUF:1. General C-NRUF (G-NRUF) – The purpose of the G-NRUF is to obtain forecasts of CO Code growth for Canadian geographic NPAs for the purpose of projecting NPA and NANP exhaust2. NPA Relief Planning C-NRUF (R-NRUF) – The purpose of the R-NRUF is to obtain detailed forecasts of CO Code growth for a particular NPA for Relief Planning purposes.3. Jeopardy C-NRUF (J-NRUF) – The purpose of the J-NRUF is to obtain forecasts of CO Code growth for a particular NPA where a Jeopardy Condition has been declared in order to assist in the management of limited numbering resources until relief is provided.4. Special C-NRUF (S-NRUF) – The purpose of the Special C‑NRUF is to obtain detailed forecasts of CO Code growth for a particular NPA in circumstances other than those covered by the preceding types of C-NRUFs. |
| Code Holder | The entity to which a CO Code has been assigned or reserved in accordance with the Canadian Central Office Code (NXX) Assignment Guideline for use at a Switching Entity or POI it owns or controls. |
| Canadian Radio-television and Telecommunications Commission (CRTC) | The CRTC is the Canadian regulatory body for broadcasting and telecommunications. Its responsibilities include the regulation and administration of domestic numbering. |
| Canadian Steering Committee on Numbering (CSCN) | The CSCN is a subtending Working Group of the CISC. |
| Central Office Code Utilization Survey (COCUS) | See Canadian Numbering Resource Utilization Survey (C-NRUF). |
| Competitive Local Exchange Carrier (CLEC) | A Competitive Local Exchange Carrier (CLEC) is an entity that has registered as a CLEC with the CRTC and has satisfied the CLEC obligations that were initially established in Telecom Decision CRTC 97-8 and subsequently modified by various decisions. A CLEC may provide local exchange service via wireline and/or wireless technology. |
| Exchange Area | As defined by the Commission in its Glossary released coincident with Decision 97-8, an Exchange is “The basic unit for the administration and provision of telephone service by an ILEC, which normally encompasses a city, town or village and adjacent areas. Within an exchange and to other exchanges that have extended area service (EAS) or similar services with that exchange, all subscribers may place an unlimited number of calls of any duration to all other subscribers without incurring long distance toll charges. Exchanges for which EAS or similar services have been established continue, nevertheless to be separate and distinct exchanges.” |
| Federal Communications Commission (FCC) | The FCC is the USA national telecommunications regulator. |
| iconectiv | iconectiv provides various services to the North American telecommunications industry, including but not limited to Traffic Routing Administration (TRA). The TRA operates routing, rating, and other databases that are used by the telecommunications industry. Additional information may be obtained from TRA at 732‑699-6700 or at web site: [www.trainfo](http://www.trainfo).com. |
| Industry Numbering Committee (INC) | The INC is a standing committee of the Carrier Liaison Committee (CLC) that is sponsored by the Alliance for Telecommunications Industry Solutions (ATIS). The INC provides an open forum to address and resolve industry-wide issues associated with the planning, administration, allocation, assignment and use of resources and related dialing considerations for public telecommunications within the North American Numbering Plan (NANP) area. |
| Initial Planning Document (IPD) | The IPD is developed by the CNA in accordance with the Canadian NPA Relief Planning Guideline. |
| Jeopardy Condition | A Jeopardy Condition exists when the forecast and/or actual demand for CO Codes exceeds the quantity of CO Codes available for assignment within the NPA before it is expected that relief can be implemented. For the purpose of declaring a Jeopardy Condition, the shortest timeframe that relief can be implemented is 36 months. (See Canadian NPA Relief Planning Guideline) |
| Jeopardy C-NRUF (J-NRUF) | See Canadian Numbering Resource Utilization Survey (C-NRUF). |
| Local Exchange Carrier | A Local Exchange Carrier (LEC) is an entity that has been authorized by the CRTC to provide local exchange service. |
| North American Numbering Plan (NANP) | The NANP is a numbering architecture in which every station in the NANP Area is identified by a unique 10‑digit address consisting of a 3‑digit NPA Code, a 3‑digit Central Office Code, and a 4‑digit line number. |
| North American Numbering Plan Administration (NANPA) | The NANPA)is responsible for administration of the North American Numbering Plan. |
| Numbering Plan Area (NPA) | An NPA is the 3‑digit code that occupies the A, B, and C positions in the 10‑digit NANP format that applies throughout the NANP serving area. NPAs are of the format NXX, where N represents the digits 2-9 and X represents any digit 0-9. In the NANP, NPAs are classified as either geographic or non-geographic. An NPA is also called an Area Code.a) Geographic NPAs are NPAs that correspond to discrete geographic areas within the NANP serving area.b) Non-geographic NPAs are NPAs that do not correspond to discrete geographic areas, but which are instead assigned for services with attributes, functions, or requirements that transcend specific geographic boundaries. The common examples are NPAs in the N00 format, e.g., 800, 900. |
| NPA Relief | NPA Relief refers to an activity that must be performed when an NPA nears exhaust of its CO Code capacity. See the Canadian NPA Relief Planning Guideline. |
| NPA Relief Planning C-NRUF (R-NRUF) | See Canadian Numbering Resource Utilization Survey (C-NRUF). |
| Operating Company Number (OCN) | An OCN is a code used to uniquely identify and associate a company with certain records in iconectiv’s databases and in related output products (e.g. LERG, V&H coordinates data). Specific to this Guideline, the OCN is intended to uniquely identify the Code Holder. OCNs are used in various telecommunications industry processes primarily as a means to identify local service providers. iconectiv lists Operating Companies in various “categories” (see the iconectiv Traffic Routing Administration internet site at [www.trainfo.com](http://www.trainfo.com) or call 866-672-6997 or 732 699-6700. Companies that do not have an OCN may contact the National Exchange Carriers Association (NECA) to request the assignment of a NECA Company Code(s) that can be used as the basis for numeric OCNs in the iconectiv databases. NECA Company Codes are assigned based on different types of services. Companies with existing OCNs should direct questions regarding appropriate OCN usage to NECA at 800-228-8597 ext 8105 or via the internet at [www.neca.org](http://www.neca.org). |
| Point of Interconnection (POI) | The physical location where two carriers’ facilities interconnect for the purpose of interchanging traffic on the PSTN. |
| Projected Exhaust Date | The date on which it is expected that the NPA will run out of assignable NXXs. See the Canadian NPA Relief Planning Guideline |
| Relief Planning Committee (RPC) | The RPC shall initially be composed of those entities that the CNA is able to identify that would be impacted by the introduction of a new NPA into a specific geographic area. These entities include but are not limited to: current and prospective CO Code Holders, telecommunications service providers, regional/municipal governments, emergency service providers, public interest groups, administrative entities involved in either number administration or number portability, and users of telecommunications services that utilize numbering resources in the geographic area where relief is required. Any party can request to be added or removed from this list at any point in time. |
| Special C-NRUF (S-NRUF) | See Canadian Numbering Resource Utilization Survey (C-NRUF). |
| Switching Entity | A network element system used to connect lines to lines, lines to trunks, or trunks to trunks for the purpose of originating/terminating PSTN calls. A single switching system entity may be assigned several CO Codes. |
|  |  |
| Wireless Carrier | A Wireless Carrier is an entity that is licensed by the Government of Canada pursuant to the Radiocommunication Act to provide two‑way common carrier wireless mobility communications services to the public (e.g., cellular service, Personal Communications Services (PCS), Enhanced Specialized Mobile Radio (ESMR), Mobile Satellite Services (MSS) using licensed spectrum). |

## APPENDIX A - Code Holder C-NRUF Data Input Formats

|  |
| --- |
| **FORMAT 1** |
| **G-NRUF Worksheet** |
| Entity Name & OCN: |   |
| Contact Name: |  |   |   |
| Contact Telephone Number: |   |   |
| Contact Fax Number: |   |   |
| Contact E-mail Address: |   |   |
|   |  |  |  |  |  |  |   |
| **NPA** | ***Actual*** | ***Forecast*** |
| **Total quantity of existing CO Codes assigned and reserved as of 01/01/Current Year** | **Total quantity of existing and future CO Codes forecast to be assigned and reserved as of** |
| **01/01/Current Year + 1** | **01/01/Current Year + 2** | **01/01/Current Year + 3** | **01/01/Current Year + 4** | **01/01/Current Year + 5** | **01/01/Current Year + 6** |
| **204/431** |   |   |   |   |   |   |   |
| **226/519** |   |   |   |   |   |   |   |
| **236/250/604/778** |   |   |   |   |   |   |   |
| **249/705** |   |   |   |   |   |   |   |
| **289/365/905** |   |   |   |   |   |   |   |
| **306/639** |   |   |   |   |   |   |   |
| **343/613** |   |   |   |   |   |   |   |
| **403/587** |   |   |   |   |   |   |   |
| **416/437/647** |   |   |   |   |   |   |   |
| **418/581** |   |   |   |   |   |   |   |
| **438/514** |   |   |   |   |   |   |   |
| **450/579** |   |   |   |   |   |   |   |
| **506** |   |   |   |   |   |   |   |
| **587/780** |   |   |   |   |   |   |   |
| **709** |   |   |   |   |   |   |   |
| **807** |   |   |   |   |   |   |   |
| **819/873** |   |   |   |   |   |   |   |
| **867** |   |   |   |   |   |   |   |
| **902** |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |
| Remarks: |   |
|   |
|
| **Assigned CO Codes** are CO Codes for which the CNA has provided the Code Holder with Part 4 forms confirming the CO Code assignment. |
| **Reserved CO Codes** are CO Codes reserved by the CNA per the Canadian Central Office Code (NXX) Assignment Guideline and for which the CNA has provided the CO Code Holder with Part 3 Forms confirming the CO Code reservation. |
| Special Instructions: *(to be completed by the CNA if required)* |   |
|   |
|   |







## APPENDIX B - Typical C-NRUF Schedules and Timeline (Removed)

\*\*\* THIS APPENDIX IS NO LONGER IN EFFECT \*\*\*

## APPENDIX C - CNA C-NRUF Annual Report Format

SAMPLE

CNA C-NRUF Annual Report

to the

Canadian Steering Committee on Numbering (CSCN)

Date: XXXXXXXXXX

Issued by:

Canadian Numbering Administrator Staff

1. Purpose of G-NRUF

The purpose of the G-NRUF is to provide an annual forecast to aid in projecting NPA and NANP exhaust. The G-NRUF requires current and prospective Code Holders to submit actual and forecasted annual data regarding their current and prospective future use of Central Office Codes to the CNA on an annual basis.

The CNA has prepared this report in accordance with the Canadian Numbering Resource Utilization Forecast Guideline (C-NRUF), approved by the Canadian Radio-television and Telecommunications Commission (CRTC).

The purpose of this report is to provide a high level summary of the results, a review of current and past Projected Exhaust Dates, a schedule of future C-NRUF activities, a summary of challenges encountered during the C-NRUF process, potential solutions identified by the CNA to address process issues, C‑NRUF assumptions and methodologies including CSCN guidance, assessment of forecasting techniques used and reasonableness of results, and any other analysis, conclusions and recommendations that the CNA deems appropriate (e.g., related to G-, R- or S-NRUF Reports).

1. High Level Summary

This section will provide a high level summary and major highlights of this C-NRUF. For example, a list of the NPAs in Relief Planning and NPAs entering the Relief Planning window should be provided.

1. Current and Past G-NRUF Projected Exhaust dates

The CNA will insert a copy of the latest version of the CSCN-approved table for presenting the annual NRUF data.

1. Schedule of Future NRUF Activities in the Current Year

|  |  |  |  |
| --- | --- | --- | --- |
| **Due Date** | **NRUF Type** | **NRUF Format** | **NPA(s)** |
| June 15 | R-NRUF | Format B | 250 |
| August 15 | R-NRUF | Format A | 514 |
| August 15 | R-NRUF | Format B | 613 |
| August 15 | R-NRUF | Format B | 519 |
| August 15 | R-NRUF | Format B | 819 |

1. Summary of Challenges Encountered During the G-NRUF Process
2. Although the due date was February 15, 2001, 51 e-mails and 7 faxes were received by the CNA between February 16 and March 30 either providing G‑COCUS information, or revising G-COCUS information.
3. The last G-COCUS input was received by the CNA on the 30th March 2001.
4. Approximately 30% of the G-COCUS inputs were not completed in accordance with the instructions that accompanied the CNA’s request for G-COCUS input.
5. After reviewing the G-COCUS input received, the CNA challenged about 55% of that input and is still continuing the process.
6. The most common errors were missing NPA, missing OCN, not completing the forms correctly and not understanding what Reserved Code meant. In addition, G‑COCUS data was different from the J‑COCUS, Special COCUS or Relief COCUS data submitted for the NPAs undergoing Relief Planning that had only been submitted two to three weeks prior to receipt of the G-COCUS input. In NPA 416, 44% of Code Holders filed different information in the G-COCUS than in other recent Relief Planning COCUS inputs. In NPA 514, 47% filed different information; in NPA 604, 64% filed different information; and, in NPA 905, 55% filed different information.
7. From February 16 to March 30 it has taken approximately 12 person days to track down delinquent or reconcile incorrect G-COCUS input.
8. About 25% (24.6%) of Code Holders in each NPA submitted incorrect 2001 actuals as part of their COCUS.
9. With the exception of two Code Holders, every Code Holder submitted NPA 604 / 778 COCUS data incorrectly.
10. Since the G-COCUS results for 2001 have not yet been completely reconciled, the CNA has used the CNA’s own records of January 2001 actuals to create the G‑COCUS information that is being presented during today’s meeting. This decision was made after consultation with Commission staff.
11. Potential Solutions Identified by the CNA to Address G-NRUF Process Issues
12. Clarify NRUF instructions to current and prospective code holders.
13. Establish a process whereby all delinquent NRUFs are reported to CRTC staff.
14. Modify the existing process to include a requirement for all current and prospective Code Holders to maintain data related to their individual historical actual CO Code Assignments and forecasts.
15. G-NRUF Assumptions

Reference to the CSCN's annual instructions to the CNA. A copy of the CSCN's instructions will be attached to the Report. The CNA shall include a short summary of any other assumptions or changes to the process that it makes that do not appear elsewhere in the Report.



1. Assessment of Effectiveness of Forecasting Techniques and Tools

The CNA shall provide information on the effectiveness of the forecasting techniques and tools it is currently using and indicate where enhancements might be made to improve effectiveness in the future, including any new techniques and tools the CNA may suggest for CSCN consideration.

1. Assessment of Reasonableness of Results

The CNA shall provide an assessment of the reasonableness of the C-NRUF results at a total aggregate level, including whether the Projected Exhaust Dates are realistic and the participation by current and potential Code Holders is acceptable and provides sufficient inputs to establish a valid aggregate forecast result.

Aggregate G-NRUF Results



Historical G-NRUF Graphs for Canadian NPAs

One Chart for Each NPA

