

**July 2017 R-NRUF Draft Report – NPA 204/431, NPA 236/250/604/778, NPA  
289/365/905, NPA 306/639, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA  
819/873 to the  
Canadian Steering Committee on Numbering (CSCN)**

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## 1. Purpose of R-NRUF

In accordance with the Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline (the Guideline), approved by the Canadian Radio-television and Telecommunications Commission (CRTC) in Telecom Decision CRTC 2015-166 dated 29 April 2015:

When an NPA is entering the timeframe for NPA Relief Planning (e.g., within or about 72 months before the Projected Exhaust Date), an initial R-NRUF is conducted to obtain actual and forecast annual data at the Exchange Area level of detail. 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 Initial Planning Document as outlined in the Canadian NPA Relief Planning Guideline. Typically, the initial R-NRUF will utilize Format 2 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.

Based on the January 2017 G-NRUF results, the CNA determined that in addition to NPA 236/250/604/778 and NPA 506, NPA 204/431, NPA 289/365/905, NPA 306/639, NPA 403/587/780/825, NPA 450/579 and NPA 819/873 were also within the 6-year window for NPA relief planning. On 23 June 2017 the CNA requested July 2017 R-NRUFs from current and prospective Canadian CO Code (NXX) Holders in NPAs 204/431, 236/250/604/778, 289/365/905, 306/639, 403/587/780/825, 450/579, 506 and 819/873.

## 2. High Level Summary

The results from the July 2017 R-NRUF are quite different from the January 2017 G-NRUF and R-NRUF results due to various Telecommunications Service Providers (TSPs) submitting updated data. The CNA has verified the input from various TSPs and the variance from previous inputs can be rationalized.

Specific changes are listed below:

- NPA 204/431 Projected Exhaust Date (PED) is now forecast for April 2026, which moves the PED out by two (2) years and eight (8) months from the January 2017 G-NRUF result of August 2023.
- NPA 236/250/604/778 PED is forecast for May 2020, which remains the same as the January 2017 R-NRUF result.
- NPA 289/365/905 PED is now forecast for May 2023, which moves the PED in by four (4) months from the January 2017 G-NRUF result of September 2023.
- NPA 306/639 PED is now forecast for November 2024, which moves the PED out by two (2) years and four (4) months from the January 2017 G-NRUF result of July 2022.
- NPA 403/587/780/825 PED is now forecast for January 2023, which moves the PED out by ten (10) months from the January 2017 G-NRUF result of March 2022.
- NPA 450/579 PED is now forecast for August 2023, which moves the PED out by one (1) year and two (2) months from the January 2017 G-NRUF result of June 2022.
- NPA 506 PED is now forecast for November 2024, which moves the PED out by two (2) years and eleven (11) months from the January 2017 R-NRUF result of December 2021.
- NPA 819/873 PED is now forecast for December 2026, which moves the PED out by three (3) years and four (4) months from the January 2017 G-NRUF result of August 2023.

**NPA 204/431**

| July 2017 R-NRUF NPA 204-431 Results                          |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 972   | 1057       | 1133  | 1223       | 1306       | 1347       | 1392       | 1438       |
| Projected Exhaust Date - April 2026                           |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 204/431 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 204/431  | January 2017 G-NRUF | 29 March 2017       | August 2023            |
| 204/431  | July 2017 R-NRUF    | 25 September 2017   | April 2026             |

**NPA 236/250/604/778**

| July 2017 R-NRUF NPA 236-250-604-778 Results                  |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 2673  | 2719       | 2913  | 3047       | 3166       | 3288       | 3378       | 3469       |
| Projected Exhaust Date - May 2020                             |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 236/250/604/778 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 236/250/604/778  | January 2015 G-NRUF | 27 March 2015       | February 2024          |
| 236/250/604/778  | January 2016 G-NRUF | 21 March 2016       | April 2021             |
| 236/250/604/778  | July 2016 R-NRUF    | 12 October 2016     | February 2021          |

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|                 |                     |               |          |
|-----------------|---------------------|---------------|----------|
| 236/250/604/778 | January 2017 R-NRUF | 29 March 2017 | May 2020 |
| 236/250/604/778 | July 2017 R-NRUF    | 25 Sept. 2017 | May 2020 |

**NPA 289/365/905**

| July 2017 R-NRUF NPA 289-365-905 Results                      |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 1735  | 1785       | 1856  | 1951       | 2154       | 2247       | 2308       | 2370       |
| Projected Exhaust Date - May 2023                             |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 289/365/905 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 289/365/905  | January 2017 G-NRUF | 29 March 2017       | September 2023         |
| 289/365/905  | July 2017 R-NRUF    | 25 Sept. 2017       | May 2023               |

**NPA 306/369**

| July 2017 R-NRUF NPA 306-639 Results                          |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 1121  | 1198       | 1294  | 1411       | 1451       | 1489       | 1512       | 1528       |
| Projected Exhaust Date - November 2024                        |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| <b>NPA 306/639 Summary of Projected Exhaust Dates</b> |                       |                            |                               |
|---|-----------------------|----------------------------|-------------------------------|
| <b>NPA</b>  | <b>Type of C-NRUF</b> | <b>Date of Publication</b> | <b>Projected Exhaust Date</b> |
| 306/639   | January 2017 G-NRUF   | 29 March 2017              | July 2022                     |
| 306/639   | July 2017 R-NRUF      | 25 Sept. 2017              | November 2024                 |

**NPA 403/587/780/825**

| <b>July 2017 R-NRUF NPA 403-587-780-825 Results</b>           |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| <b>Actual</b>   |            | <b>Forecast</b>   |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 2459  | 2503       | 2611  | 2748       | 2840       | 2952       | 3035       | 3191       |
| <b>Projected Exhaust Date - January 2023</b>                  |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| <b>NPA 403/587/780/825 Summary of Projected Exhaust Dates</b> |                       |                            |                               |
|---|-----------------------|----------------------------|-------------------------------|
| <b>NPA</b>  | <b>Type of C-NRUF</b> | <b>Date of Publication</b> | <b>Projected Exhaust Date</b> |
| 403/587/780/825   | January 2017 G-NRUF   | 29 March 2017              | March 2022                    |
| 403/587/780/825   | July 2017 R-NRUF      | 25 Sept. 2017              | January 2023                  |

**NPA 450/579**

| July 2017 R-NRUF NPA 450-579 Results                          |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 1093  | 1129       | 1171  | 1215       | 1398       | 1468       | 1540       | 1566       |
| Projected Exhaust Date - August 2023                          |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 450/579 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 450/579  | January 2017 G-NRUF | 29 March 2017       | June 2022              |
| 450/579  | July 2017 R-NRUF    | 25 Sept. 2017       | August 2023            |

**NPA 506**

| July 2017 R-NRUF NPA 506 Results                              |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 564   | 567        | 598   | 640        | 681        | 710        | 732        | 754        |
| <b>Projected Exhaust Date - November 2024</b>                 |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 506 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 506  | January 2015 G-NRUF | 27 March 2015       | April 2025             |
| 506  | January 2016 G-NRUF | 21 March 2016       | February 2021          |
| 506  | July 2016 R-NRUF    | 12 October 2016     | May 2020               |
| 506  | January 2017 R-NRUF | 29 March 2017       | December 2021          |
| 506  | July 2017 R-NRUF    | 8 September 2017    | November 2024          |



**NPA 819/873**

| July 2017 R-NRUF NPA 819-873 Results                          |            |   |            |            |            |            |            |
|---|------------|---|------------|------------|------------|------------|------------|
| Actual  |            | Forecast  |            |            |            |            |            |
| Total quantity of existing CO Codes assigned & reserved as of |            | Total quantity of existing and future CO Codes forecast to be assigned & reserved as of |            |            |            |            |            |
| 2017-01-01  | 2017-07-01 | 2018-01-01  | 2019-01-01 | 2020-01-01 | 2021-01-01 | 2022-01-01 | 2023-01-01 |
| 1026  | 1073       | 1106  | 1191       | 1243       | 1281       | 1342       | 1381       |
| Projected Exhaust Date - December 2026                        |            |   |            |            |            |            |            |

NRUF data, including the most recent results, is summarized in the following chart.

| NPA 819/873 Summary of Projected Exhaust Dates |                     |                     |                        |
|--|---------------------|---------------------|------------------------|
| NPA  | Type of C-NRUF      | Date of Publication | Projected Exhaust Date |
| 819/873  | January 2017 G-NRUF | 29 March 2017       | August 2023            |
| 819/873  | July 2017 R-NRUF    | 25 Sept. 2017       | December 2026          |

**3. Schedule of Future R- NRUF Activities in this Calendar Year**

There are no future R-NRUF activities scheduled in this calendar year.

**4. R-NRUF Assumptions**

The assumptions used for the July 2017 R-NRUF for NPAs 204/431, 236/250/604/778, 289/365/905, 306/639, 403/587/780/825, 450/579, 506 and 819/873 are the assumptions that were provided on 25 October 2016 to the CNA by the Canadian Steering Committee on Numbering (CSCN) for conducting the January 2017 NRUF.

Item 4 of the 25 October 2016 letter states, in part:

Where the CNA believes, based on its analysis of past growth and NRUF forecast data for an NPA, that the six-year forecast average annual growth may not be the best methodology for that NPA for projecting growth beyond the six-year forecast period, the CNA shall advise the CSCN as to the alternative method it proposes to use.

In this instance, the CNA compared the average forecast growth for the next five years, the median forecast growth for the next five years and the median and

average historical growth for the past five years. The lowest number resulting from these calculations was the one used to identify future PED for NPAs 204/431, 236/250/604/778, 289/365/905, 306/639, 403/587/780/825, 450/579, 506 and 819/873 as per following chart.

| <b>NPA</b>      | <b>Future PED Method</b>       |
|-----------------|--------------------------------|
| 204             | Use Five Year Median of Growth |
| 236/250/604/778 | Use Five Year Median of Growth |
| 289/365/905     | Use Historical Average         |
| 306/639         | Use Median                     |
| 403/587/780/825 | Use Five Year Median of Growth |
| 450/579         | Use Historical Average         |
| 506             | Use Historical Average         |
| 819/873         | Use Five Year Average          |

## **5. Summary of Challenges Encountered During the R-NRUF Process**

The CNA started contacting companies on 1 August 2017 to remind them of the 10 August 2017 due date. Some R-NRUF submissions were a few days late.

## **6. Conclusion**

In accordance with Section 4 of the Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline, the CNA has conducted an assessment, at a total aggregate level, to determine whether the July 2017 R-NRUF results are reasonable.

Numbering resource requirements for some Carriers in both the wireless and LEC services have been volatile over the last few years resulting in only moderately accurate short term and long term NRUF submissions. The CNA believes that emerging technology growth has been responsible for a good part of the demand. With the introduction of the Non-Geographic Code Assignment Guideline, this should alleviate some of the issues associated with Machine-to-Machine demand but it is difficult to quantify at this point.

At this time based on the data and supporting justifications provided by the various TSPs the July 2017 R-NRUF results for NPA 204/431, NPA 236/250/604/778, NPA 289/365/905, NPA 306/639, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA 819/873 are as realistic as they can be.