

**July 2018 R-NRUF Report – NPA 236/250/604/778, NPA 289/365/905, NPA 306/639,
NPA 343/613, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA 709 to the
Canadian Steering Committee on Numbering (CSCN)**

Published: 26 September 2018

Issued by:
Canadian Numbering Administrator
Leidos Canada Inc.

Suresh Khare
1516 – 60 Queen St.
Ottawa, ON K1P 5Y7

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 2018 G-NRUF results, the CNA determined that in addition to NPA 236/250/604/778, NPA 506, and 709, additional NPAs had also entered the 6-year window for relief planning. The additional NPAs are NPA 289/365/905, NPA 306/639, NPA 343/613, NPA 403/587/780/825 and NPA 450/579.

2. High Level Summary

The results from the May (NPA 306/639) and July 2018 R-NRUFs are quite different from the January 2018 R-NRUF and G-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	PED from January 2018 NRUF	PED from May & July 2018 R-NRUF	Change in PED
236/250/604/778	July 2020	March 2020	Advanced 4 months
289/365/905	November 2022	November 2021	Advanced 12 months
306/639	June 2022	September 2022	Delayed 3 months
343/613	February 2024	August 2022	Advanced 18 months
403/587/780/825	September 2022	March 2022	Advanced 6 months
450/579	June 2021	March 2021	Advanced 3 months
506	December 2021	January 2022	Delayed 1 month
709	April 2023	March 2023	Advanced 1 month

NPA 236/250/604/778

NPA 236/250/604/778 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
2772	2843	3016	3167	3323	3425	3542	3633
Projected Exhaust Date - March 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
236/250/604/778	January 2017 R-NRUF	29 March 2017	May 2020
236/250/604/778	July 2017 R-NRUF	25 September 2017	May 2020
236/250/604/778	January 2018 R-NRUF	20 March 2018	July 2020
236/250/604/778	July 2018 R-NRUF	5 September 2018	March 2020

NPA 289/365/905

NPA 289/365/905 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
1833	1875	2051	2177	2315	2441	2522	2579
Projected Exhaust Date - November 2021							

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 September 2017	May 2023
289/365/905	January 2018 R-NRUF	20 March 2018	November 2022
289/365/905	July 2018 R-NRUF	5 September 2018	November 2021

NPA 306/639

NPA 306/639 - May 2018 R-NRUF Aggregate 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					
2018-01-01	2018-05-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
1267	1297	1480	1516	1550	1576	1635	1654
Projected Exhaust Date - September 2022							

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

NPA 306/639 Summary of Projected Exhaust Dates			
NPA	Type of C-NRUF	Date of Publication	Projected Exhaust Date
306/639	January 2017 G-NRUF	29 March 2017	July 2022
306/639	July 2017 R-NRUF	25 September 2017	November 2024
306/639	January 2018 R-NRUF	20 March 2018	June 2022
306/639	May 2018 R-NRUF	27 July 2018	September 2022

NPA 343/613

NPA 343/613 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
1112	1178	1360	1437	1492	1535	1668	1707
Projected Exhaust Date - August 2022							

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

NPA 343/613 Summary of Projected Exhaust Dates			
NPA	Type of C-NRUF	Date of Publication	Projected Exhaust Date
343/613	January 2017 G-NRUF	29 March 2017	April 2025
343/613	January 2018 R-NRUF	20 March 2018	February 2024
343/613	July 2018 R-NRUF	5 September 2018	August 2022

NPA 403/587/780/825

NPA 403/587/780/825 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
2541	2737	2825	2966	3075	3171	3317	3388
Projected Exhaust Date - March 2022							

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

NPA 403/587/780/825 Summary of Projected Exhaust Dates			
NPA	Type of C-NRUF	Date of Publication	Projected Exhaust Date
403/587/780/825	January 2017 G-NRUF	29 March 2017	March 2022
403/587/780/825	July 2017 R-NRUF	25 September 2017	January 2023
403/587/780/825	January 2018 R-NRUF	20 March 2018	September 2022
403/587/780/825	July 2018 R-NRUF	5 September 2018	March 2022

NPA 450/579

NPA 450/579 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
1153	1204	1299	1499	1580	1696	1753	1794
Projected Exhaust Date - March 2021							

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 September 2017	August 2023
450-579	January 2018 R-NRUF	20 March 2018	June 2021
450/579	July 2018 R-NRUF	5 September 2018	March 2021

NPA 506

NPA 506 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
575	581	693	733	763	799	848	863
Projected Exhaust Date - January 2022							

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
506	January 2018 R-NRUF	20 March 2018	December 2021
506	July 2018 R-NRUF	5 September 2018	January 2022

NPA 709

NPA 709 - July 2018 R-NRUF Aggregate 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					
2018-01-01	2018-07-01	2019-01-01	2020-01-01	2021-01-01	2022-01-01	2023-01-01	2024-01-01
573	574	669	728	773	791	798	836
Projected Exhaust Date - March 2023							

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

NPA 709 Summary of Projected Exhaust Dates			
NPA	Type of C-NRUF	Date of Publication	Projected Exhaust Date
709	January 2015 G-NRUF	27 March 2015	August 2024
709	January 2016 G-NRUF	21 March 2016	May 2019
709	April 2016 J-NRUF	15 May 2016	March 2019
709	July 2016 J-NRUF	2 September 2016	March 2019
709	October 2016 J-NRUF	5 December 2016	March 2019
709	January 2017 J-NRUF	29 March 2017	August 2019
709	April 2017 J-NRUF	2 June 2017	August 2019
709	July 2017 J-NRUF	5 September 2017	May 2023
709	January 2018 R-NRUF	20 March 2018*	April 2023
709	July 2018 R-NRUF	5 September 2018	March 2023

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

None scheduled.

4. R-NRUF Assumptions

The assumptions used for the May 2018 R-NRUF for NPA 306/639 and the July 2018 R-NRUF for NPA 236/250/604/778, NPA 289/365/905, NPA 343/613, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA 709 are the assumptions that were provided on 1 November 2017 to the CNA by the Canadian Steering Committee on Numbering (CSCN) for conducting the January 2018 NRUF.

Item 4 of the 1 November 2017 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 seek guidance from CRTC staff and will advise the CSCN of the alternative method used.

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 the PED for NPA 236/250/604/778, NPA 289/365/905, NPA 306/639, NPA 343/613, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA 709 as per the following chart.

NPA	Future PED Method
236/250/604/778	Use Five Year Median of Growth
289/365/905	Use Historical Average
306/639	Use Five Year Average of Growth
343/613	Use Historical Average
403/587/780/825	Use Five Year Median of Growth
450/579	Use Historical Average
506	Use Historical Average
709	Use Historical Average

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

For the May 2018 NPA 306/639 R-NRUF, the CNA started contacting individual companies on 4 June 2018 to remind them of the 10 June 2018 due date. Several submission were not made until after 10 June, with the last submission being made on 13 June 2018.

For the July 2018 R-NRUF, the CNA started contacting individual companies during the first full week of August to remind them of the 7 August 2018 due date. Nevertheless, some R-NRUF submissions were a few days late. Two companies were repeatedly reminded up to 14 August 2018.

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 May 2018 NPA 306/639 and the July 2018 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 has endeavoured to mitigate this volatility by distinguishing companies that are establishing a footprint in an NPA from those that already have one.

The CNA believes that emerging technology growth has been responsible for a good part of the demand. It is assumed that the introduction of the *Canadian Non-Geographic Code Assignment Guideline*, will alleviate some of the issues associated with Machine-to-Machine demand but it is difficult to quantify. Some TSPs are applying for non-geographic codes.

At this time, based on the data and supporting justifications provided by the various TSPs, the May and July 2018 R-NRUF results for NPA complexes 236/250/604/778, NPA 289/365/905, NPA 306/639, NPA 343/613, NPA 403/587/780/825, NPA 450/579, NPA 506 and NPA 709 are as realistic as they can be.