

**January 2015 G-NRUF Report – Canadian NPAs  
to the  
Canadian Steering Committee on Numbering (CSCN)**

Published: 22 May 2015

Issued by:  
Canadian Numbering Administrator  
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## 1. Purpose of G-NRUF

The purpose of the General Numbering Resource Utilization Forecast (G–NRUF) is to provide an annual forecast to aid in projecting Numbering Plan Area (NPA) and North American Numbering Plan (NANP) exhaust. The G–NRUF process requires current and prospective Code Holders to submit actual and forecasted annual data regarding their current and prospective future use of Central Office (CO) Codes to the Canadian Numbering Administrator (CNA) on an annual basis.

The CNA has prepared this report in accordance with the Canadian Numbering Resource Utilization Forecast (C-NRUF) Guideline (the Guideline) approved by the Canadian Radio-television and Telecommunications Commission (CRTC) on 28 September 2012 in Telecom Decision CRTC 2012-524.

Included as attachments to this report are:

- 2015 G–NRUF Aggregate Results
- Quantity of CNA CO Codes as of 1 January 2015
- Historical G–NRUF Graphs for Canadian NPAs
- CSCN Letter dated 21 October 2014

## 2. High Level Summary

The results from the January 2015 G-NRUF are difficult to compare with the January 2014 G-NRUF results due to five major factors:

- 1) The appearance of some new Telecommunications Service Providers (TSPs) in various Canadian NPAs that had not previously submitted G-NRUF data to the CNA.
- 2) Various TSPs have submitted to the CNA a set of data that is different from the 2014 data. The CNA has verified the input from various TSPs and the variance from previous years' input can be rationalized.
- 3) With the introduction of the Non-Geographic Code Assignment Guideline, this should alleviate some of the issues associated with Machine-to-Machine demand but is difficult for both the TSPs and the CNA to quantify at this point.
- 4) Telecom Decision CRTC 2004-46, *Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, which allows for the consolidation of Exchange Areas to form larger Local Interconnection Regions (LIRs).
- 5) Telecom Decision CRTC 2006-28, *Regulatory issues related to the implementation of wireless number portability – Follow-up to Public Notice 2006-3*, which requires that Wireless Service Providers (WSPs) obtain CO Codes from which LRNs can be assigned.

The impact of each of the above factors varies from NPA to NPA.

Specific significant changes are listed below:

- NPAs 204/431 Projected Exhaust Date is now forecast for February 2032, which moves the Projected Exhaust Date out by two (2) years and ten (10) months from the January 2014 R-NRUF result of March 2029, primarily as a result of the change in demand for the area.
- NPAs 226/519 Projected Exhaust Date is now forecast for December 2017, which moves the Projected Exhaust Date out by three (3) months from the July 2014 R-NRUF result of September 2017, primarily as a result of the change in demand for the area.
- NPAs 236/250/604/778 Projected Exhaust Date is now forecast for January 2024, which moves the Projected Exhaust Date out by one (1) year and nine (9) months from the January 2014 G-NRUF result of April 2022, primarily as a result of a change in demand for the area.
- NPAs 249/705 Projected Exhaust Date is now forecast for July 2030, which moves the Projected Exhaust Date out by four (4) years and one (1) month from the January 2014 G-NRUF result of June 2026, primarily as a result of a change in demand for the area.
- NPAs 343/613 Projected Exhaust Date is now forecast for September 2033, which moves the Projected Exhaust Date out by three (3) years and two (2) months from the January 2014 G-NRUF result of July 2030, primarily as a result of a change in demand for the area.
- NPAs 403/587/780 Projected Exhaust Date is now forecast for May 2017, which moves the Projected Exhaust Date out by five (5) months from the July 2014 R-NRUF result of December 2016, primarily as a result of a change in demand for the area.
- NPAs 416/437/647 Projected Exhaust Date is now forecast for January 2027, which moves the Projected Exhaust Date out by one (1) year and ten (10) months from the January 2014 G-NRUF result of April 2025, primarily as a result of a change in demand for the area.
- NPAs 450/579 Projected Exhaust Date is now forecast for November 2032, which moves the Projected Exhaust Date in by seven (7) years and two (2) months from the January 2014 G-NRUF result of October 2025, primarily as a result of a change in demand for the area.

**NPAs in or entering Relief Planning**

<b>NPA</b>	<b>Most recent 2014 (G, R) - NRUF View</b>	<b>2015 (G ,R ) – NRUF View</b>	<b>Remarks</b>
226/519/548	September 2017	December 2017	Overlay 548 NPA 4 June 2016 iaw Telecom Decision CRTC 2014-338.

<b>NPA</b>	<b>Most recent 2014 (G, R) - NRUF View</b>	<b>2015 (G, R) – NRUF View</b>	<b>Remarks</b>
403/587/780/825	December 2016	May 2017	Overlay 825 NPA 9 April 2016 iaw Telecom Decision CRTC 2013-574.

### 3. Current and Past G-NRUF Projected Exhaust Dates

<b>NPA</b>	<b>LOCATION</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
204/431	Manitoba	Sep. 2012	Nov. 2012	Feb. 2030	Mar. 2029	Jan. 2032
226/519	S. Ontario	Sep. 2022	Nov. 2017	Oct. 2017	May 2018 Apr. 2031	Dec. 2017 Mar. 2029
236/250/604/778	BC	Nov. 2014 Aug. 2022 Feb. 2030	Feb. 2014 Feb. 2021 Nov. 2027	Apr. 2014 May 2022 Apr. 2030	Apr. 2022 Jan. 2030	Jan. 2024 Apr. 2033
249/705	N. E. Ontario	Dec. 2027	Jun. 2024	Jul. 2026	Aug. 2026	July. 2030
289/365/905	Toronto Fringe	Apr. 2015 Oct. 2027	Jul. 2014 Apr. 2024 Dec. 2033	Mar. 2025 Sep. 2035	Feb. 2025 Jan. 2036	Jan. 2026 Beyond 2037
306/639	Saskatchewan	May 2013	May 2013	May 2013	Beyond 2037	Beyond 2037
343/613	Ottawa area	Beyond 2033	Oct. 2025	Jan. 2031	Jun. 2030	Sept. 2033
403/587/780	Alberta	Aug. 2020 Dec. 2032	Jun. 2018 Jun. 2028	Aug. 2017 Mar. 2028	Jan. 2017 May 2026	May 2017 Nov. 2026
416/437/647	Toronto	May 2015 Dec. 2023 Jul. 2033	Jun. 2013 Sep. 2018 Jun. 2023 Apr. 2028 Jan. 2033	Dec. 2021 Aug. 2028 Jun. 2035	Mar. 2025 Mar. 2034	Jan. 2027 Beyond 2037
418/581	N. E. Quebec	Mar. 2033	Jun. 2027	Apr. 2022	Jun. 2022	Nov. 2023
438/514	Montreal	May 2023	Aug. 2021 Jun. 2033	Jul. 2024	Jan. 2025	Aug. 2026
450/579	Montreal Fringe	Beyond 2033	Nov. 2029	Jun. 2030	Sep. 2025	Nov. 2032
506	New Brunswick	Beyond 2033	Beyond 2034	Jun. 2029	Feb. 2025	Apr. 2025
709	Nfld & Labrador	Beyond 2033	Jun. 2033	Oct. 2033	Oct. 2023	Aug. 2024
782/902	Nova Scotia & PEI	May 2017	Jan. 2016	Oct. 2014	Dec. 2014	Oct. 2036
807	N.W. Ontario	Beyond 2033	Beyond 2034	Beyond 2035	Beyond 2037	Beyond 2037
819/873	N. E. Quebec	Sep. 2012	Nov. 2012	Sep. 2035	Nov. 2032	Beyond 2037
867	Yukon, NWT, Nunavut	Beyond 2033	Beyond 2034	Beyond 2035	Beyond 2037	Beyond 2037

### 4. Schedule of Future NRUF Activities in the Current Year

<b>Due Date</b>	<b>NRUF Type</b>	<b>NRUF Format</b>	<b>NPA(s)</b>
July 31	R-NRUF	Format 2	226/519/548
July 31	R-NRUF	Format 2	403/587/780/825

## **5. Summary of Challenges Encountered during the G-NRUF Process**

- a) TSPs confuse the differences between a G-NRUF, an R-NRUF, a J-NRUF and the Reserved and Held Report requirements.
- b) Some companies had problems<sup>1</sup> with completion of the NRUF forms, submitted the inappropriate form, or missed submission of a form.
- c) Numerous companies failed to submit explanations for significant changes in their forecasts from previous submissions.
- d) Some companies continued to submit revisions up to 1 April 2015.

## **6. Potential Solutions Identified by the CNA to Address G-NRUF Process Issues**

- a) There appears to be no serious negative consequence set out for companies that do not forecast accurately. There should be an inducement for the companies to report as accurately as possible, once and on time, to ensure that the NRUF results are meaningful and timely.
- b) The CSCN should strive to increase the participation of TSPs in its activities, such that they are more conversant with the significance of various numbering requirements (e.g., the G-NRUF process, Reserved and Held reports).
- c) The C-NRUF Guideline establishes the G-NRUF due date, documented discussions take place at the CSCN, and the CNA sends out two requests a month apart, which should be sufficient warning that annual G-NRUF data will be due by a date certain.

## **7. G-NRUF Assumptions**

See the attached CSCN letter dated 21 October 2014.

## **8. Conclusion**

In accordance with Section 4, Item 6 h) 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 2015 NRUF results are reasonable and the Projected Exhaust Dates for all NPAs are realistic based upon the data submitted by TSPs and the direction provided by the CSCN on 21 October 2014.

The CNA notes that the Canadian telecommunications environment continues to go through a period of significant change due to competition in local exchange and wireless markets.

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<sup>1</sup> Not including companies that did not follow submission instructions and/or did not have the correct January 1<sup>st</sup> 2015 value(s).

The results from the 2015 NRUF are difficult to compare with the 2014 G- and R-NRUF results as most TSPs have submitted a set of data to the CNA that is different from the 2014 data. In addition, there are several Carriers looking to expand their footprint.

TSPs have modified their market entry and expansion plans as their market and competitive experience affects their business results.

As we move forward into the remainder of 2015 the CNA is concerned that there is still potential for volatility in demand for numbering resources that appears to be related to past regulatory decisions and the ever changing world economy impacting Canadian markets. The appearance of several new Wireless Service Providers and Local Exchange Carriers may have an unforeseen impact on demand that is difficult to predict.

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.

Based on this assessment, in the CNA's opinion, the G-NRUF results for this year appear reasonable and the Projected Exhaust Dates for Canadian NPAs are generally realistic.



January 2015 G-NRUF Aggregate Results

Attachment 1

NPA/ Years	2010			2011			2012			2013			2014			5 Year
	Actual	Forecast	Delta	Actual	Forecast	Delta	Actual	Forecast	Delta	Actual	Forecast	Delta	Actual	Forecast	Delta	Average
204-431	55	81	67.9%	28	87	32.2%	43	133	32.3%	80	152	52.6%	31	101	30.7%	43.1%
226-519	58	64	90.6%	70	105	66.7%	38	127	29.9%	49	152	32.2%	38	155	24.5%	48.8%
249-705	35	69	50.7%	35	60	58.3%	38	76	50.0%	49	82	59.8%	25	92	27.2%	49.2%
250-236-604-778	140	115	121.7%	98	137	71.5%	98	209	46.9%	69	211	32.7%	76	256	29.7%	60.5%
289-365-905	66	108	61.1%	61	87	70.1%	74	123	60.2%	90	146	61.6%	30	147	20.4%	54.7%
306-639	97	19	510.5%	7	41	17.1%	15	47	31.9%	24	132	18.2%	64	58	110.3%	137.6%
343-613	56	77	72.7%	36	57	63.2%	22	64	34.4%	50	71	70.4%	18	59	30.5%	54.2%
403-587-780	129	75	172.0%	107	120	89.2%	91	134	67.9%	67	166	40.4%	86	207	41.5%	82.2%
416-437-647	87	73	119.2%	106	92	115.2%	60	189	31.7%	33	116	28.4%	34	85	40.0%	66.9%
418-581	53	39	135.9%	64	67	95.5%	108	66	163.6%	71	85	83.5%	58	90	64.4%	108.6%
438-514	42	37	113.5%	59	74	79.7%	51	91	56.0%	20	76	26.3%	25	80	31.3%	61.4%
450-579	66	93	71.0%	34	52	65.4%	64	75	85.3%	61	82	74.4%	29	82	35.4%	66.3%
506	14	32	43.8%	14	28	50.0%	10	19	52.6%	32	30	106.7%	39	59	66.1%	63.8%
709	48	67	71.6%	14	27	51.9%	12	19	63.2%	15	35	42.9%	22	48	45.8%	55.1%
807	17	16	106.3%	2	6	33.3%	4	5	80.0%	7	8	87.5%	10	9	111.1%	83.6%
819-873	35	36	97.2%	30	55	54.5%	52	78	66.7%	58	90	64.4%	34	71	47.9%	66.2%
867	1	2	50.0%	1	3	33.3%	15	13	115.4%	14	8	175.0%	26	13	200.0%	114.7%
782-902	23	37	62.2%	42	63	66.7%	34	62	54.8%	19	64	29.7%	42	29	144.8%	71.6%
			112.1%			61.9%			62.4%			60.4%			61.2%	71.6%
	1022	1040		808	1161		829	1530		808	1706		687	1641		
			98.3%			69.6%			54.2%			47.4%			41.9%	
<b>Notes:</b>	<b>Actual is based on Part 1 application date.</b>															
	<b>Forecast is from G-NRUF submissions, ignoring CNA codes.</b>															
	<b>Delta is Actual/Forecast.</b>															

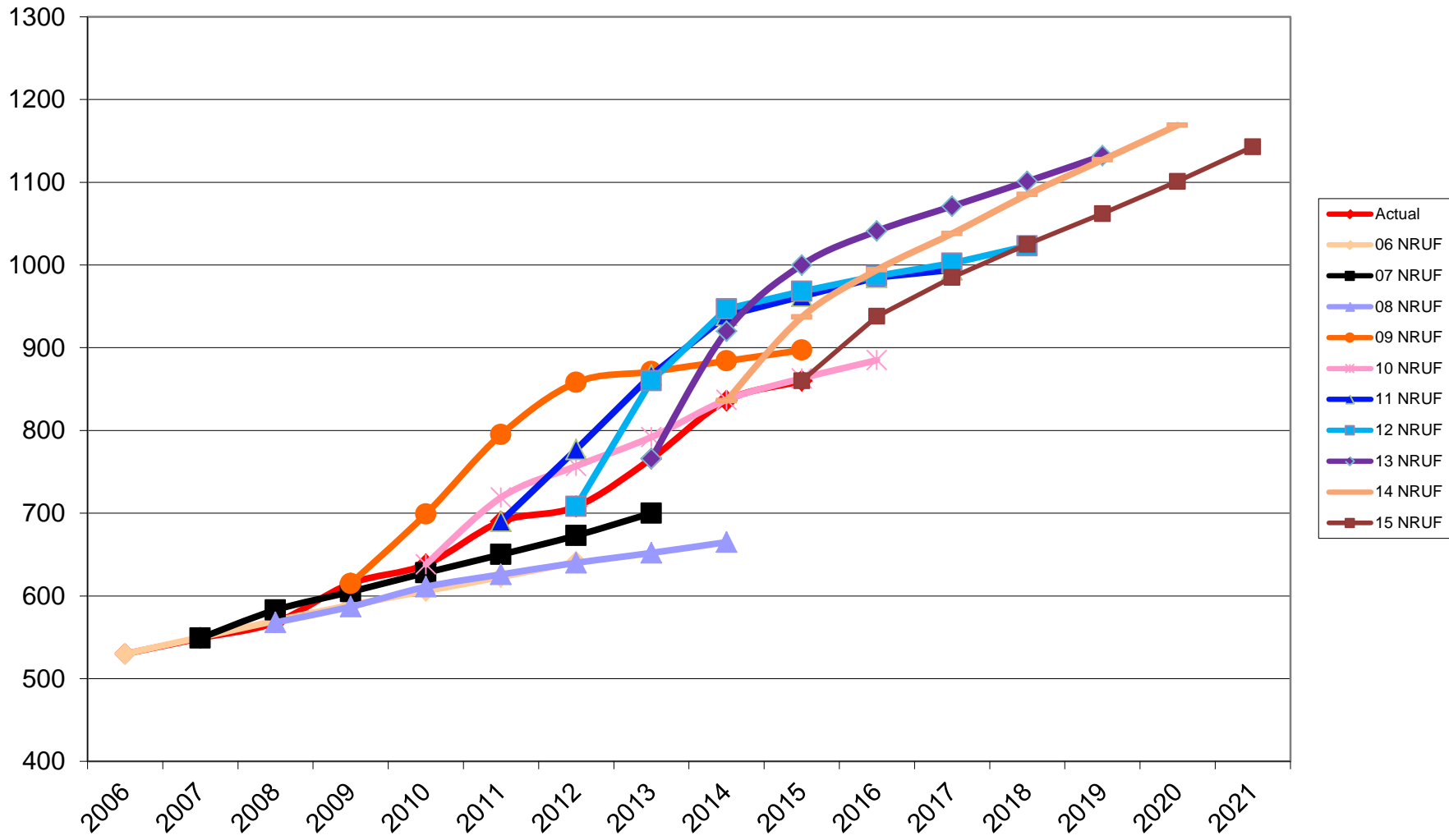


January 2015 G-NRUF Aggregate Results

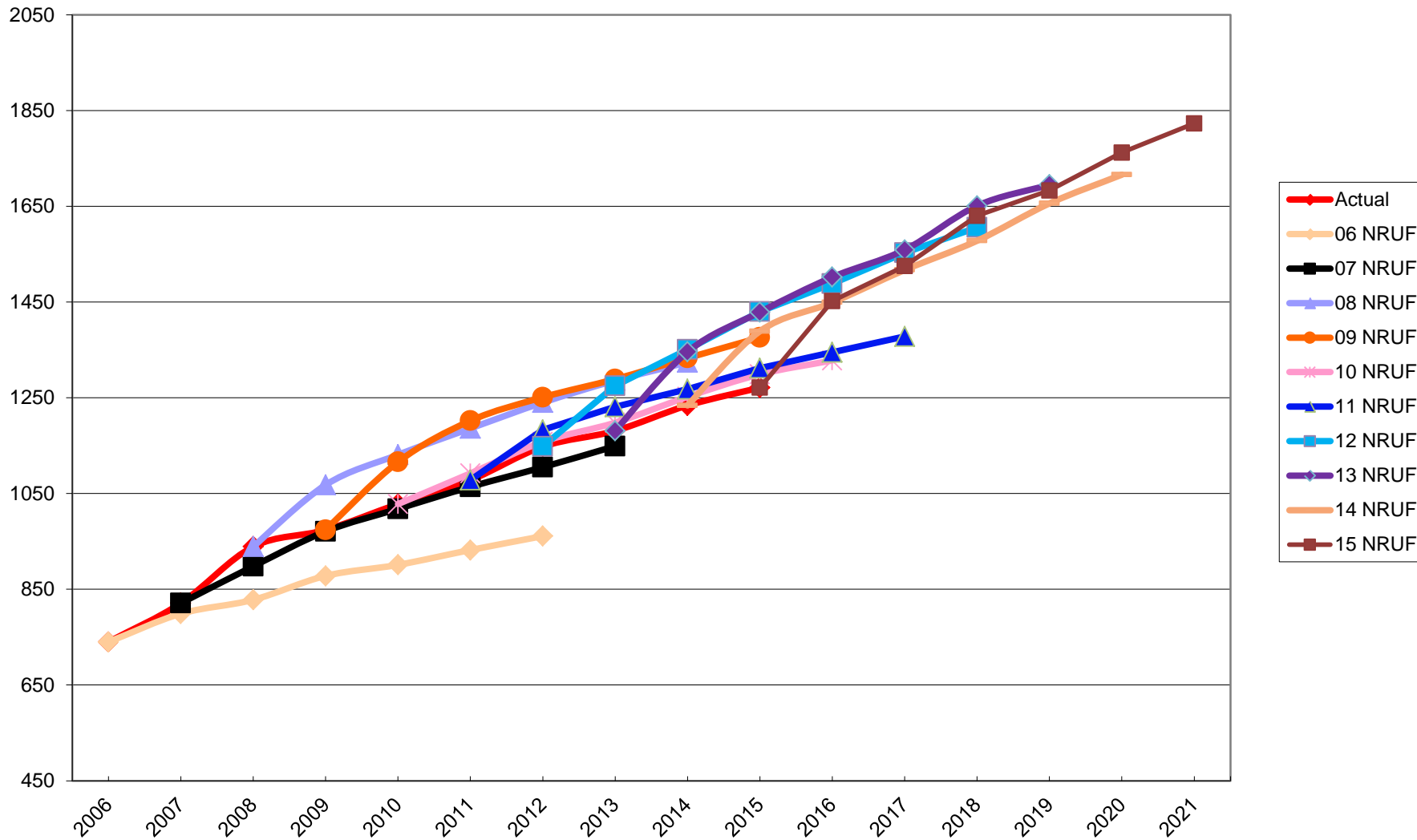
Attachment 2

NPAs	January 1, 2015																	
	204-431	226-519-548	249-705	236-250-604-778	289-365-905	306-639	343-613	403-587-780-825	416-437-647	418-581	438-514	450-579	506	709	782-902	807	819-873	867
New Entrants iaw PNs/NOCs/ Decisions	0	7	0	10	15	2	0	10	10	0	0	0	0	0	10	0	0	0
Initial Code iaw PNs/NOCs/ Decisions	0	4	0	7	7		0	7	7	0	0	0	0	0	4	0	0	0
Protected	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N11 Service Codes	16	16	16	32	24	16	16	24	24	16	16	16	8	8	16	8	16	8
Special Use Codes (555, 950 & 976)	6	5	5	12	9	6	5	9	8	5	5	6	3	3	6	2	5	3
Industry Plant Test Codes	3	4	4	8	6	4	4	6	6	4	4	4	2	2	4	2	4	2
Home NPAs NXX Codes	4	4	4	15	9	4	4	9	9	4	4	4	1	1	4	1	4	1
Neighbour NPAs NXX Codes	2	4	18	0	27	6	16	1	3	6	4	8	3	3	2	4	18	6
Future NPAs NXX Codes	8	8	18	0	12	12	20	3	18	16	16	24	10	9	4	15	18	20
Limited Availability (USA 7D Problem)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4	0
911 Misdial Codes (912, 914 & 915)	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	3	0	3
Special 7 Digit Dialing Codes (310, 610 & 810)	5	5	5	9	8	5	5	7	8	5	5	5	2	2	5	2	5	3
Relief NPA	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Unforecasted Demand	3	0	0	0	0	0	7	0	0	3	6	5	3	2	0	2	2	2
<b>Total</b>	<b>47</b>	<b>57</b>	<b>70</b>	<b>98</b>	<b>117</b>	<b>55</b>	<b>77</b>	<b>76</b>	<b>96</b>	<b>59</b>	<b>60</b>	<b>72</b>	<b>36</b>	<b>33</b>	<b>55</b>	<b>40</b>	<b>76</b>	<b>48</b>

**NPA 204-431 Manitoba**



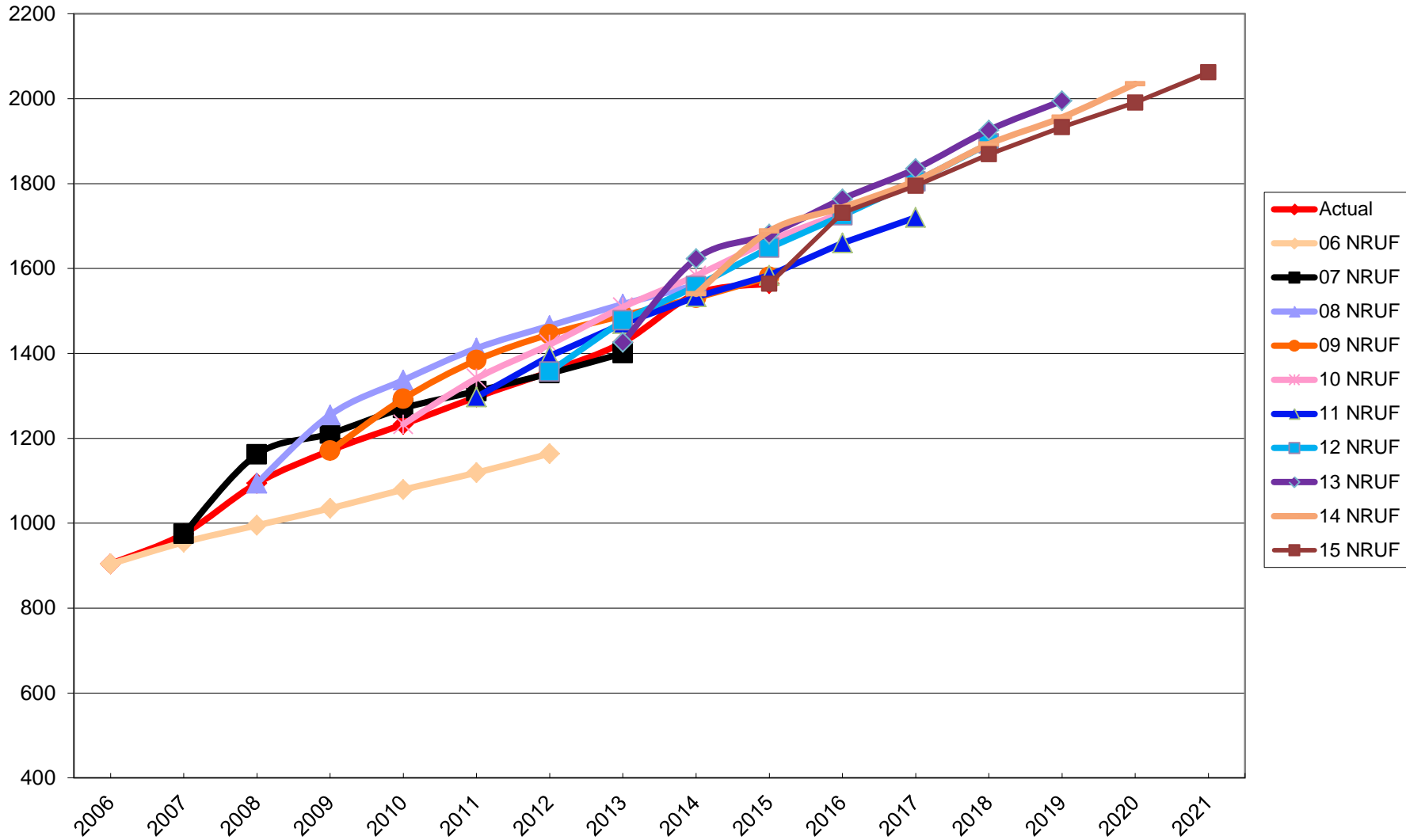
**NPA 226-519-548 Ontario**





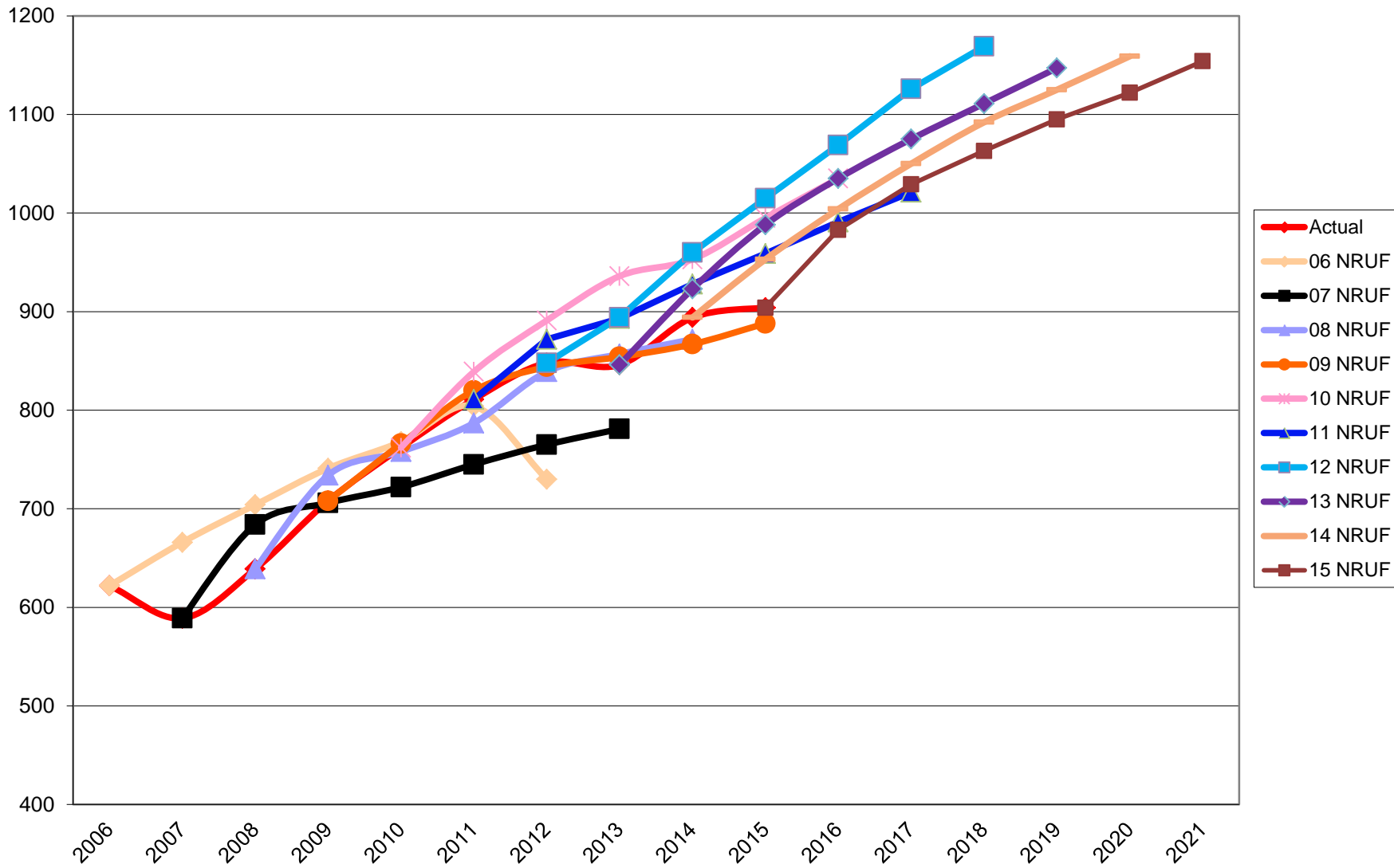


**NPA 289-365-905 Ontario**





### NPA 343-613 Ontario







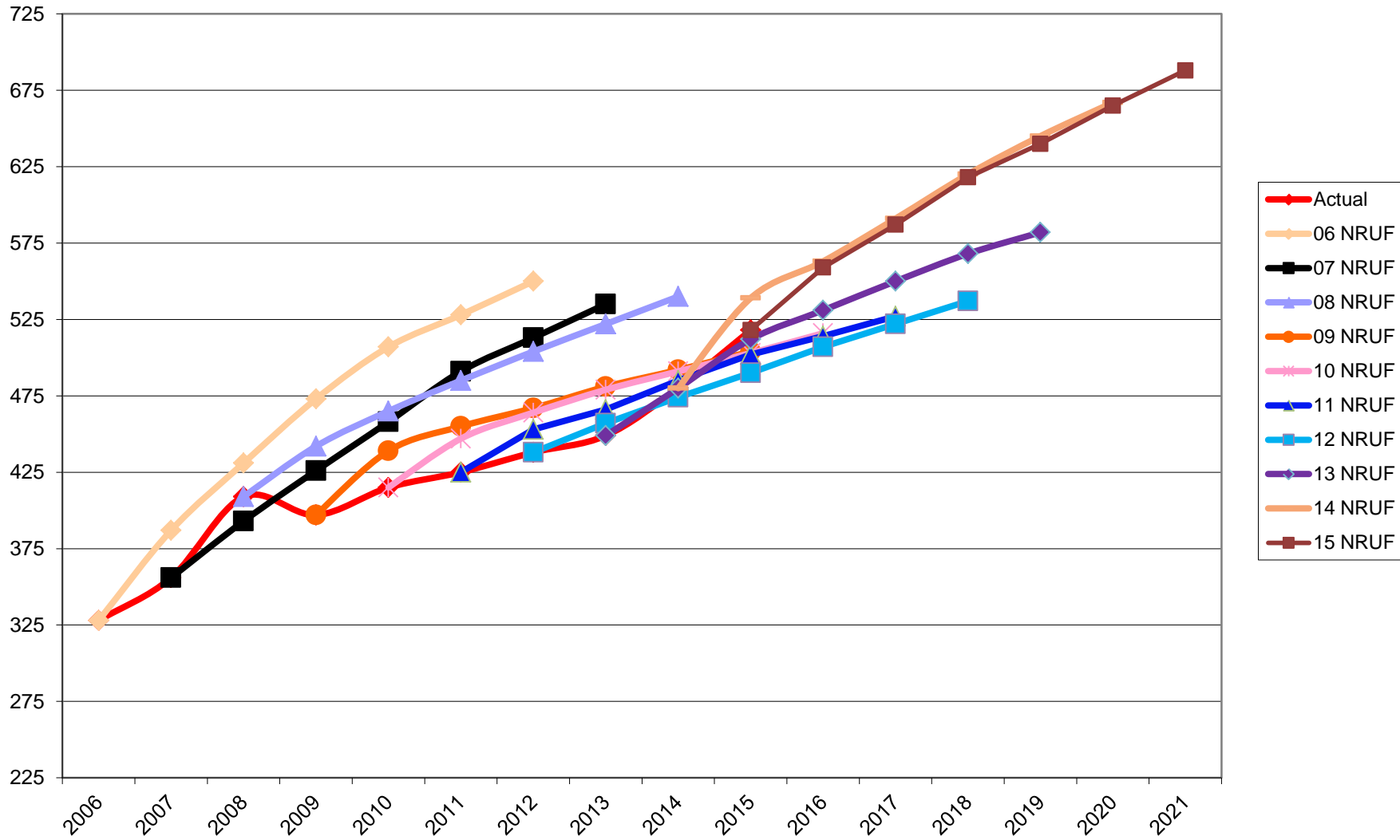




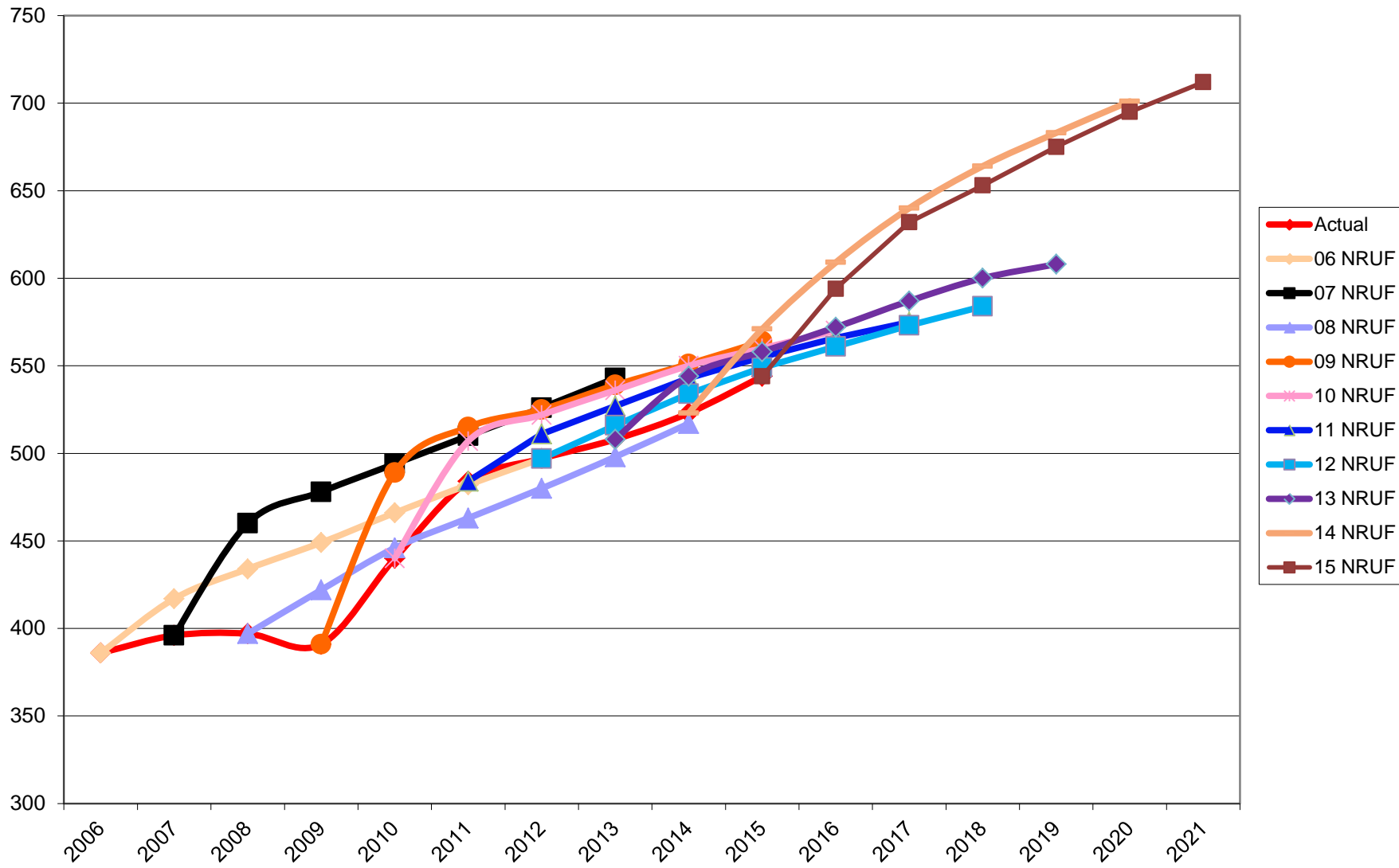




NPA 506 New Brunswick



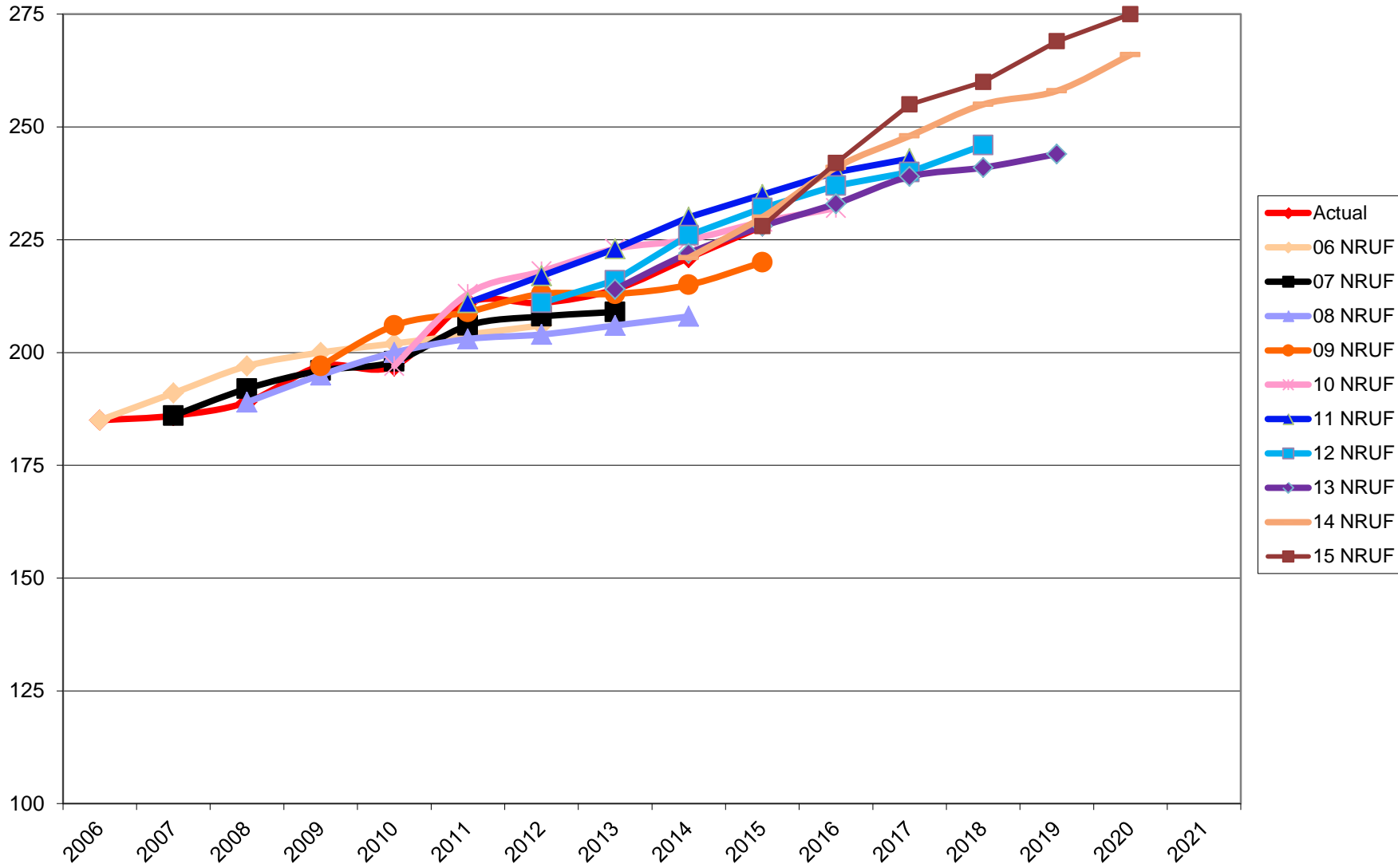
### NPA 709 Newfoundland and Labrador



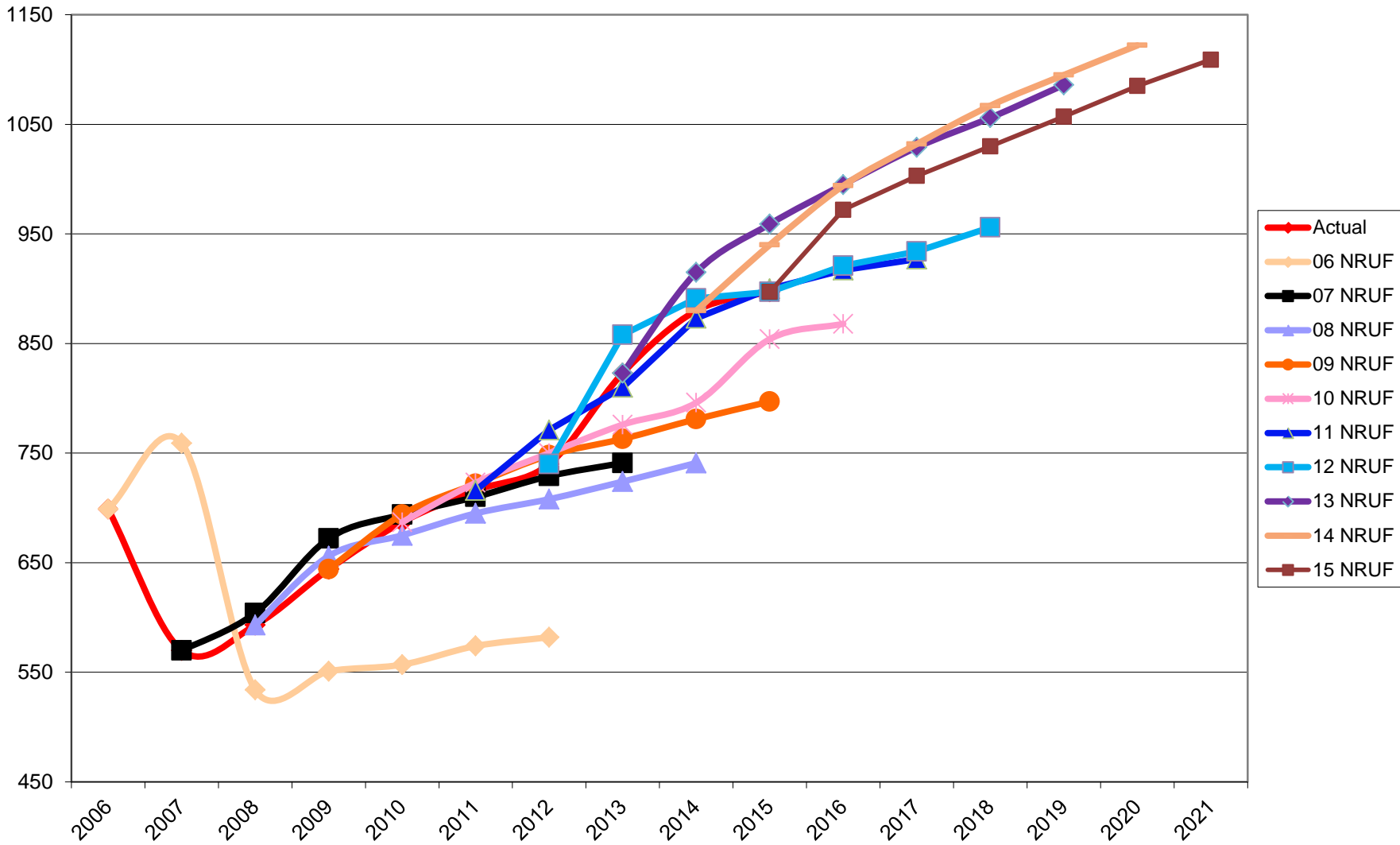




### NPA 807 Ontario



### NPA 819-873 Quebec





# CSCN

## Canadian Steering Committee on Numbering

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21 October 2014

**TRANSMITTED ELECTRONICALLY**

Glen Brown  
Project Manager  
Canadian Numbering Administrator (CNA)  
Leidos Canada Inc.  
60 Queen Street, Suite 1516  
Ottawa, Ontario K1P 5Y7

**Subject: CSCN Direction to Canadian Numbering Administrator (CNA) re the 2015 Numbering Resource Utilization Forecast (2015 NRUF) Methodology and Assumptions**

On 21 October 2014, the Canadian Steering Committee on Numbering (CSCN) discussed and agreed to the direction for the CNA with respect to the 2015 NRUF Methodology and Assumptions.

The attached document contains the direction titled "CSCN Direction to CNA re the 2015 NRUF Methodology and Assumptions, 21 October 2014".

Sincerely,

***Original signed by***

Glen Brown  
CSCN Chair

c.c.: Robert Martin - CRTC  
Jeanne Lacombe - CRTC  
CSCN

Attachment

**CSCN Direction to CNA re the 2015 NRUF Methodology and Assumptions  
21 October 2014**

The CSCN submits the following methodology and assumptions to the CNA for the 2015 Numbering Resource Utilization Forecast (NRUF).

1. If there is a discrepancy between the CNA records and those submitted by the CO Code Holder with respect to the quantities of actual CO Codes assigned and reserved as of 1 January 2015, the CNA will attempt to rectify the discrepancy. However, if the discrepancy cannot be resolved, the quantity of CO Codes appearing in the CNA's records will be used. The CO Code Holder and the CNA should attempt to resolve the discrepancy before the next NRUF is conducted.

This problem has generally occurred when a CO Code:

- is still "being recovered" (i.e., a Part 3 Form has not been issued but the CO Code Holder believes the CNA has recovered the CO Code);
  - is a Plant Test Code (i.e., legacy, NPA Relief, industry plant test codes and Appendix D temporary plant test codes); or
  - has been assigned and a Part 4 Form has not been received. In the past some CO Code Holders have not counted assigned codes.
2. CRTC staff in directives dated in 2003, 2007 and 2009 requested that the CNA reserve a number of CO Codes to be used for new unknown entrants, new technologies and other unforecasted demand. The CSCN recommends that the quantities identified in those directives should be carried forward to the 2015 NRUF, except in NPAs where pools of CO Codes have been established for initial CO Code assignments, in which case the allowance for unforecasted demand should only be included for forecast years following the dissolution of the pool for initial CO Code assignments as noted in the table below.

CRTC Staff Allowance for Unforecasted Demand		Relief year (est. = estimated)	Allowance to be excluded from forecasted total quantities prior to the year below (= year after the dissolution of the pool, which is 2 years after relief)	CRTC Telecom Decision or Notice establishing pool of CO Codes for initial CO Code assignments
NPA	Quantity of CO Codes			
204/431	3	n/a	-	-
226/519	5	2016	2019	Notice 2012-655
236/250/604/778	7	2013	2016	Notice 2010-815
249/705	5	n/a	-	-
289/365/905	7	2013	2016	Notice 2009-310
306/639	3	2013	-	Note*
343/613	7	n/a	-	-
403/780/587	7	2016	2019	Notice 2012-656
416/437/647	6	2013	2016	Notice 2010-490
418/581	3	n/a	-	-
438/514	6	n/a	-	-
450/579	5	n/a	-	-

CRTC Staff Allowance for Unforecasted Demand		Relief year (est. = estimated)	Allowance to be excluded from forecasted total quantities prior to the year below (= year after the dissolution of the pool, which is 2 years after relief)	CRTC Telecom Decision or Notice establishing pool of CO Codes for initial CO Code assignments
NPA	Quantity of CO Codes			
506	3	n/a	-	-
709	2	n/a	-	-
807	2	n/a	-	-
819/873	2	n/a	-	-
867	2	n/a	-	-
902	3	2014	2017	Notice 2012-309

Note\*: In Telecom Notice of Consultation CRTC 2011-260, *Establishment of a CISC ad hoc committee relief planning for area code 306 in Saskatchewan*, dated 19 April 2011, the Commission did not direct the CNA to set aside any CO Codes for initial code assignments during the 2 year period after relief.

The quantities of CO Codes in the above table should be carried forward for the 20-year study period with no growth.

3. Where the CRTC has ordered or an RPC has recommended that quantities of CO Codes be set aside for a specified period of time for assignment to initial CO Code Applicants for a 2-year period after implementation of an Overlay, the CNA shall add such quantities to the actual quantity of CO Codes for 1 January of the current year and carry them forward in the forecasts until the Relief Date, since these set-aside CO Codes are unassignable from the date of the Decision until immediately prior to the Relief Date, after which they become assignable (with limitations). The CNA should exclude such set-aside CO Codes from the calculation of annual growth rates.
4. Future projections beyond the six year forecast period will be calculated using linear extrapolation and the average annual growth in quantity of CO Codes for the six year forecast period, excluding any extraordinary factors such as returns or reclamations of large quantities of CO Codes and Codes identified in item 3 above that would create an unreasonable projected future growth rate. 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. The six-year average growth of CO Codes per year shall be calculated as follows and rounded to one decimal point at a maximum (e.g., 5.14 rounds down to 5.1; 5.15 rounds up to 5.2):

$$\text{6 Year Average Growth of CO Codes per Year} = \frac{[(\text{Forecasted Quantity of CO Codes in year six}) - (\text{Actual Quantity in 1 January of Current Year})]}{6}$$

When extending the forecast from 7 to 20 years, the CNA should use the six year forecast average annual growth, calculated to one decimal point, to develop the 1 January quantity of CO Codes for each year (e.g., in year seven

100+5.4=105.4 rounds up to 106; in year eight 105.4+5.4=110.8 rounds up to 111).

5. The CNA shall provide for each NPA the total quantity of actual and forecasted CO Codes and a breakdown of the quantity of "Unassignable CO Codes" as per section 3.7 of the Commission-approved Canadian Central Office Code (NXX) Assignment Guideline, or as otherwise directed in writing by the CRTC when the draft aggregate results are released, and in the subsequent 2015 NRUF Report to the CSCN after the aggregate results are finalized.
6. The "CNA Codes" and "Stranded Codes" shall not be used in the calculation of the average annual future growth used for the 7 to 20 year projection. At this time, there are no "Stranded Codes".
7. The CNA shall not add or include any demand for CO Codes for proposed CLECs that did not submit NRUF forecasts, other than the demand that is already allowed for in the quantity of CO Codes for unforecasted demand specified by CRTC staff.
8. For the purpose of the NRUF the CNA should assume that the Overlay Method will be used for future NPA Reliefs unless CRTC staff advises otherwise.
9. With respect to NPAs that are due to exhaust approximately in the 2035 timeframe, the CNA should exercise its best judgment in finalizing the forecast for those NPAs.