



# NPA 613 Relief Planning

Planning Document (PD)  
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# NPA 613

## Planning Document (PD)

### 1. EXECUTIVE SUMMARY

The 613 area code consists of 132 Exchange Areas serving eastern Ontario which includes the major communities of Ottawa, Kingston, Belleville, Brockville and Cornwall. The portion of the Ottawa-Hull Exchange Area located in area code 613 has the largest demand for CO Codes.

Mandatory 10-digit local dialling was implemented in October 2006 to provide relief for area code 613.

In November 2006, the Canadian Numbering Administrator (CNA) announced that Number Plan Area (NPA) 613 had entered the relief planning window of 72-months. The CNA advised the Canadian Radio-television and Telecommunications Commission (CRTC) and industry of this situation and conducted a Relief Planning Numbering Resource Utilization Forecast (R-NRUF) that indicated NPA 613 would exhaust in December 2013. The introduction of Local Interconnection Regions (LIR) and the implementation of Wireless Number Portability (WNP) have accelerated demand for Central Office (CO) Codes throughout area code 613. The R-NRUF conducted in mid-2007 indicated that NPA 613 would exhaust in September 2011, an advance of 2¼ years, thereby advancing the relief of NPA 613. The January 2008 R-NRUF changed the Projected Exhaust Date to August 2011 (the Projected Exhaust Date is only 3 years in the future and relief is desired at least 12 months in advance of the Projected Exhaust Date). On April 1, 2008 the RPC reviewed the January 2008 R-NRUF results and determined that 10 CO Codes that are currently unavailable for assignment could be made available for assignment and thus delay the Projected Exhaust Date until about December 2011.

On 12 October 2007, the CRTC issued Telecom Public Notice CRTC 2007-18 *Establishment of a CISC ad hoc committee for area code relief planning in eastern Ontario area code 613*, in which it established the NPA code 613 Relief Planning Committee (RPC).

On 22 October 2007, the CNA distributed the Initial Planning Document (IPD) for discussion at a RPC meeting held on November 13 and 14, 2007.

This Planning Document (PD) was developed by the RPC and identifies and assesses alternatives for providing relief in the NPA 613 geographic area. It was prepared in accordance with CRTC-approved Canadian NPA Relief Planning Guideline dated August 13, 2003. The purpose of the PD is to recommend a NPA 613 code relief method and a Relief Date to the CRTC.

The objective of the NPA Relief Planning process is to ensure that CO Codes and telephone numbers are always available for use by Telecommunications Service Providers (TSPs) and their customers in the geographic area requiring relief.

NPA Relief Planning is conducted under the regulatory oversight of the CRTC in accordance with the CRTC-approved Canadian NPA Relief Planning Guidelines, dated 13 April 2007 (the

Guidelines). A copy of the Guidelines can be obtained from:  
<http://www.crtc.gc.ca/public/cisc/cn/CNODGL0013A.doc>.

The CRTC may exercise its authority under the *Telecommunications Act* to alter this process at any time. The CRTC has the authority, under the *Telecommunications Act*, to review, modify and give final approval to the Planning Document (PD) and the Relief Implementation Plan (RIP) developed and submitted to the CRTC by the RPC via the CRTC Interconnection Steering Committee (CISC) process.

In this PD various Relief Options are identified and considered as potential methods of ensuring that an adequate quantity of telephone numbers will be available for assignment in the geographic area covered by area code 613.

Based upon its analysis of the Relief Options the RPC recommends that:

- relief for NPA 613 be implemented using the Distributed Overlay option;
- NPA 343 be selected as the Relief NPA;
- the Relief Date be 18 September 2010 which is within the required 12-18 months period prior to the current Projected Exhaust Date of December 2011;
- seven CO Codes from NPA 613 should be set aside in a "Pool for Initial Code Assignments" to be assigned during the two year period following the introduction of the overlay NPA;
- the CNA should monitor CO Code use and conduct an R-NRUF in January and July every year until four months prior to the Relief Date;
- the RPC should monitor the R-NRUF results (i.e., Projected Exhaust Date) and make whatever recommendations it believes appropriate over time to the CRTC to ensure relief is provided in a timely manner;
- the following ten CO Codes 365, 367, 428, 431, 437, 460, 672, 753, 879, and 942, which correspond to Future Canadian Geographic NPAs, should be made available for assignment in NPA 613 starting from the date of a CRTC decision on NPA 613, and in the relief NPA starting when CO Code assignments become available. The six following CO Codes 343, 468, 568, 579, 871, and 873, i.e. the remaining unassigned CO Codes corresponding to Future Canadian Geographic NPAs, should remain unassignable in NPA 613 and be made unassignable in the relief NPA; and
- the accompanying Relief Implementation Plan (RIP) be approved to guide the implementation of relief.

The RPC's recommendation of a Distributed Overlay is based on the following factors:

- The method is a well known and frequently implemented method of NPA relief in recent years; the method used since 1999 for most relief projects in Canada ( e.g., 416/647, 289/905, 514/438, 519/226);
- Number changes required by splits are avoided thus minimizing negative impacts on customers;
- Wireless Service Providers will avoid the costs of reprogramming wireless handsets;
- Wireless customers will avoid the inconvenience of returning their wireless handsets to their dealers for reprogramming;
- The costs to implement an overlay by TSPs are expected to be less as number changes will not be required to OSS systems;
- The boundaries of the NPA 613 area would not be changed;

- The life of this relief (i.e., until 2050) would exceed the 8 year minimum period specified by the Canadian NPA Relief Planning Guidelines;
- Less economic burden would be placed on existing businesses;
- The first stage of an overlay, 10-digit local dialling, was already implemented in NPA 613 in 2006;
- This Relief Option does not have to be implemented until 2010, thus delaying cost versus concentrated overlay options which would have to be implemented in Q4 2008 to retain NPA 613 CO Codes to serve the area outside the concentrated overlay area.

## 2. INTRODUCTION

The 613 Numbering Plan Area (NPA) consists of 132 Exchange Areas serving eastern Ontario, which includes the major communities of Ottawa, Kingston, Belleville, Brockville and Cornwall. The portion of the Ottawa-Hull Exchange Area located in area code 613 has the largest demand for Central Office (CO) Codes in area code 613. The majority of the projected growth in area code 613 is limited to 13 Exchange Areas; in the remaining Exchange Areas there is little projected growth. The Exchange Areas growing the most are Bancroft, Belleville, Brockville, Carleton Place, Cornwall, Kanata-Stittsville, Kingston, Ottawa-Hull, Orleans, Pembroke, Perth, Smiths Falls and Trenton. See Annex B Table 1 for a list of Exchange Areas in NPA 613.

The results from the 4 April 2001 General Central Office Code Utilization Survey (G-COCUS) indicated that if CO Code protection to maintain 7-digit dialling was to be retained, NPAs 613 and 819 would exhaust in August 2007 and March 2007 respectively. If CO Code protection were eliminated, the exhausts of NPA 613 and 819 would be deferred to 2011 and 2022 respectively.

Relief planning for NPAs 613 and 819 was addressed in 2001. On 28 November 2001, the Canadian Radio-television and Telecommunications Commission (CRTC or Commission) issued Order CRTC 2001-841, *CRTC issues relief plans for area codes 613 and 819* (Order 2001-841) directing relief for area codes 613 and 819 in two phases. Phase 1 required the implementation of mandatory 10-digit local dialling in area codes 613 and 819 by the fourth quarter of 2004. Phase 2 required the implementation of a distributed overlay for NPA 613 in the third quarter of 2008.

Subsequently, on 29 November 2002, the Relief Planning Committee (RPC) filed an application requesting that the Commission defer the Relief Dates established in Order 2001-841, specifically to defer the implementation of Phase 1 relief from the fourth quarter of 2004 to the fourth quarter of 2006, and to suspend Phase 2 relief indefinitely.

On 28 February 2003, the Commission issued Telecom Decision CRTC 2003-10, *Deferral of relief dates for area codes 613 and 819* (Decision 2003-10). In that Decision, the Commission approved deferring the Phase 1 Relief Date for area codes 613 and 819 from the fourth quarter of 2004 to the fourth quarter of 2006, and suspending Phase 2 relief for area code 613 indefinitely. Subsequently, mandatory 10-digit local dialling was implemented in October 2006 to provide relief for area codes 613 and 819.

In November 2006, the Canadian Numbering Administrator (CNA) announced that NPA 613 had entered the relief planning window of 72-months. The CNA advised the CRTC and industry of this situation and conducted a Relief Planning Numbering Resource Utilization Forecast (R-NRUF) that indicated NPA 613 would exhaust in December 2013. The introduction of Local Interconnection Regions (LIR) and the implementation of Wireless Number Portability (WNP) accelerated the demand for CO Codes throughout area code 613. The R-NRUF conducted in mid-2007 indicated that NPA 613 would exhaust in September 2011, an advance of 2¼ years, thereby advancing the relief of NPA 613. The January 2008 R-NRUF changed the Projected Exhaust Date to August 2011 (the Projected Exhaust Date is only 3 years in the future and relief is desired at least 12 months in advance of the Projected Exhaust Date). On April 1, 2008 the RPC reviewed the January 2008 R-NRUF results and determined that 10 CO Codes that are

currently unavailable for assignment could be made available for assignment and thus delay the Projected Exhaust Date until about December 2011.

On 12 October 2007, the CRTC issued Telecom Public Notice CRTC 2007-18 *Establishment of a CISC ad hoc committee for area code relief planning in eastern Ontario area code 613*, in which it established the NPA 613 RPC.

On 22 October 2007, the CNA distributed the Initial Planning Document (IPD) for discussion at an RPC meeting held on 13 and 14 November 2007.

This Planning Document (PD) was developed by the RPC and identifies and assesses relief planning alternatives for providing relief in the NPA 613 geographic area. It was prepared in accordance with CRTC-approved Canadian NPA Relief Planning Guideline dated 13 April 2007. The purpose of this PD is to recommend a consensus NPA 613 code relief method and a Relief Date to the CRTC.

The objective of the NPA Relief Planning process is to ensure that CO Codes and telephone numbers are always available for use by Telecommunications Service Providers (TSPs) and their customers in the geographic area requiring relief.

Various Relief Options are identified in this PD for consideration as potential methods to ensure that an adequate quantity of telephone numbers is available for assignment in the geographic area covered by area code 613.

Given the magnitude of this undertaking, inter-company commitment and co-operation are essential throughout the planning, provisioning and implementation stages of the introduction of the new NPA.

It is very important to closely monitor the CO Code requirements of all existing and prospective CO Code Holders to ensure that relief is provided in sufficient time to ensure that CO Codes and telephone numbers are always available for service providers and customers, and to avoid a Jeopardy Condition.



### 3. NPA RELIEF PLANNING PROCESS

The roles of the participants (e.g., CRTC, CNA, CRTC Interconnection Steering Committee (CISC), RPC participants, Interested Parties) for NPA Relief Planning are identified in section 6.0 of the CRTC-approved Canadian NPA Relief Planning Guidelines (the Guidelines), dated 13 April 2007. A copy of the Guidelines can be obtained from:  
<http://www.crtc.gc.ca/public/cisc/cn/CNODGL0013A.doc>.

To increase public awareness and participation in the NPA Relief Planning process, the CRTC has determined that NPA RPCs will be established as ad-hoc committees of the CISC. Generally, a separate ad-hoc committee is created to deal with relief in each area code. The CNA, in its function as NPA Relief Planning Coordinator, acts as chair of these ad-hoc committees. Meetings and conference calls of the ad-hoc NPA RPCs are all open to public participation and are conducted in accordance with the CISC Administrative Guidelines.

Section 6.3 of the Canadian NPA Relief Planning Guidelines requires the CNA to attempt to identify organizations including, but not limited to, municipalities to notify them of the initial meeting of the RPC as well as the IPD in order to allow such organizations the opportunity to register and participate in the activities of the RPC.

A copy of the CISC Administrative Guidelines can be obtained from:

<http://www.crtc.gc.ca/cisc/eng/ciscmanu.htm>

NPA Relief Planning is conducted under the regulatory oversight of the CRTC. Notwithstanding the process detailed in the Guidelines, the CRTC may exercise its authority under the *Telecommunications Act* to alter this process at any time. The CRTC has the authority, under the *Telecommunications Act*, to review, modify and give final approval to the PD and the Relief Implementation Plan (RIP) developed and submitted by the RPC to the CRTC via the CISC process.

Any person wishing to participate in the NPA Relief Planning process can contact the CNA and request to be added to NPA-specific distribution lists. In addition, individuals can also register with the CRTC as interested parties to any proceedings that result from the NPA Relief Planning process. More information on how to participate in CRTC public processes is available at:  
<http://www.crtc.gc.ca/eng/publicpar.htm>.

Annex C contains a brief summary of Canadian geographic area code relief history.

## 4. NPA RELIEF METHODS

Once the necessity for NPA code relief was established, all NPA code relief methods were considered. The following paragraphs provide definitions and general attributes of the Geographic Split, Overlay, and Boundary Realignment relief methods.

### 4.1 *Geographic Split*

#### 4.1.1 *Definition*

Under the Split Method, the geographic area served by the exhausting NPA is divided or “split” into two or more unique geographic areas each with a unique NPA code and with similar requirements for numbering resources. The existing NPA code is generally used to serve the area with the largest quantity of customers in order to minimize number changes. New NPA codes are used to serve the other areas.

The boundaries between the areas follow Exchange Area boundaries and may correspond to jurisdictional, natural or physical boundaries (e.g., county, municipality and city boundaries, rivers, major highways, etc.). Under this method, the customers who are in the geographic area that retains the original NPA keep their 10-digit telephone numbers. Customers in the geographic areas that get the new NPA(s) must change their 10-digit telephone numbers (i.e., the area code is changed).

In order to facilitate the transition to the new area code, a permissive dialling arrangement is established. During a Permissive Dialling Period, calls to customers in the new area code will be completed whether the caller dials the old or new area code. For example, on a long distance call, to a 10-digit telephone number in the new NPA(s), the caller may dial either the existing or the new NPA code and the 7-digit number during the Permissive Dialling Period. During the Permissive Dialling Period, all TSPs in the exhausting NPA will place standard network announcements on calls dialled using the old area code to customers in the new area code in order to advise customers of the new area code and automatically complete the calls.

#### 4.1.2 *General Attributes*

- A frequently implemented method of NPA relief in the past; last implemented in Canada in 1999.
- 7-digit dialling is usually retained for local calls within area codes.
- If CO Code protection is not in place after relief is implemented, 10-digit dialling is required for local calls between different area codes.
- Number changes are required within new area code boundaries.
- The time required to transition to a new area code with a split is usually longer than the time needed to transition to mandatory 10-digit dialling for a first-time overlay.
- Reprogramming or replacement of equipment (switches, Primary Branch Exchange (PBXs), cellular phones, etc.).
- Many existing customers are affected by telephone number changes.
- More economic burden may generally be caused by customer number changes (businesses, public costs, stationery, etc.) than an overlay.
- May not be as expensive to display numbers in telephone directories.

- Requires a permissive dialling period for customers' numbers in the new area code.
- Possible dispute over which portion of the area retains the existing NPA.
- Potential for associating NPAs with smaller geographic areas within the exhausting NPA (e.g., branding and ease of use opportunities).

## **4.2 Overlay**

### **4.2.1 Definition**

Under the Overlay Method, a new NPA is superimposed or "overlaid" on top of an existing NPA to provide numbering resources to customers and carriers in the same geographic area. With an overlay solution, changes to existing telephone numbers are not required. Once an overlay solution has been introduced, subsequent relief can only be provided through the use of additional overlays.

Mandatory 10-digit dialling is required for all local calls originating within the existing and overlay NPAs. 10-digit dialling is used for local calling within an NPA that is overlaid with another NPA in order to provide an equitable and uniform dialling plan for both customers and carriers. Generally, any 7-digit local dialling from adjacent NPAs into the existing NPA must also be converted to 10-digit dialling at the time of relief; however, exceptions to this policy may be considered if there is a need to simplify the dialling plan in the neighbouring NPA (i.e., to retain 7-digit local dialling across an area code boundary). Where 7-digit local dialling across an area code boundary is retained, CO Code protection would be required to avoid 7-digit dialling conflicts.

Prior to implementing the first overlay NPA in a geographic area, it is usually necessary to migrate to mandatory 10-digit local dialling via the use of a 7- to 10-digit dialling Transition Period. During this 7- to 10-digit Dialling Transition Period, callers can dial either 7-digits or 10-digits until the Mandatory Dialling Date. During the 7- to 10-Digit Dialling Transition Period, all TSPs will generally place standard network announcements on calls dialled using 7-digits in order to advise customers of the new 10-digit dial plan before automatically completing the calls. This standard network announcement will generally also be introduced on local 7-digit calls from Exchange Areas in adjacent NPAs into the NPA being relieved. The length of the 7- to 10-Digit Dialling Transition Period should be sufficient to permit callers to adjust their local dialling habits. In situations where mandatory 10-digit local dialling has already been implemented, there is no need for a 7- to 10-digit dialling Transition Period.

The Distributed Overlay strategy may be considered in situations when growth in telephone numbers is expected to be more or less evenly distributed throughout the existing area code requiring relief. The new area code is "overlaid" on top of the area code requiring relief and covers exactly the same geographic boundaries.

A Concentrated Overlay strategy may be considered in situations where the majority of the demand for new telephone numbers is expected to be concentrated in one section of an existing area code. For example, a fast growing metropolitan area and a sparsely populated rural area could be covered by the same area code. The new area code would be assigned initially to the section of the original area code experiencing the greatest growth (e.g., the metropolitan area), and any need for new CO Codes in that section would be met by the assignment of CO Codes from the new area code. In the area not covered by the new area code, any future need for new

CO Codes would be met by the assignment of CO Codes from the original area code. In order to ensure that sufficient CO Codes are available for assignment from the original area code to that section not covered by the new concentrated overlay, it is important for the new concentrated overlay to be implemented sooner than with other solutions.

In some cases CO Code assignment monitoring and CO Code conservation measures may have to be implemented prior to the introduction of the new concentrated overlay in order to ensure that sufficient CO Codes in the original area code are available. When relief is required in other sections of the original area code, the geographic coverage area of the new area code could be expanded. In some cases, more than one concentrated overlay could be implemented to cover different sections of a single existing area code.

Since 1999, all NPA reliefs in Canada have used the Overlay Method.

Four potential overlay strategies have been identified as examples that may be considered for Relief Planning: Distributed Overlay, Concentrated Overlay, Boundary Extension Overlay and Multiple NPA Overlay.

Under the Distributed Overlay method, the new NPA is "overlaid" on top of the NPA requiring relief and covers exactly the same geographic boundaries.

Under the Concentrated Overlay method, the new NPA is "overlaid" on top of only part of the NPA requiring relief (e.g., area code 778 was originally implemented to serve the Greater Vancouver Regional District, Abbotsford and Mission portions of the area already served by area code 604). It may be considered in situations where the majority of the demand for new telephone numbers is expected to be concentrated in one section of an existing NPA (e.g., a fast growing metropolitan area). In order to ensure that sufficient CO Codes are available for assignment from the original NPA to that section not covered by the new concentrated overlay, the new concentrated overlay must be implemented sooner than other solutions.

Under a Boundary Extension Overlay, the boundary of one NPA that has spare capacity is extended to overlay part or all of the coverage area of other NPAs (e.g., area code 778 was extended to cover area codes 250 and 604 in British Columbia).

Under the Multiple NPA Overlay, a new NPA would be assigned to overlay multiple existing NPAs serving a specific geographic area. For example, a new NPA could be assigned in an overlay method for new growth within an entire province where more than one NPA already exists (e.g., area code 587 is overlaid on top of area codes 403 and 780 in Alberta).

#### **4.2.2 General Attributes**

- A frequently implemented method of NPA relief in recent years; the method used since 1999 for all relief projects in Canada (e.g., 416/647, 289/905, 514/438, 519/226, 604/778).
- Requires mandatory 10-digit local dialling throughout the area codes being relieved, and generally from adjacent area codes into area codes being relieved, usually prior to relief or a previous overlay relief. No number changes are required for existing customers.
- Least disruptive to end-users (allows users to retain current telephone numbers).
- Generally creates less economic burden for existing business than a geographic split.
- In a single residence or business there may be numbers in two or more NPAs.

- Directory costs may increase to print 10-digit numbers.
- If mandatory 10-digit dialling does not exist in the area codes being relieved and a transition to mandatory 10-digit dialling is required, the transition can be implemented in a shorter time than the Permissive Dialling Period required with an area code split.
- Favoured by TSPs due to cost considerations (e.g., no number changes in Operating Support Systems (OSSs), no need to reprogram wireless handsets)

### **4.3 Boundary Realignment**

The boundary realignment described in this section is different than the boundary realignment that occurs with a Boundary Extension Overlay described above.

#### **4.3.1 Definition**

In this type of NPA boundary realignment, the boundary between the NPA that requires relief and an adjacent NPA are modified such that some of the customers in the exhausting NPA have their telephone numbers changed by being given telephone numbers in the adjacent NPA. With a boundary realignment, CO Codes that are not utilized in an adjacent NPA are used to serve customers in part of the geographic area of the NPA requiring relief. As a result, the geographic coverage area of the exhausting NPA is reduced in size and the geographic area of the NPA with spare capacity is expanded. The customers in the geographic area affected by the boundary change are required to change their telephone numbers on a specific date. This method is generally viewed as an interim measure because it tends to provide only short term relief relative to the long term relief provided when introducing a new NPA under the split and overlay methods.

#### **4.3.2 General Attributes**

- A method of NPA relief little-used in Canada.
- Requires customer number changes in the affected geographic area.
- Generally viewed as an interim measure because it tends to provide only short term relief.
- Causes inconvenience and creates an economic burden for those required to take number changes.

### **4.4 Technology-specific Overlay**

With the introduction of WNP in Canada, telephone numbers can be moved between wireline and wireless services. Telephone numbers can also be moved between technologies (e.g., wireline-based technology to Internet Protocol (IP) technology). Consequently, a technology-specific overlay was not considered by the RPC.

## 5. NPA EXHAUST DATES

As indicated in the following table, NRUFs for NPA 613 were used to determine Projected Exhaust Dates, i.e. the dates when CO Codes in NPA 613 would be expected to exhaust.

NRUF	Projected Exhaust Date
R-NRUF January 2007	December 2013
R-NRUF July 2007	September 2011
R-NRUF January 2008	August 2011

Refer to Annex A, Figures 3, 4, 5 and 6 for graphs of forecasted CO Code utilization in area code 613.

The RPC has examined the CO Codes in NPA 613 that are currently designated as unavailable for assignment because they correspond to Future Canadian Geographic NPAs. In order to ensure that the supply of CO Codes in NPA 613 will be maximized, and to extend the life of the NPA where reasonably possible, the RPC recommends that 10 of these CO Codes in NPA 613 be made available for assignment. Specific details and the rationale for this recommendation are as follows:

The current Canadian CO Code (NXX) Assignment Guidelines (CCOCAG) state in section 3.7 e) that CO Codes corresponding to Future Canadian Geographic NPAs shall be unassignable in a Canadian NPA, unless they have previously been assigned in that NPA or in another NPA that overlays that NPA. Some exceptions to this have been made; in NPA 418 for example the RPC recommended and the CRTC approved (Telecom Decision CRTC 2007-71) that certain CO Codes corresponding to Future Canadian Geographic NPAs “which are assignable in a jeopardy condition, should remain assignable in the area served by area code 418 when the jeopardy condition ends”.

In NPA 613, the status of the 35 CO Codes that correspond to Future Canadian Geographic NPAs is that a) 19 are already assigned, and b) 16 are designated as unavailable for assignment.

The RPC recommends the following 10 currently unassignable CO Codes corresponding to Future Canadian Geographic NPAs be made available for assignment in NPA 613 and in the new NPA: 365, 367, 428, 431, 437, 460, 672, 753, 879, 942.

There is no necessity to delay making the above 10 CO Codes assignable in NPA 613, therefore it is recommended they should be made available for assignment in NPA 613 from the date of a CRTC decision on NPA 613 relief, and available for assignment in the new NPA 343 from when CO Codes in the new NPA first become available for assignment.

On April 1, 2008 the RPC reviewed the January 2008 R-NRUF results and determined that 10 CO Codes that are currently unavailable for assignment could be made available for assignment and thus delay the Projected Exhaust Date until about December 2011.

The RPC recommends that the remaining 6 currently unassignable CO Codes corresponding to Future Canadian Geographic NPAs, i.e. 343, 468, 568, 579, 871, 873 remain unassignable in NPA 613 and be made unassignable in the new NPA for the following reasons:

343 – This code is recommended for Relief of NPA 613 elsewhere in this document, and allowing it to be assigned as a CO Code in NPA 613 or 343 would be contrary to section 3.7 c) of the Canadian CO Code (NXX) Assignment Guidelines which states that CO Codes corresponding to current home NPAs are unassignable. This limitation is required to avoid confusion, to prevent conflict in databases that contain a mix of 7 and 10 digit telephone numbers (e.g. customer databases), etc.; exceptions should not be made unless absolutely unavoidable.

579 – When a new NPA code is assigned to relieve an NPA, the optimum choice may be a code that is not assigned as CO Code in the NPA being relieved or any of its neighbouring NPAs. None of the Future Canadian Geographic NPAs qualify as such an optimum choice for future reliefs of NPA 613/343 or for future reliefs of any of its neighbouring NPAs except for one. For future relief of that one neighbouring NPA and if a new NPA is required, then the optimum choice would likely be code 579, therefore it is recommended 579 remain unassignable in NPA 613.

468, 568 – When a new NPA is required for a subsequent future relief of NPA 613/343 the requirement per section 3.7 c) referenced above will likely still apply, in which case the new NPA code should not correspond to an assigned CO Code in either of NPAs 613 and 343. To ensure that there will be a Future Canadian Geographic NPA that is unassigned as a CO Code in NPAs 613 and 343 and could be used for potential future relief in this area, and to provide some future flexibility, it is recommended that CO Codes 468 and 568 which correspond to Future Canadian Geographic NPAs remain as unavailable CO Codes in NPA 613 and be made unavailable in NPA 343. These two codes are recommended for potential future relief in this area because no Canadian NPA has CO Code 468 or 568 unassigned both in the NPA and in all its neighbouring NPAs, and codes 468 and 568 are assigned as CO Codes in more other NPAs than is the case for most other codes that could be used for the future relief of NPA 613/343. 468 is also identified as a potential relief NPA for NPA 819.

871, 873 – When a new NPA code is assigned to relieve an NPA, the optimum choice may be a code that is not assigned as a CO Code in the NPA being relieved or any of its neighbouring NPAs. None of the Future Canadian Geographic NPAs qualify as such an optimum choice for future reliefs of NPA 819, however, Future Canadian Geographic NPAs 871 and 873 have been identified by Bell Canada as the preferred options for relief of NPA 819 as they require the minimum quantity of software upgrades to support existing local dialing between NPA 819 and its neighbouring NPAs. If one of these NPA codes is assigned as a CO Code in NPA 613 and then is used for the relief of NPA 819, Bell Canada would have to upgrade software in 19 additional switches in order to support local dialing between NPAs 613 and 819, thus incurring significant additional costs to provide relief for NPA 819.

## 6. RELIEF OPTIONS

The basic NPA relief methods described in this IPD are the Geographic Split, the Overlay, and the Boundary Realignment.

Based on the above methods, the following relief options were identified and examined in detail:

- Geographic Split - 8 options (Plans 1a, 1b, 2a, 2b, 3a, 3b, 4a, and 4b)
- Concentrated Overlay – 4 options (Plans 5, 6, 7, and 8)
- Distributed Overlay - 1 option (Plan 9)

Relief Options using the Concentrated Overlay were examined in less detail by the CNA as the timeframe before relief must be implemented is too short to permit a Concentrated Overlay. See Annex A, Figures 7 through 19 for diagrams of the Relief Options identified by the RPC.

The selection of an appropriate area code for relief of NPA 613 is addressed in the Canadian NPA Relief Planning Guidelines. On the CNA web site there is a NPA Selection Tool that can assist in determining which of the area codes that are currently available for assignment in Canada are most suitable for relief of an NPA. CO Code 343 is the only NXX in the current list of Projected Future Canadian Geographic NPAs that is not assigned as a CO Code in home NPA 613 or any of its neighbouring NPAs 289, 450, 705, 819 and 905. It is therefore recommended that area code 343 be assigned as the area code for the relief of area code 613. See Annex B, Table 2 for details of the status in area code 613 and adjacent area codes of NXXs that correspond to Projected Future Canadian Geographic NPAs.

### 6.1 *Geographic Split*

Eight different Relief Options were evaluated to introduce a new area code in the NPA 613 area using the Geographic Split method of providing CO Code relief. With each of these options, number changes are required in the area that does not retain NPA 613. Selecting a split option for NPA Relief will impact from 25% to 75% of the customers with a number change.

A major attribute of a split is usually that the 7-digit local dialling plan does not have to be changed in either portion of the split area code. This is generally beneficial where 7-digit local dialling is currently in effect; however, in area code 613, mandatory 10-digit local dialling was implemented effective October 2006.

In this Planning Document, the CNA considered split options centred on the City of Ottawa which is the largest growing city in the area code. Based on information available to the RPC, the RPC has assumed that the population in NPA 613 is approximately 1.7 million.

#### **Ottawa (24 Exchange Areas) Split Options 1a and 1b**

- 1a - Ottawa (24 Exchange Areas) Split – Ottawa (24 Exchange Areas) retains NPA 613
- 1b - Ottawa (24 Exchange Areas) Split - Ottawa (24 Exchange Areas) changes to New NPA



Ottawa (24 Exchange Areas) consists of the following Exchange Areas:

1	Almonte	9	Jockvale	17	Orleans
2	Arnprior	10	Kanata-Stittsville	18	Osgoode
3	Carleton Place	11	Kemptville	19	Ottawa-Hull
4	Carp	12	Manotick	20	Pakenham
5	Constance Bay	13	Merrickville	21	Richmond
6	Cumberland	14	Metcalfe	22	Russell
7	Embrun	15	Navan	23	Smiths Falls
8	Gloucester	16	North Gower	24	Winchester

In these two geographic split options (Plans 1a and 1b), the 24 Exchange Areas which are fully or partially within the boundaries of the City of Ottawa are included in one NPA and the remaining 108 Exchange Areas are included in the second NPA.

With these options, the NPA 613 assigned CO Codes would split as follows:

Area	Assigned CO Codes in NPA 613 (01-01-07)
	% of Total NPA 613 CO Codes
613 Ottawa (24 Exchange Areas)	58%
613 outside Ottawa (remaining Exchange Areas)	42%

With these two options (Plans 1a and 1b); number changes would be required in either region (as defined above).

**Ottawa Local Interconnection Region (LIR) Split Options 2a and 2b**

- 2a - Ottawa LIR Split - Ottawa LIR retains NPA 613
- 2b - Ottawa LIR Split - Ottawa LIR changes to New NPA

The Ottawa LIR consists of the following Exchange Areas:

1	Alfred	12	Cumberland	23	Orleans
2	Almonte	13	Embrun	24	Osgoode
3	Arnprior	14	Gloucester	25	Ottawa-Hull
4	Bourget	15	Jockvale	26	Pakenham
5	Carleton Place	16	Kanata-Stittsville	27	Plantagenet
6	Carp	17	Kemptville	28	Richmond
7	Casselman	18	Manotick	29	Rockland
8	Chesterville	19	Merrickville	30	Russell
9	Clarence Creek	20	Metcalfe	31	South Mountain
10	Constance Bay	21	Navan	32	Winchester
11	Crysler	22	North Gower		

These two geographic split options (Plans 2a and 2b) use the existing Ottawa Local Interconnection Region (LIRs) to define the split regions.

An LIR is a geographic area specified by ILECs within which traffic is exchanged with CLECs on a Bill and Keep basis as specified in Telecom Decisions CRTC 2004-46 and 2006-35 “Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers”. Local Interconnection Regions (LIRs) are unique groupings of ILEC Exchange Areas which provide for more efficient interconnection between Local Exchange Carriers (LECs).

The 32 Exchange Areas within the Ottawa LIR are included in one region and the remaining 100 Exchange Areas are included in the second region.

With these options, the NPA 613 assigned CO Codes would split as follows:

<i>Area</i>	<i>Assigned CO Codes in NPA 613 (01-01-07)</i>
	<i>% of Total NPA 613 CO Codes</i>
613 Ottawa LIR	58%
613 outside Ottawa LIR	42%

With these two options (Plans 2a and 2b); number changes would be required in either region (as defined above).

**Ottawa Exchange EAS Area Split Options 3a and 3b**

3a - Ottawa Exchange EAS Area Split – Ottawa Exchange EAS Area retains NPA 613

3b - Ottawa Exchange EAS Area Split – Ottawa Exchange EAS Area changes to New NPA

The Ottawa Exchange EAS area consists of the following Exchange Areas:

- |    |                |    |                    |    |                |
|----|----------------|----|--------------------|----|----------------|
| 1  | Almonte        | 13 | Gloucester         | 25 | Osgoode        |
| 2  | Arnprior       | 14 | Jockvale           | 26 | Ottawa-Hull    |
| 3  | Bourget        | 15 | Kanata-Stittsville | 27 | Pakenham       |
| 4  | Carleton Place | 16 | Kemptville         | 28 | Plantagenet    |
| 5  | Carp           | 17 | Lanark             | 29 | Richmond       |
| 6  | Casselman      | 18 | Manotick           | 30 | Rockland       |
| 7  | Chesterville   | 19 | Merrickville       | 31 | Russell        |
| 8  | Clarence Creek | 20 | Metcalf            | 32 | Smiths Falls   |
| 9  | Constance Bay  | 21 | Moose Creek        | 33 | South Mountain |
| 10 | Crysler        | 22 | Navan              | 34 | St. Isidore    |
| 11 | Cumberland     | 23 | North Gower        | 35 | Williamsburg   |
| 12 | Embrun         | 24 | Orleans            | 36 | Winchester     |

In Plans 3a) and 3b), the 36 Exchange Areas in Ontario within the Extended Area Service (EAS) area for the Ottawa-Hull Exchange Area are included in one region and the remaining 96 Exchange Areas in NPA 613 are included in the second region. The EAS area of the Ottawa-Hull Exchange Area also includes 18 Exchange Areas located in area code 819 in Quebec. These 18 Exchange Areas are not included in the exhaust calculations for the Relief Options for area code 613. This Relief Option does not have any impact on the customers in the 18 Exchange Areas in NPA 819.

With these options, the NPA 613 assigned CO Codes would split as follows:

Area	Assigned CO Codes in NPA 613 (01-01-07)
	% of Total NPA 613 CO Codes
Ottawa Exchange EAS Area	60%
Outside Ottawa Exchange EAS Area	40%

With these two options (Plans 3a and 3b); number changes would be required in either region (as defined above).

**East/West Split Options 4a and 4b**

- 4a - East/West Split – Eastern region retains NPA 613
- 4b - East/West Split – Eastern region changes to New NPA

The Eastern region consists of the following Exchange Areas:

- |                   |                       |                      |                   |
|-------------------|-----------------------|----------------------|-------------------|
| 1 Alexandria      | 19 Delta              | 37 Maitland          | 55 Plantagenet    |
| 2 Alfred          | 20 Elgin              | 38 Mallorytown       | 56 Portland       |
| 3 Almonte         | 21 Embrun             | 39 Manotick          | 57 Prescott       |
| 4 Arnprior        | 22 Finch              | 40 Martintown        | 58 Richmond       |
| 5 Athens          | 23 Glen Robertson     | 41 Maxville          | 59 Rockland       |
| 6 Avonmore        | 24 Gloucester         | 42 McDonalds Corners | 60 Russell        |
| 7 Bourget         | 25 Hawkesbury         | 43 Merrickville      | 61 Smiths Falls   |
| 8 Brockville      | 26 Ingleside          | 44 Metcalfe          | 62 South Mountain |
| 9 Cardinal        | 27 Iroquois           | 45 Moose Creek       | 63 Spencerville   |
| 10 Carleton Place | 28 Jockvale           | 46 Morrisburg        | 64 St. Eugene     |
| 11 Carp           | 29 Kanata-Stittsville | 47 Navan             | 65 St. Isidore    |
| 12 Casselman      | 30 Kemptville         | 48 North Augusta     | 66 St. Regis      |
| 13 Chesterville   | 31 L'Original         | 49 North Gower       | 67 Toledo         |
| 14 Clarence Creek | 32 Lanark             | 50 Orleans           | 68 Vankleek Hill  |
| 15 Constance Bay  | 33 Lancaster          | 51 Osgoode           | 69 Williamsburg   |
| 16 Cornwall       | 34 Lansdowne          | 52 Ottawa-Hull       | 70 Winchester     |
| 17 Crysler        | 35 Long Sault         | 53 Pakenham          |                   |
| 18 Cumberland     | 36 Maberly            | 54 Perth             |                   |

In these geographic split options (Plans 4a and 4b), the 70 Exchange Areas in the Eastern region are included in one NPA and the remaining 62 Exchange Areas in the Western region are included in the second NPA. The Eastern region consists of Exchange Areas in LIRs with the default Points of Interconnection (POIs) of Ottawa, Brockville, Cornwall, Hawkesbury, and Smiths Falls, and includes the Independent Exchange Areas of Moose Creek and Lansdowne. The Western region consists of Exchange Areas in LIRs with the default POIs of Pembroke, Belleville and Kingston, and includes the Independent Exchange Areas of Beachburg, Parham, Pembroke Independent, Sharbot Lake, Westmeath and Westport.

With these options, the NPA 613 assigned CO Codes would split as follows:

Area	Assigned CO Codes in NPA 613 (01-01-07)
	% of Total NPA 613 CO Codes
Eastern Region	73%
Western Region	27%

With these two options (Plans 4a and 4b) number changes would be required in NPA 613 either in the Eastern or Western region (as defined above).

### **6.1.1. Plan 1a: Ottawa (24 Exchange Areas) Split Option - Ottawa retains NPA 613**

#### Description:

The 24 Exchange Areas wholly or partially within the City of Ottawa would retain area code 613, and the remaining 108 Exchange Areas in NPA 613 would be reassigned to a new area code. The area that would retain area code 613 contains the rapidly growing Exchange Areas of Ottawa, Carleton Place, Kanata-Stittsville, Orleans, and Smiths Falls, while the new area code would contain the rapidly growing Exchange Areas of Bancroft, Belleville, Brockville, Cornwall, Kingston, Pembroke and Perth. Using this option, approximately 850,000 people would be affected by a telephone number change to the new area code.

After the split, area code 613 and the new area code would be expected to exhaust in 2047 and 2045 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because about 850,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2043 and 2045 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

### **6.1.2. Plan 1b: Ottawa (24 Exchange Areas) Split Option - Ottawa changes to New NPA**

#### Description:

The 24 Exchange Areas wholly or partially within the City of Ottawa would be reassigned to a new NPA and the remaining 108 Exchange Areas in NPA 613 would retain NPA 613. Approximately 850,000 people in area code 613 would be affected by a telephone number change to the new area code.

After this split, area code 613 and the new area code would be expected to exhaust in 2045 and 2047 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because about 850,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2053 and 2045 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

### **6.1.3. Plan 2a: Ottawa LIR Split Option - Ottawa LIR retains NPA 613**

#### Description:

The Ottawa LIR portion of NPA 613 consisting of 32 Exchange Areas would retain NPA 613, and the remaining 100 Exchange Areas in NPA 613 would be reassigned to a new NPA. The area that would retain area code 613 contains the rapidly growing Exchange Areas of Ottawa-Hull, Carleton Place, Kanata-Stittsville, and Orleans, and the new NPA would contain the rapidly growing Exchange Areas of Bancroft, Belleville, Brockville, Cornwall, Kingston, Pembroke, Perth and Smiths Falls. Using this option, approximately 830,000 people would be affected by a telephone number change to the new area code.

After the split, area code 613 and the new area code would be expected to exhaust in 2051 and 2043 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because about 830,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the

need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2041 and 2049 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

#### **6.1.4. Plan 2b: Ottawa LIR Split Option - Ottawa LIR changes to New NPA**

##### Description:

The Ottawa LIR portion of NPA 613 consisting of 32 Exchange Areas would be reassigned to a new NPA, and the remaining 100 Exchange Areas in NPA 613 would retain NPA 613. Approximately 870,000 people in area code 613 would be affected by a telephone number change to the new area code.

After this split, area code 613 and the new area code would be expected to exhaust in 2043 and 2051 respectively.

##### Assessment:

The RPC does not recommend this Relief Option because about 870,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2041 and 2049 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

#### **6.1.5. Plan 3a: Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area retains NPA 613**

##### Description:

The 36 Exchange Areas in NPA 613 within the EAS of the Ottawa Exchange Area would retain NPA 613, and the remaining 96 Exchange Areas in NPA 613 would be reassigned to a new NPA. The region that would retain NPA 613 contains the rapidly growing Exchange Areas of Ottawa, Carleton Place, Kanata-Stittsville, Orleans and Smiths Falls while the new NPA would contain the rapidly growing Exchange Areas of Bancroft, Belleville, Brockville, Cornwall,

Kingston, Pembroke, and Perth. Using this option, approximately 800,000 people would be affected by a telephone number change to the new area code. The EAS of the Ottawa Exchange Area also includes 18 Exchange Areas in area code 819. These Exchange Areas are not included in the exhaust calculations for the Relief Options for area code 613.

After the split, area code 613 and the new area code would be expected to exhaust in 2045 and 2047 respectively.

Assessment:

The RPC does not recommend this Relief Option because about 800,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2043 and 2045 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

**6.1.6. *Plan 3b: Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area changes to New NPA***

Description:

The 36 Exchange Areas in NPA 613 within the EAS of the Ottawa Exchange Area would be reassigned to a new area code, and the remaining 96 Exchange Areas in NPA 613 would retain NPA 613. Approximately 900,000 people in NPA 613 would be affected by a telephone number change to the new area code. The LCA of the Ottawa Exchange Area also includes 18 Exchange Areas in area code 819. These Exchange Areas are not included in the exhaust calculations for the Relief Options for area code 613.

After this split, area code 613 and the new area code would be expected to exhaust in 2047 and 2045 respectively.

Assessment:

The RPC does not recommend this Relief Option because about 900,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it

would require two new NPAs to be implemented in subsequent relief projects in 2043 and 2045 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2).

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

#### **6.1.7. Plan 4a: East/West Split Option – Eastern Region retains NPA 613**

##### Description:

The Eastern portion of NPA 613 consisting of the Ottawa, Brockville, Cornwall, Hawkesbury, and Smiths Falls LIRs, with 70 Exchange Areas (including Independents), would retain NPA 613, and the Western portion of NPA 613 consisting of the Belleville, Kingston and Pembroke LIRs, with 62 Exchange Areas (including Independents), would be reassigned to a new area code. The area that would retain NPA 613 contains the rapidly growing Exchange Areas of Ottawa-Hull, Brockville, Carleton Place, Cornwall, Kanata-Stittsville, Orleans, Perth and Smiths Falls while the new area code would contain the rapidly growing Exchange Areas of Bancroft, Belleville, Kingston, and Pembroke. Using this option, approximately 450,000 people would be affected by a telephone number change to the new area code.

After the split, area code 613 and the new area code would be expected to exhaust in 2026 and 2089 respectively.

##### Assessment:

The RPC does not recommend this Relief Option because about 450,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2024 and 2087 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2). In addition, this split would create a Number Planning Area with a very small population size which would be very inefficient from a numbering perspective.

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

#### **6.1.8. Plan 4b: East/West Split Option - Eastern Region changes to New NPA**

##### Description:

The Eastern portion of NPA 613 consisting of the Ottawa, Brockville, Cornwall, Hawkesbury, and Smiths Falls LIRs, with 70 Exchange Areas (including Independents), would be reassigned to a new area code, and the Western portion of NPA 613 consisting of the Bancroft, Belleville,



Kingston and Pembroke LIRs, with 62 Exchange Areas (including Independents), would retain area code 613. Approximately 1,250,000 people in area code 613 would be affected by a telephone number change to the new area code.

After this split, area code 613 and the new area code would be expected to exhaust in 2089 and 2026 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because about 1,250,000 people would be affected by a telephone number change, which would be very inconvenient for those people and particularly expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, costs for TSPs would be higher for a split due to the need to reprogram wireless telephones, change back-office support and billing systems, etc. In addition this plan would increase the number of relief planning areas in Ontario. The use of a new NPA in a split configuration for the geographic area served by NPA 613 would be an inefficient use of numbering resources compared to the distributed overlay option because it would require two new NPAs to be implemented in subsequent relief projects in 2024 and 2087 versus one subsequent relief project in 2044 (i.e., 3 new NPAs versus 2). In addition, this split would create a Number Planning Area with a very small population size which would be very inefficient from a numbering perspective.

One of the major benefits of implementing a split, i.e., retention of 7-digit local dialing, would not be achieved, as mandatory 10-digit local dialing has already been implemented in this NPA.

## **6.2 Concentrated Overlay**

Four options were evaluated to provide NPA relief using the Concentrated Overlay method. These options were not examined in detail as implementation would have to occur in Q4 2008 in order to have CO Codes remaining in area code 613, and area code 613 would exhaust within 6 to 9 years.

### **6.2.1. Plan 5: Concentrated Overlay of New NPA on Ottawa (24 Exchange Areas)**

#### Description:

This option would introduce the new area code as an overlay over the 24 Exchange Areas which are fully or partially serving the City of Ottawa. The remaining 108 Exchange Areas would continue to grow using the remaining CO Codes available for assignment in area code 613.

Area code 613 and the new area code would be expected to exhaust in 2014 and 2084 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because it would have to be implemented in Q4 2008 in order to have CO Codes remaining in area code 613 for future use outside the concentrated overlay area. In addition, area code 613 would exhaust within about 6 years of the

concentrated overlay implementation, thus requiring a subsequent relief project to be started in 2009. The implementation of a new NPA in a concentrated overlay configuration for part of the geographic area served by NPA 613 would require two new NPAs to be implemented in two separate relief projects in only a few years; 2008 and 2012. In addition, the concentrated overlay would create a Number Planning Area outside the concentrated overlay area with a very small population size which would be very inefficient from a numbering conservation and use perspective.

### **6.2.2. Plan 6: Concentrated Overlay of New NPA on the Ottawa LIR**

#### Description:

This option would introduce the new area code as an overlay over the 32 Exchange Areas in the Ottawa LIR. The remaining 100 Exchange Areas would continue to grow using the remaining CO Codes available for assignment in area code 613.

Area code 613 and the new area code would be expected to exhaust in 2014 and 2093 respectively.

#### Assessment:

The RPC does not recommend this Relief Option because it would have to be implemented in Q4 2008 in order to have CO Codes remaining in area code 613 for future use outside the concentrated overlay area. In addition, area code 613 would exhaust within about 8 years of the concentrated overlay implementation, thus requiring a subsequent relief project to be started in 2011. The implementation of a new NPA in a concentrated overlay configuration for part of the geographic area served by NPA 613 would require two new NPAs to be implemented in two separate relief projects in only a few years; 2008 and 2012. In addition, the concentrated overlay would create a Number Planning Area outside the concentrated overlay area with a very small population size which would be very inefficient from a numbering conservation and use perspective.

### **6.2.3. Plan 7: Concentrated Overlay of New NPA on the Ottawa Exchange EAS Area**

#### Description:

This option would introduce the new area code as an overlay over the 36 Exchange Areas in NPA 613 within the EAS of the Ottawa Exchange Area. The remaining 96 Exchange Areas would continue to grow using the remaining CO Codes available for assignment in area code 613. The EAS of the Ottawa Exchange Area also includes 18 Exchange Areas of area code 819. These Exchange Areas are not included in the exhaust calculations for the Relief Options for area code 613.

Area code 613 and the new area code would be expected to exhaust in 2014 and 2084 respectively.

### Assessment:

The RPC does not recommend this Relief Option because it would have to be implemented in Q4 2008 in order to have CO Codes remaining in area code 613 for future use outside the concentrated overlay area. In addition, area code 613 would exhaust within about 6 years of the concentrated overlay implementation, thus requiring a subsequent relief project to be started in 2009. The implementation of a new NPA in a concentrated overlay configuration for part of the geographic area served by NPA 613 would require two new NPAs to be implemented in two separate relief projects in only a few years; 2008 and 2012. In addition, the concentrated overlay would create a Number Planning Area outside the concentrated overlay area with a very small population size which would be very inefficient from a numbering conservation and use perspective.

#### **6.2.4. Plan 8: Concentrated Overlay of New NPA on the Eastern Region**

### Description:

This option would introduce the new area code as an overlay over the Eastern portion of NPA 613 consisting of the Ottawa, Brockville, Cornwall, Hawkesbury and Smith Falls LIRs with 70 Exchange Areas (including the Independents). The remaining 62 Exchange Areas would continue to grow using the remaining CO Codes available for assignment in area code 613.

Area code 613 and the new area code would be expected to exhaust in 2018 and 2059 respectively.

### Assessment:

The RPC does not recommend this Relief Option because it would have to be implemented in Q4 2008 in order to have CO Codes remaining in area code 613 for future use outside the concentrated overlay area. In addition, area code 613 would exhaust within about 8 years of the concentrated overlay implementation, thus requiring a subsequent relief project to be started in 2011. The implementation of a new NPA in a concentrated overlay configuration for part of the geographic area served by NPA 613 would require two new NPAs to be implemented in two separate relief projects in only a few years; 2008 and 2016. In addition, the concentrated overlay would create a Number Planning Area outside the concentrated overlay area with a very small population size which would be very inefficient from a numbering conservation and use perspective.

### **6.3 Distributed Overlay**

One Relief Option was evaluated to introduce a new area code using the Distributed Overlay method of providing NPA relief.

### **6.3.1. Plan 9: Distributed Overlay of New NPA on NPA 613**

#### Description:

This Relief Option would introduce a new area code to overlay area code 613.

Area code 613 and the new area code would be expected to exhaust in 2011 and 2046 respectively.

#### Assessment:

The RPC views the distributed overlay of NPA 613 as a viable and preferred option because:

- The method is a well known and frequently implemented method of NPA relief in recent years; the method used since 1999 for most relief projects in Canada ( e.g., 416/647, 289/905, 514/438, 519/226);
- Number changes required by splits are avoided thus minimizing negative impacts on customers;
- Wireless Service Providers will avoid the costs of reprogramming wireless handsets (the Mobile Dial Number and the Mobile Identifier Number) as well as extensive modifications to their systems;
- Wireless customers will avoid the inconvenience of returning their wireless handsets to their dealers for reprogramming;
- The costs to implement an overlay by TSPs are expected to be less as number changes will not be required to OSS systems;
- The boundaries of the NPA 613 area would not be changed;
- The life of this relief (i.e., until 2050) would exceed the 8 year minimum period specified by the Canadian NPA Relief Planning Guidelines;
- Less economic burden would be placed on existing businesses;
- The first stage of an overlay, 10-digit local dialling, was already implemented in NPA 613 in 2006;
- This Relief Option does not have to be implemented until 2010, thus delaying cost versus concentrated overlay options which would have to be implemented in Q4 2008 to retain NPA 613 CO Codes to serve the area outside the concentrated overlay area.

## 7. SUMMARY OF RELIEF OPTIONS

The following table summarizes the alternative Geographic Split Options:

Plan		Projected Exhaust Dates		Relief - Timing & Type		Population affected by No. Changes	Local Dial # of digits
#	Description	NPA 613	New NPA	Relief Date	Type		
1a	Ottawa (24 Exchange Areas) Split Option – Ottawa retains NPA 613	2011 2047	2045	<b>2010</b> (613) <b>2045</b> (613) <b>2043</b> (new NPA)	S ? ?	0.85m ? ?	10 10 10
1b	Ottawa (24 Exchange Areas) Split Option – Ottawa changes to New NPA	2011 2045	2047	<b>2010</b> (613) <b>2043</b> (613) <b>2045</b> (new NPA)	S ? ?	0.85m ? ?	10 10 10
2a	Ottawa LIR Split Option - Ottawa LIR retains NPA 613	2011 2051	2043	<b>2010</b> (613) <b>2049</b> (613) <b>2041</b> (new NPA)	S ? ?	0.83m ? ?	10 10 10
2b	Ottawa LIR Split Option - Ottawa LIR changes to New NPA	2011 2043	2051	<b>2010</b> (613) <b>2041</b> (613) <b>2049</b> (new NPA)	S ? ?	0.87m ? ?	10 10 10
3a	Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area retains NPA 613	2011 2045	2047	<b>2010</b> (613) <b>2043</b> (613) <b>2045</b> (new NPA)	S ? ?	0.80m ? ?	10 10 10
3b	Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area changes to New NPA	2011 2047	2045	<b>2010</b> (613) <b>2045</b> (613) <b>2043</b> (new NPA)	S ? ?	0.90m ? ?	10 10 10
4a	East/West Split Option – Eastern Region retains NPA 613	2011 2026	2089	<b>2010</b> (613) <b>2024</b> (613) <b>2087</b> (new NPA)	S ? ?	0.45m ? ?	10 10 10
4b	East/West Split Option – Eastern Region changes to New NPA	2011 2089	2026	<b>2010</b> (613) <b>2087</b> (613) <b>2024</b> (new NPA)	S ? ?	1.25m ? ?	10 10 10
Key	10-D = mandatory 10-digit local dialling, O = Overlay, S= Split, ? = Unknown (population affected by number changes, subsequent relief type and dial plan)						

The following table summarizes the alternative Overlay Options:

Plan		Projected Exhaust Dates		Relief - Timing & Type		Popula- tion affected by No. Changes	Local Dial # of digits
#	Description	NPA 613	New NPA	Relief Date	Type		
5	Concentrated Overlay of New NPA on Ottawa (24 Exchange Areas)	2011 2014	2084	<b>2008</b> (613) <b>2012</b> (613) <b>2082</b> (new NPA)	O ? ?	Nil Nil Nil	10 10 10
6	Concentrated Overlay of New NPA on the Ottawa LIR	2011 2014	2093	<b>2008</b> (613) <b>2012</b> (613) <b>2091</b> (new NPA)	O ? ?	Nil Nil Nil	10 10 10
7	Concentrated Overlay of New NPA on the Ottawa Exchange EAS Area	2011 2014	2084	<b>2008</b> (613) <b>2012</b> (613) <b>2082</b> (new NPA)	O ? ?	Nil Nil Nil	10 10 10
8	Concentrated Overlay of New NPA on the Eastern Region	2011 2018	2059	<b>2008</b> (613) <b>2016</b> (613) <b>2057</b> (new NPA)	O ? ?	Nil Nil Nil	10 10 10
9	Distributed Overlay of New NPA on NPA 613	2011	2046	<b>2010</b> (613) <b>2044</b> (new NPA)	O O	Nil Nil	10 10
Key	10-D = mandatory 10-digit local dialling, O = Overlay, S= Split, ? = Unknown (population affected by number changes, subsequent relief type and dial plan)						

### 8. COMPARATIVE ASSESSMENT OF RELIEF OPTIONS

The 13 Relief Options that the RPC identified and assessed in section 6 of this document were compared. A Pro, Neutral or Con (P, N or C) rating was established for each Relief Option for each of the following attributes. The results are listed in the table below the list of attributes.

- A. NPA Code Conservation – quantity of new NPAs required in NPA 613 within the next 20 years (P = 0 new NPAs; N = 1 new NPAs; C = 2 or more new NPAs)
- B. Number of separate Relief Planning areas in Ontario in the long term (P = decrease; N = stays same; C = increase)
- C. Quantity of Number Changes for existing customers’ numbers (none = P, many = C)
- D. Level of Carrier Costs – e.g., including implementation, customer awareness (P = Low; N = Medium; C = High)
- E. Time required to implement relief, i.e., time between the CRTC's Decision date and the date when CO Codes in the new NPA can be activated (shortest = P, medium = N, longest = C)
- F. Dates when the relief method must be implemented (e.g., concentrated overlays must be implemented much sooner than a distributed overlay or split) (latest = P, medium = N, and earliest = C)
- G. Longevity – the length of time between this relief and subsequent relief activity in NPA 613 (e.g., a new area code) (P = 15 or more years; N = 9 through 14 years; C = within 8 years)
- H. Geographic Identity – NPA boundaries align with boundaries of known areas (e.g., existing NPA areas, provinces, municipalities) or identifiable geographical features (e.g., rivers, highways) (P = High; N = Medium; C = Low)
- I. Reprogram Mobile Phones – requirement to reprogram wireless devices to accommodate the number changes (P = low; N = Medium; C = High)
- J. Potential maximum quantity of NPAs in an Exchange Area in the next 20 years (1 NPA = P, 2 NPAs = N, 3 NPAs = C)

Relief Plan		Pro, Neutral or Con for Each Attribute										Rating
#	Description	A	B	C	D	E	F	G	H	I	J	
1a	Ottawa (24 Exchange Areas) Split Option – Ottawa retains NPA 613	N	C	C	C	C	N	P	C	C	P	-4
1b	Ottawa (24 Exchange Areas) Split Option – Ottawa changes to New NPA	N	C	C	C	C	N	P	C	C	P	-4
2a	Ottawa LIR Split Option - Ottawa LIR retains NPA 613	N	C	C	C	C	N	P	C	C	P	-4
2b	Ottawa LIR Split Option - Ottawa LIR changes to New NPA	N	C	C	C	C	N	P	C	C	P	-4
3a	Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area retains NPA 613	N	C	C	C	C	N	P	C	C	P	-4
3b	Ottawa Exchange EAS Area Split Option - Ottawa Exchange EAS Area changes to New NPA	N	C	C	C	C	N	P	C	C	P	-4

Relief Plan		Pro, Neutral or Con for Each Attribute										Rating
#	Description	A	B	C	D	E	F	G	H	I	J	
4a	East/West Split Option – Eastern Region retains NPA 613	C	C	C	C	C	N	P	C	C	N	-6
4b	East/West Split Option – Eastern Region changes to New NPA	C	C	C	C	C	N	P	C	C	N	-6
5	Concentrated Overlay of New NPA on Ottawa (24 Exchange Areas)	C	C	P	N	N	C	C	C	P	N	-3
6	Concentrated Overlay of New NPA on the Ottawa LIR	C	C	P	N	N	C	N	C	P	N	-2
7	Concentrated Overlay of New NPA on the Ottawa Exchange EAS Area	C	C	P	N	N	C	C	C	P	N	-3
8	Concentrated Overlay of New NPA on the Eastern Region	C	C	P	N	N	C	N	C	P	N	-2
9	Distributed Overlay of New NPA on NPA 613	N	N	P	P	N	P	P	P	P	N	6

Note: None of the options require Exchange Area boundary changes.

If P, N and C are assigned a weighting of +1, 0 and -1, respectively, then analysis of the above table gives the highest rating of 6 points to Plan 9, and the next highest rating of -2 points to Plans 6 and 8, -4 points to plans 1a, 1b, 2a, 2b, 3a and 3b; and -6 points to plans 4a and 4b. Plan 9 Distributed Overlay is clearly superior when assessed using the above criteria.



## **9. DIALING CHANGES FOR LOCAL CALLS**

Currently 10-digit dialing is mandatory for local calls originating within area code 613, and for local calls originating in adjacent area codes and terminating in area code 613. None of the Relief Options considered in this document would change the local dialling plans in area code 613 or in adjacent area codes.

## 10. SPECIAL OVERLAY POOL FOR INITIAL CODE ASSIGNMENTS

In CRTC Decision 2001-365 *Assignment of central office codes following relief of an area code*, the Commission directed that a pool of CO Codes be made accessible to any carrier applying for an initial code in a particular Exchange Area following the introduction of a new area code using the overlay method (called the "Pool for Initial Code Assignments").

Specifically, the CRTC directed that:

- a) a pool of CO codes be set aside for assignment to any carrier requesting an initial code, as described by the Canadian Central Office (NXX) Code Assignment Guidelines, for a particular Exchange Area. CO codes assigned from this pool should not be replaced. This pool will be maintained for a period of only two years following the introduction of a new area code to avoid an undue impact on the exhaust of the new area code. Where such a pool exists, all initial code assignments shall be made from the pool. In cases where the Commission has not established the number of CO codes for this special pool, the appropriate CISC Ad Hoc Relief Planning Committee may make a recommendation to the Commission via the CISC process with regard to the number of CO codes for the pool; and
- b) all other CO codes remaining in the original area code and that are not part of the pool set aside for use as initial codes may be assigned using the normal administrative procedures set out in the Canadian Central Office (NXX) Code Assignment Guidelines.

The Canadian NPA Relief Planning Guidelines dated 13 April 2007 state in paragraph 2 of section 7.2, Overlay Method, that:

Following the implementation of an overlay, an appropriate number of CO Codes are set aside for Initial Code Applicants for a period of two years after the Relief Date (Letter Decision CRTC 2001-365). The quantity of CO codes set aside following relief should be equivalent to the quantity set aside for this purpose in the case of a Jeopardy Condition as per section 9.1 of these guidelines.

In paragraph 5 of section 9.1 of those guidelines, it states:

The RPC shall recommend a quantity of CO Codes to be set aside for Initial Code Applicants whose requirements were not considered in the first J-NRUF and include that quantity on the NPA CO code Inventory Chart. The quantity to be set aside for such Initial Code Applicants shall be based upon an assessment of the quantity of Exchange Areas in the NPA and the potential for Initial Code Applicants to enter the market in those Exchange Areas. The quantity of set-aside Codes for Initial Code Applicants whose requirements were not considered in the first J-NRUF should be recommended by the CNA in the IPD and approved or modified by the Relief Planning Committee (RPC), CISC and CRTC. This pool of CO Codes for Initial Code Applicants shall be used for initial Code assignments until relief is provided.

In the Glossary of those guidelines, the term Initial Code Applicant is defined as follows:

Any entity making an application for an initial code in an Exchange Area within the exhausting NPA as per section 4 of the Central Office Code Assignment Guidelines.

When considering what size to recommend for the “Pool for Initial Code Assignments”, the RPC noted that NPA 613 consists of 132 Exchange Areas, that the majority of the projected growth in area code 613 is limited to 13 Exchange Areas, and that in the remaining Exchange Areas there is little projected growth. Using the July 2007 R-NRUF results, the annual growth in CO Codes projected to be assigned during the next 5 years varies significantly, with an average of 20 per year. A significant portion of the annual growth in the 13 Exchange Areas is expected to be for TSPs that already have CO Code assignments in those 13 Exchange Areas. Recent experience with new entrants in the CLEC and wireless sectors suggests there will be few new entrants requesting initial code assignments in the two-year period after the implementation of the overlay. It is also expected that there will be only a small quantity of requests from existing TSPs for initial code assignments in the 13 growing Exchange Areas and the no/low growth Exchange Areas during the two-year period.

Accordingly, the RPC recommends that 7 CO Codes should be set-aside in the “Pool for Initial Code Assignments” for the two year period following the implementation of the overlay area code. After the two-year period, the pool will be discontinued and any CO Codes remaining in the pool will become available to all TSPs.

On 31 March 2003, the CSCN received a copy of a letter dated 26 March 2003 from CRTC staff addressed to the CNA regarding the 2003 G-NRUF Methodology and Assumptions. In this letter, CRTC staff indicated that they were concerned about the lack of allowance for unforecasted demand for new unknown entrants, new technologies or other unforecasted demand. To address this concern, CRTC staff requested the CNA to include an allowance for CO Code reservations for new unknown entrants, new technologies and other forecasted demand in area code exhaust projections. The CRTC staff letter specified the quantity of codes that CRTC staff requested be added to the 2003 data as assigned CO Codes and carried forward throughout the 20 year study period with no growth. For NPA 613, the quantity identified by CRTC staff was 7 CO Codes. On 16 October 2007 CRTC staff advised that for the purposes of conducting the 2008 NRUF, the CSCN should use 7 CO Codes for NPA 613.

The RPC notes that the CO Codes in the “Pool for Initial Code Assignments” are separate from the allowance for “new unknown entrants, new technologies, or other unforecasted demand” that is used to forecast the Projected Exhaust Date.

## 11. JEOPARDY CONTINGENCY PLAN (JCP)

The RPC has developed the following JCP, based on the template contained in Appendix I to the Canadian NPA Relief Planning Guidelines and recent JCPs submitted by other relief planning committees, for inclusion in the PD for NPA 613.

The following measures shall be implemented by all CO Code Holders in NPA 613 once approved by the CRTC and following the declaration of a Jeopardy Condition by the CNA.

- 1) During a Jeopardy Condition, Code Applicants shall submit all code applications and related correspondence for the jeopardy NPA to CRTC staff in addition to the CNA. The CNA will work closely with CRTC staff in the analysis of these applications.
- 2) TSPs will implement the following conservation methods:
  - a) age disconnected residential telephone numbers for a maximum of two months;
  - b) age disconnected wireless telephone numbers for a maximum of three months;
  - c) age disconnected business telephone numbers for a maximum of six months. Under special circumstances, the six month aging limit for business telephone numbers may be extended to twelve months if required to accommodate local directory publishing dates for high volume call-in applications (e.g., heavily advertised local business numbers such as radio talk shows, food ordering services, ticket sales, chat lines), or for numbers associated with public service emergency applications or for numbers advertised in directories for which customers have requested reference of calls;
  - d) return all CO Codes that are not being used nor intended to be used to directly serve customers to the assignment pool within two months (e.g., plant test codes);
  - e) all CO Code Holders should work towards, and encourage existing customers, to either activate or return the reserved numbers in order to bring the reserved quantity down to a maximum of 10% of the quantity of numbers In-Service for that customer;
  - f) the quantity of reserved numbers shall not be increased by new reservation requests by existing customers to more than 10% of the quantity of numbers in service for that customer. In the case of new customers, number reservations shall be limited to 10% of the total quantity of telephone numbers being placed into service for that customer;
  - g) within 45 days from the date that the CNA declares a Jeopardy Condition, CO Code Holders shall submit a Part 1 Form for each remaining reserved CO Code to the CNA to return the reserved CO Code or to request assignment of the reserved CO Code. After this 45-day period, any reserved CO Code for which the CNA has not received a Part 1 Form requesting its assignment or returning it shall be made available by the CNA for general assignment with no aging period. Within 60 days from the date that this JCP becomes effective, the CNA shall report to CRTC staff and the RPC as to how many of these codes have been assigned or made available for general assignment;
  - h) reservations of CO Codes will not be permitted;
  - i) for all CO Codes that were assigned prior to the Jeopardy Condition being declared, the CO Codes must be placed In-Service within three months of the effective date for CO Code activation in the network, or within three months of

- the date that the Jeopardy Condition was declared. The CNA shall initiate reclamation procedures for all CO Codes that have not been placed In-Service within this timeframe;
- j) reclaimed CO Codes will be made available for general assignment after a three-month aging period.
- 3) For new applications for Initial Codes, each CO Code Holder shall certify that the CO Code will be activated in the network and placed in service within four months of the date of application for the Code. If the CNA does not receive a Part 4 Form within this timeframe confirming that the CO Code has been placed in service, the CNA will initiate reclamation measures. If the Code Holder can demonstrate that, due to circumstances beyond its control, the In-Service date will be delayed by no more than two additional months beyond the four month period, then the CNA may grant an extension to the In-Service date, so long as the In-Service date is not more than six months beyond the original application date. If the In-Service date will be delayed to more than six months from the original application date, then the CNA shall reclaim the Code unless CRTC staff advises otherwise.
- 4) When applying for a CO Code for growth for the switching entity/POI serving an Exchange Area, CO Code Holders shall:
- a) complete and submit the attached Telephone Number Utilization Report Form;
  - b) certify that all held telephone numbers have been released;
  - c) certify that reserved numbers do not exceed ten percent of the total quantity of numbers;
  - d) certify that all existing CO Codes per service provided in that exchange by that switching entity or POI, are projected to exhaust within four months and provide supporting documentation (i.e., completed Appendix B Months to Exhaust Certification Worksheet); and,
  - e) certify that each reseller's/dealer's inventory has been reduced to an amount equal to two times the highest month's end customer number assignment rate from the previous year for that reseller/dealer. This certification must be provided at the time of applying for a CO Code for growth or within 60 days from the date the JCP becomes effective, whichever is later. In the event that the Code Applicant does not submit the certification within 60 days of the date the JCP becomes effective, then the CNA shall advise Commission staff. Exceptional issues (e.g., inventory provision for start-up resellers/dealers, inventory provision for resellers/dealers that anticipate activations in excess of historical trends, and resellers/dealers that refuse to cooperate in reducing their inventories) may be referred to the Commission for resolution.
- 5) Any CO Codes for growth assigned after the implementation of this JCP must be activated in the network and placed In-Service within four months of the date of application. In the event that a CO Code Holder is unable to place the CO Code In-Service within four months of the date of application, the CO Code Holder must submit a written request for extension to the CNA. Such written requests must include documentation explaining the reason(s) for the missed date and proposing the new In-Service date. If the explanation includes reasons beyond the control of the CO Code Holder, the CNA may extend the In-Service date a maximum of one month. If the CO Code Holder does not place the CO Code In-Service within the one-month extension, the CNA shall reclaim the CO Code immediately at the end of the one-month extension.

- 6) A TSP that has multiple switching entities within an Exchange Area shall examine the possibility of, and implement where feasible, number sharing between those switches as a potential method to delay requirements for additional CO Codes.
- 7) The CNA will compare the initial J-NRUF input to the recent NRUF inputs, in order to assess forecasting trends. The CNA shall monitor all inputs and shall test them for reasonableness in consultation with the telecommunications service provider. If the CNA is dissatisfied with the reasonableness, or the rationale provided for the deviations, then the matter will be referred to the Commission.
- 8) The CNA will request subsequent J-NRUF input from all potential and current CO Code Holders quarterly until 3 months before relief is provided. The initial J-NRUF input will be used as a baseline for comparison of subsequent J-NRUF input as well as to evaluate the effectiveness of the JCP. The CNA shall monitor all J-NRUF inputs and shall test them for reasonableness in consultation with the telecommunications service provider. If the CNA is dissatisfied with the reasonableness, or the rationale provided for the deviations, then the matter will be referred to the Commission.
- 9) In the absence of the most recently required NPA 613 J-NRUF from a Code Holder or proposed Competitive Local Exchange Carrier (CLEC), the CNA will request a completed J-NRUF from that entity prior to the assignment of a CO Code.
- 10) When a CO Code Applicant requests more CO Codes than it identified in its most recent NPA 613 J-NRUF, the CNA will discuss the matter with the Code Applicant and if the Code Applicant wishes to proceed with the request, the CNA will forward the request to CRTC staff for consideration.
- 11) The CO Codes identified in the NPA CO Code Inventory Chart as "Assignable CO Codes in a Jeopardy Condition" will be assigned in the order determined by the RPC after all CO Codes which are "Available for Assignment as of [the date identified on the NPA CO Code Inventory Chart]" have been assigned. The CO Codes set aside in the Pool for Initial Code Assignments be the final CO Codes to be made available for assignment (ref CRTC Decision 2001-365 *Assignment of central office codes following relief of an area code, using the overlay method*).
- 12) After each J-NRUF, the CNA shall provide Commission staff and the RPC participants with a report providing an updated NPA CO Code Inventory Chart for the NPA in jeopardy as well as the aggregate results of the most recent J-NRUF.
- 13) This JCP shall remain in effect until 66 days before the NPA Relief Date. This period of time is specified since a CO Code Applicant needing to activate a new CO Code in the minimum amount of time and applying for a CO Code 66 days prior to the NPA Relief Date can receive a CO Code in the post-Relief NPA.
- 14) Exceptional issues or concerns may be referred by the CNA, or by individual entities (with a courtesy copy to the CNA), to Commission staff for resolution.
- 15) In a situation where a Jeopardy Condition has been declared and the Relief Date is after the Projected Exhaust Date, then the quantity of NPA 613 CO Codes that may be assigned to a Carrier prior to the end of the Jeopardy Condition (i.e., 60 days prior to the

Relief Date) shall be limited to the quantity forecasted by the Carrier in the NRUF forecast prior to the time when the Projected Exhaust Date advanced to before the Relief Date. When making requests to obtain NPA 613 CO Codes prior to the end of the Jeopardy Condition (i.e., 60 days prior to the Relief Date), the Code Applicant may change the Exchange Area or the month when the CO Code assignment is required, provided a new J-NRUF and explanation accompanies the application. The control imposed by this option may be relaxed if subsequent J-NRUFs defer the Projected Exhaust Date to after the Relief Date. CO Codes that become available for assignment due to future reduced demand from other Carriers may be assigned at the discretion of CRTC staff.

If the CNA determines that the implementation of the JCP has not extended the Projected Exhaust Date of the NPA beyond the Relief Date, the CNA will consult with Commission staff and further CO Code conservation and assignment procedures may be ordered by the Commission (e.g., rationing, lottery, etc.).

**Telephone Number Utilization Report**

Entity Name: \_\_\_\_\_  
 Address : \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 E-Mail : \_\_\_\_\_  
 Date : \_\_\_\_\_

Contact name: \_\_\_\_\_  
 City, Prov/Terr, Postal code: \_\_\_\_\_  
 Facsimile: \_\_\_\_\_

Telephone Number Utilization for: 

Switch/POI CLLI:
Exchange Name <span style="float: right;">Province / Territory :</span>

NPA	NXX	Portable (Y or N)	Quantities of Telephone Numbers							% Utilization
			Reseller Inventory	Assigned	R&H	Admin	Ported Out	Available	Aging	
<b>TOTAL</b>										

% Utilization = (Reseller Inventory+Assigned+R&H+Admin+Ported Out+Aging)/(100)



### NPA 613 CO Code Inventory Chart

The following chart and the instructions it contains will apply in NPA 613 in a Jeopardy Condition.

The chart shown below lists quantities of CO Codes unassignable prior to a Jeopardy Condition, CO Codes that become assignable in a Jeopardy Condition, and CO Codes in NPA 613 assigned and In-Service as at 5 May 2008. It identifies 33 CO Codes that are unassignable prior to a Jeopardy Condition, 11 of which become assignable in a Jeopardy Condition. The CO Codes that become assignable in a Jeopardy Condition shall only be made available for assignment when all other available CO Codes have been assigned. The types of CO Codes that become assignable in a Jeopardy Condition should be made available in the same order as listed in the chart.

<b>A</b>	Total CO Codes In an NPA (NXX format)	<b>800</b>
<b>B</b>	<b>CO Codes unassignable prior to a Jeopardy Condition:</b>	
	N11 Service Codes (211, 311, 411, 511, 611, 711, 811, 911)	8
	Special Use Codes (555 & 950)	2
	Protected Codes	0
	Home NPA(s) (613)	1
	Current Neighbouring NPAs (289, 450, 705, 819, 905)	5
	Future Canadian Geographic NPAs (343, 468, 568, 579, 871, 873 - see Note 1)	6
	Plant Test Codes (958 & 959)	2
	Special 7-digit Dialling Codes (610 & 810)	2
	Pool for Initial Code Assignments after relief via an overlay	7
	Subtotal	<b>33</b>
<b>C</b>	Assignable CO Codes prior to a Jeopardy Condition (C=A-B)	<b>767</b>
<b>D</b>	<b>CO Codes unassignable prior to Jeopardy that become assignable in a Jeopardy Condition:</b>	
	Current Neighbouring NPAs ((assign 289 and 905 first in the Eastern portion of NPA 613 as far as possible from the Brighton Local Calling Area, assign 450 second in the Western portion of NPA 613 as far as possible from the Lancaster Local Calling Area, assign 705 third in the South–Eastern portion of NPA 613 as far as possible from the Bancroft and Cardiff Local Calling Areas; do not assign 819))	4
	Pool for Initial Code Assignments after relief via an overlay	7
	Subtotal	<b>11</b>
<b>E</b>	Assignable CO Codes in a Jeopardy Condition (E=C+D)	<b>778</b>
<b>F</b>	Assigned CO Codes as of 5 May 2008	<b>634</b>
<b>G</b>	<b>Net CO Codes available for assignment as of 5 May 2008 without Jeopardy Condition (G=C-F)</b>	<b>143</b>
<b>H</b>	<b>Net CO Codes available for assignment as of 5 May 2008 in a Jeopardy Condition (H=E-F)</b>	<b>154</b>

Note 1: 19 out of a total 35 Future Canadian Geographic NPAs are already assigned as CO Codes in NPA 613. The RPC recommends that 10 of the remaining 16 be made available for assignment from the date of a CRTC Decision therefore these are not listed as unassignable prior to a Jeopardy Condition: the remaining 6 should continue to be unassignable as indicated in this table.

## 12. RECOMMENDATIONS

Based upon its analysis of the Relief Options the RPC recommends that:

- relief for NPA 613 be implemented using the Distributed Overlay option;
- NPA 343 be selected as the Relief NPA;
- the Relief Date be 18 September 2010 which is within the required 12-18 months period prior to the current Projected Exhaust Date of December 2011;
- seven CO Codes from NPA 613 should be set aside in a "Pool for Initial Code Assignments" to be assigned during the two year period following the introduction of the overlay NPA;
- the CNA should monitor CO Code use and conduct an R-NRUF in January and July every year until four months prior to the Relief Date;
- the RPC should monitor the R-NRUF results (i.e., Projected Exhaust Date) and make whatever recommendations it believes appropriate over time to the CRTC to ensure relief is provided in a timely manner;
- the following ten CO Codes 365, 367, 428, 431, 437, 460, 672, 753, 879, and 942, which correspond to Future Canadian Geographic NPAs, should be made available for assignment in NPA 613 starting from the date of a CRTC decision on NPA 613, and in the relief NPA starting when CO Code assignments become available. The six following CO Codes 343, 468, 568, 579, 871, and 873, i.e. the remaining unassigned CO Codes corresponding to Future Canadian Geographic NPAs, should remain unassignable in NPA 613 and be made unassignable in the relief NPA; and
- the accompanying Relief Implementation Plan (RIP) be approved to guide the implementation of relief.

The RPC's recommendation of a Distributed Overlay is based on the following factors:

- The method is a well known and frequently implemented method of NPA relief in recent years; the method used since 1999 for most relief projects in Canada ( e.g., 416/647, 289/905, 514/438, 519/226);
- Number changes required by splits are avoided thus minimizing negative impacts on customers;
- Wireless Service Providers will avoid the costs of reprogramming wireless handsets;
- Wireless customers will avoid the inconvenience of returning their wireless handsets to their dealers for reprogramming;
- The costs to implement an overlay by TSPs are expected to be less as number changes will not be required to OSS systems;
- The boundaries of the NPA 613 area would not be changed;
- The life of this relief (i.e., until 2050) would exceed the 8 year minimum period specified by the Canadian NPA Relief Planning Guidelines;
- Less economic burden would be placed on existing businesses;
- The first stage of an overlay, 10-digit local dialling, was already implemented in NPA 613 in 2006;
- This Relief Option does not have to be implemented until 2010, thus delaying cost versus concentrated overlay options which would have to be implemented in Q4 2008 to retain NPA 613 CO Codes to serve the area outside the concentrated overlay area.

**NPA 613  
PLANNING DOCUMENT  
ANNEXES**