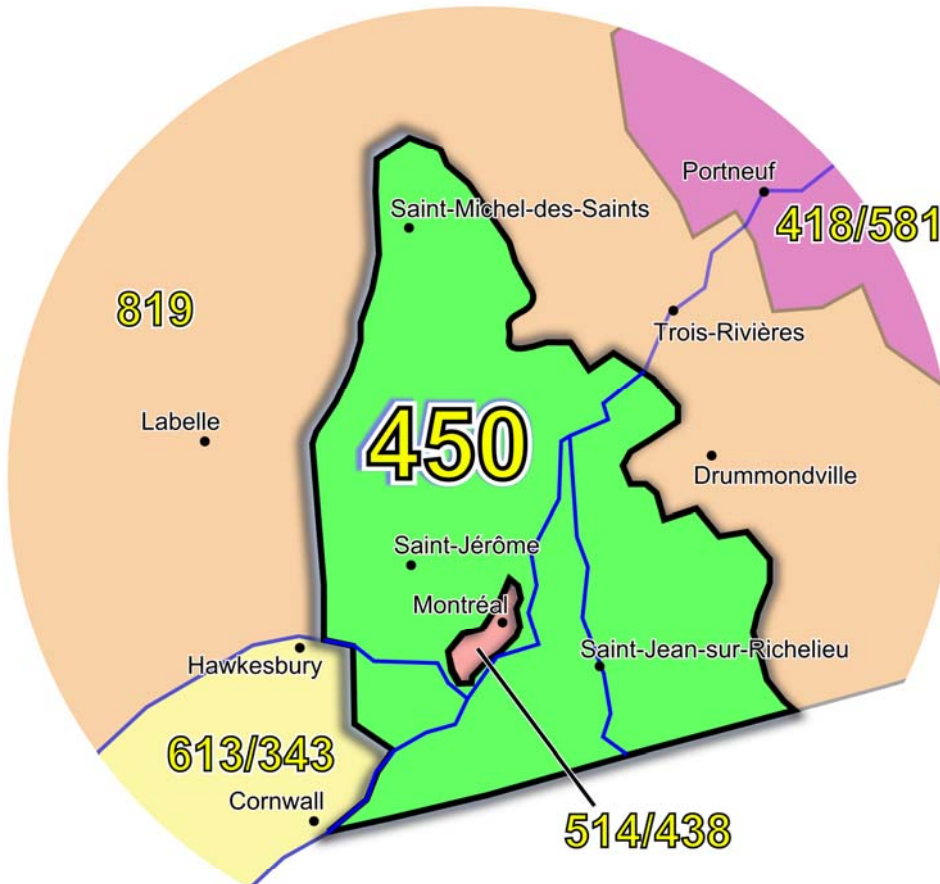


NPA 450



Relief Planning

Planning Document (PD)
Version 1.0 – February 11, 2009

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From Science to Solutions



TABLE OF CONTENTS

| | |
|--|----|
| TABLE OF CONTENTS..... | I |
| NPA 450 PLANNING DOCUMENT (PD)..... | 1 |
| 1. EXECUTIVE SUMMARY | 1 |
| 2. INTRODUCTION..... | 1 |
| 3. NPA RELIEF PLANNING PROCESS..... | 3 |
| 4. NPA RELIEF METHODS | 4 |
| 4.1 GEOGRAPHIC SPLIT | 4 |
| 4.1.1 Definition | 4 |
| 4.1.2 General Attributes | 5 |
| 4.2 OVERLAY | 5 |
| 4.2.1 Definition | 5 |
| 4.2.2 General Attributes | 7 |
| 4.3 BOUNDARY REALIGNMENT | 8 |
| 4.3.1 Definition | 8 |
| 4.3.2 General Attributes | 8 |
| 5. PROJECTED EXHAUST DATES | 9 |
| 6. RELIEF OPTIONS | 11 |
| 6.1 GEOGRAPHIC SPLIT | 11 |
| 6.1.1 Plans 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b: Splits | 24 |
| 6.2 NPA BOUNDARY EXTENSION OVERLAY | 25 |
| 6.2.1 Plan 7: NPA 438 Boundary Extension Overlay | 25 |
| 6.3 DISTRIBUTED OVERLAY | 26 |
| 6.3.1 Plan 8: Distributed Overlay of New NPA on NPA 450 | 26 |
| 7. SUMMARY OF RELIEF OPTIONS..... | 28 |
| 8. COMPARATIVE ASSESSMENT OF RELIEF OPTIONS..... | 30 |
| 9. DIALLING IMPACTS FOR LOCAL CALLS | 33 |
| 10. CO CODES FOR INITIAL CODE ASSIGNMENTS AND CO CODES FOR INITIAL CODE ASSIGNMENTS FOR NEW ENTRANTS ONLY | 35 |
| 11. JEOPARDY CONTINGENCY PLAN (JCP)..... | 37 |
| 12. SELECTION OF RELIEF NPA | 46 |
| 13. RECOMMENDATIONS..... | 47 |

CONTENTS OF ANNEXES

ANNEX A

- Figure 1 – Overview of NPA 450 and Adjacent NPAs
- Figure 2 – NPA 450 Actual and Forecast CO Code Assignments
- Figure 3 – NPA 450 CO Code Exhaust January 2008 R-NRUF
- Figure 4 – NPA 450 CO Code Exhaust January 2008 R-NRUF
- Figure 5 – NPA 450 CO Code Exhaust July 2008 R-NRUF
- Figure 6 – NPA 450 CO Code Exhaust July 2008 R-NRUF
- Figure 7 – NPA 450 CO Code Exhaust after release of Telecom Public Notice CRTC 2008-17 and 4 November 2008 CRTC Staff Opinion concerning additional July 2008 R-NRUF data
- Figure 8 – NPA 450 CO Code Exhaust after release of Telecom Public Notice CRTC 2008-17 and 4 November 2008 CRTC Staff Opinion concerning additional July 2008 R-NRUF data
- Figure 9 – Plan 1a: Split - St Lawrence River as the boundary (North retains NPA 450)
- Figure 10 – Plan 1b: Split - St Lawrence River as the boundary (South retains NPA 450)
- Figure 11 – Plan 2a: Split - St Lawrence and Ottawa Rivers as the boundary (North retains NPA 450)
- Figure 12 – Plan 2b: Split - St Lawrence and Ottawa Rivers as the boundary (South retains NPA 450)
- Figure 13 – Plan 3a: Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (North retains NPA 450)
- Figure 14 – Plan 3b: Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (South retains NPA 450)
- Figure 15 – Plan 4a: Split - LIR 16 (Sorel Region), Independent LIRs 07 & 08, & the Independent Exchange Area of Baie-du-Fèvre in North (North retains NPA 450)
- Figure 16 – Plan 4b: Split - LIR 16 (Sorel Region), Independent LIRs 07 & 08, & the Independent Exchange Area of Baie-du-Fèvre in North (South retains NPA 450)
- Figure 17 – Plan 5a: Split – East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (East retains NPA 450)
- Figure 18 – Plan 5b: Split – East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (West retains NPA 450)
- Figure 19 – Plan 6a: Split – East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (East retains NPA 450)
- Figure 20 – Plan 6b: Split – East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (West retains NPA 450)
- Figure 21 – Plan 7: NPA 438 Boundary Extension Overlay
- Figure 22 – Plan 8: Distributed Overlay of new NPA on NPA 450

ANNEX B

- Table 1 – Exchange Areas currently in NPA 450, and in NPAs 450, 438 and New NPA for these Exchange Areas after each Relief Plan
- Table 2 – Exchange Areas by LIR
- Table 3 – Status in NPA 450 and Adjacent NPAs of NXXs that correspond to Future Canadian Geographic NPAs

ANNEX C

Canadian Geographic NPAs

ANNEX D

Industry Fora

ANNEX E

Numbering Administration

ANNEX F

Distribution List

NPA 450 Planning Document (PD)

1. EXECUTIVE SUMMARY

The 450 area code consists of 128 Exchange Areas serving Southern Québec which includes the major communities of Joliette, Granby, St-Hyacinthe, St-Jérôme, St-Lambert, Longueuil, Valleyfield, Ste-Thérèse, Sorel, Boucherville, Chomedey, St-Jean, Pont-Viau, and Laval-Ouest.

On 29 March 2007, the Canadian Numbering Administrator (CNA) announced that Number Plan Area (NPA) 450 had entered the relief planning window of 72 months. 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 450. The CNA advised the Canadian Radio-television and Telecommunications Commission (CRTC) and industry of this situation and conducted the July 2007 Relief Planning Numbering Resource Utilization Forecast (R-NRUF), which indicated NPA 450 would exhaust in September 2013. Subsequently, the January 2008 R-NRUF indicated that the Projected Exhaust Date (PED) had moved out to October 2014. The July 2008 R-NRUF indicated that the Projected Exhaust Date had moved in to September 2012.

Furthermore, new R-NRUF forecasts were received from current or prospective CO Code Holders in NPA 450 causing the Projected Exhaust Date again to move in. On 4 November 2008, the CRTC issued Telecom Public Notice CRTC 2008-17, *Establishment of a CISC ad hoc committee for area code relief planning in Quebec area code 450*, in which it established the CISC ad hoc Relief Planning Committee (RPC) for NPA 450. The Public Notice directed the RPC to set aside 7 CO Codes for initial code assignments and 10 CO Codes for initial code assignments for new entrants only. The directives in the Public Notice and the additional R-NRUF forecast information caused the Projected Exhaust Date to move forward to December 2010, thereby creating a Jeopardy Condition in NPA 450.

This Planning Document (PD) was developed by the NPA 450 Relief Planning Committee (RPC) based upon the 10 November 2008 Initial Planning Document (IPD) issued by the CNA. The IPD identified alternatives for providing relief in the NPA 450 geographic area. The purpose of the PD is to identify and assess NPA 450 code relief options, and to make recommendations to the CISC and CRTC for the relief of NPA 450.

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.

The IPD and PD are prepared and all other steps in the NPA Relief Planning process are 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 450.

2. INTRODUCTION

The 450 Numbering Plan Area (NPA) consists of 128 Exchange Areas serving Southern Québec which includes the major communities of Joliette, Granby, St-Hyacinthe, St-Jérôme, St-Lambert, Longueuil, Valleyfield, Ste-Thérèse, Sorel, Boucherville, Chomedey, St-Jean, and Pont-Viau. The majority of the projected growth in area code 450 is spread over more than 13 Exchange Areas; in the remaining Exchange Areas there is little projected growth. The Exchange Areas growing the most are Joliette, Granby, St-Hyacinthe, St-Jérôme, St-Lambert, Longueuil, and Valleyfield. See Annex B Table 1 for a list of Exchange Areas in NPA 450.

On 29 March 2007, the Canadian Numbering Administrator (CNA) announced that Number Plan Area (NPA) 450 had entered the relief planning window of 72-months. The introduction of Local Interconnection Regions (LIRs) and the implementation of Wireless Number Portability (WNP) have accelerated demand for Central Office (CO) Codes throughout area code 450. The CNA advised the Canadian Radio-television and Telecommunications Commission (CRTC) and industry of this situation and conducted the July 2007 Relief Planning Numbering Resource Utilization Forecast (R-NRUF), which indicated NPA 450 would exhaust in September 2013. Subsequently, the January 2008 R-NRUF indicated that the Projected Exhaust Date had moved out to October 2014. The July 2008 R-NRUF indicated that the Projected Exhaust Date had moved in to September 2012.

Furthermore, new R-NRUF forecasts were received from current or prospective CO Code Holders in NPA 450 causing the Projected Exhaust Date again to move in. On 4 November 2008, the CRTC issued Telecom Public Notice CRTC 2008-17, *Establishment of a CISC ad hoc committee for area code relief planning in Quebec area code 450*, in which it established the CISC ad hoc Relief Planning Committee (RPC) for NPA 450. The Public Notice directed the RPC to set aside 7 CO Codes for initial code assignments and 10 CO Codes for initial code assignments for new entrants only. The directives in the Public Notice and the additional R-NRUF forecast information caused the Projected Exhaust Date to move forward to December 2010, thereby creating a Jeopardy Condition in NPA 450.

On 17 November 2008, the CNA issued an Initial Planning Document (IPD) that identified alternatives for providing relief in the NPA 450 geographic area. The NPA 450 Relief Planning Committee (RPC) has developed this Planning Document (PD) based on the IPD, and prepared in accordance with CRTC-approved Canadian NPA Relief Planning Guideline dated April 13, 2007. The purpose of the PD is to assess NPA 450 relief options that were identified in the IPD, identify and assess additional NPA 450 code relief options if necessary, and to make recommendations to the CISC and CRTC for the preferred relief method for NPA 450.

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 450.

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

The term Numbering Plan Area (NPA) refers to a discrete geographic area, within the area served by the North American Numbering Plan (NANP), to which one or more NPA Codes (aka area codes) may be assigned (e.g., the province of Manitoba is a Numbering Plan Area (NPA) to which NPA Code 204 is assigned).

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 Code 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.

Once an initial relief has been provided using an overlay method and 10 Digit local dialling has been introduced, subsequent reliefs will generally not be provided using a split method, as splits would be impractical, disruptive, and not provide significant benefits. A split would be impractical and disruptive because it would require many number changes including CO Code changes as well as NPA Code changes. A split could allow reintroduction of permissive 7-digit local dialling however this would provide little or no benefit and would cause customers, Carriers and TSPs to incur additional costs after already having incurred costs to change to mandatory 10-digit local dialling. It would also be inconsistent with the industry migration towards the Uniform Dialling Plan (i.e., 10-digit local and toll dialling).

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 (NPA Code changes).
- 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.
- Is generally not a practical method for relief for an area that has previously been relieved by an overlay or already has mandatory 10-digit local dialling, since it is costlier and more time consuming than an additional overlay would be, and does not provide the benefit of retaining 7-digit dialling.
- 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 Code.
- Potential for associating NPA Codes 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.

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.

An NPA Boundary Extension Overlay strategy may be considered in situations where the growth in telephone numbers is expected to be more or less evenly distributed throughout the area code requiring relief and a neighbouring NPA has sufficient capacity to accommodate the demand for telephone numbers in both NPA serving areas for a minimum of 8 to 10 years.

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 a form of Overlay Method.

Several potential overlay strategies are identified in the Guidelines as examples that may be considered for Relief Planning: Distributed Overlay, Concentrated Overlay, Boundary Extension Overlay, Multiple NPA Overlay and Technology-specific 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).

Under a technology-specific overlay, a new NPA Code would be assigned to overlay an existing NPA(s) serving a specific geographic area, and the numbering resources in the new NPA Code would be used only for a specific type of technology (e.g., wireline telephones, wireless telephones, facsimile). This type of overlay has been utilized in certain other nations for wireless telephones. With the introduction of wireless number portability (WNP) in Canada, telephone numbers can be moved between wireline and wireless services and therefore the use of an NPA Code exclusively by wireline or wireless technology is not possible. Consequently, a technology-specific overlay was not considered by the CNA.

Once an initial relief has been provided using an overlay method, and 10 digit local dialling has been introduced, subsequent reliefs will generally be provided using overlays, as splits would be impractical, disruptive, and not provide significant benefits. A split would be impractical and disruptive because it would require many number changes including CO Code changes as well as NPA Code changes. A split could allow reintroduction of permissive 7-digit local dialling however this would provide little or no benefit and would cause customers, Carriers and TSPs to incur additional costs after already having incurred costs to change to mandatory 10-digit local dialling. It would also be inconsistent with the industry migration towards the Uniform Dialling Plan (i.e., 10-digit local and toll dialling).

4.2.2 General Attributes

- A frequently implemented method of NPA relief in recent years; the primary 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 NPA Codes.
- 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 Carriers and TSPs due to cost considerations (e.g., no number changes in Operating Support Systems (OSSs), no need to reprogram wireless handsets).

- If the overlay is a boundary extension, a new NPA Code will not be needed at the time of relief, and the number of areas for which future relief must be separately planned will be reduced.
- Carriers must use 10-digit signalling for all local traffic they send to other Carriers, and must be able to receive 10-digit signalling on local traffic they receive from other Carriers.

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. If any existing CO Codes in the area of the exhausting NPA moving to the adjacent NPA are the same as existing CO Codes in the adjacent NPA, then customers with those CO Codes in the area being relieved would have to take CO Code changes as well as NPA changes. 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 never used in Canada.
- Requires customer number changes in the affected geographic area (NPA and CO Code changes).
- 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.

5. PROJECTED EXHAUST DATES

As indicated in the following table, forecasts for NPA 450 were used to determine Projected Exhaust Dates, i.e. the dates when CO Codes in NPA 450 would be expected to exhaust.

| Source | Projected Exhaust Date |
|--|------------------------|
| G-NRUF January 2007 | September 2013 |
| R-NRUF January 2008 | October 2014 |
| R-NRUF July 2008 | September 2012. |
| Updated November R-NRUF Forecast in conjunction with Telecom Public Notice CRTC 2008-17 and CRTC Staff Opinion regarding Jeopardy Condition | December 2010 |
| J-NRUF December 31, 2008 (assumes the 7 CO Codes for Initial Code Assignment are available for assignment; however the 17 CO Codes that are the same as the Future Geographic NPA Codes listed below are not available for assignment) | November 2010 |
| J-NRUF December 31, 2008 (assumes the 7 CO Codes for Initial Code Assignment and the 17 CO Codes that are the same as the Future Geographic NPA Codes listed below are available for assignment) | February 2011 |

Refer to Annex A, Figures 3, 4, 5, 6, 7 and 8 for graphs of CO Code utilization in area code 450.

The RPC has assessed the CO Codes in NPA 450 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 450 is maximized, and to extend the life of the relief NPA as much as reasonably possible, the RPC recommends that some of these CO Codes be made available for assignment as described in detail below.

The current status of the 34 CO Codes in NPA 450 corresponding to future Canadian NPAs is that 16 CO Codes are already in service and 18 CO Codes are unavailable because they were designated as unavailable per the Canadian Central Office Code (NXX) Assignment Guidelines section 3.7 e)..

The CO Codes corresponding to future Canadian Geographic NPAs that are currently designated as unavailable for assignment in NPA 450 are 249, 257, 273, 354, 365, 367, 382, 387, 428, 487, 579, 639, 683, 851, 871, 873, 879, & 942. With the exception of 579, all of these CO Codes are in-service in NPA 514, and are therefore designated as available for assignment in NPA 438.

If the approved relief of NPA 450 is a Boundary Extension Overlay using NPA 438 to overlay NPA 450, then the above CO Codes with the exception of 579 (i.e. 17 CO Codes) will become available for assignment in NPA 450 per the Canadian Central Office Code (NXX) Assignment Guidelines section 3.7 e). This would be similar to the way that some CO Codes in NPAs 403 and 780 have become available because they were in service in the other existing NPA, and both of the existing NPAs were overlaid by NPA 587. Rather than waiting for these CO Codes to become available following relief, the RPC recommends that they be made available immediately following a decision approving a Boundary Extension Overlay.

If the approved relief of NPA 450 is a split or a Distributed Overlay of a new NPA, the RPC considers that the supply of CO Codes in NPA 450 and the new NPA should not be any more limited than that which would apply with a Boundary Extension Overlay, and therefore recommends that the 17 CO Codes should become available for assignment in NPA 450, and be made available for assignment in the new overlay NPA.

Accordingly, the RPC recommends that these 17 CO Codes should become available in NPA 450 at the time of approval of a split or Distributed Overlay, and in the new NPA when CO Codes become available for assignment in that NPA.

Release of 17 of the 18 currently unassignable CO Codes corresponding to future Canadian NPAs (i.e. CO Codes 249, 257, 273, 354, 365, 367, 382, 387, 428, 487, 639, 683, 851, 871, 873, 879, & 942) would defer the PED to June 2012, based upon the demand forecast in the November 2008 R-NRUF. Retaining these 17 CO Codes as unavailable for assignment would serve no useful purpose and would unnecessarily reduce the life of area code 450.

The determination of the PED of June 2012 does not consider or include the 7 CO Codes ordered by the CRTC to be set aside for initial code assignments for assignment after an overlay because CRTC staff advised the CNA that the 7 CO Codes for initial assignments should be made available for general assignment due to the Jeopardy Condition. If the 7 CO Codes were set aside for initial code assignments as directed by the Public Notice, then the PED would advance from June 2012 to March 2012.

On 30 January 2009 the CNA released the draft 31 December 2008 J-NRUF for NPA 450 that indicated the demand for CO Codes has risen. The impact of this rise in demand on the PED is shown above.

6. RELIEF OPTIONS

The NPA relief methods described in this PD are the Geographic Split, the Overlay, and the Boundary Extension Overlay.

Based on the above methods, the following Relief Options were identified and examined in detail:

- Geographic Split - 12 options (Plans 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, 5a, 5b, 6a and 6b)
- NPA Boundary Extension Overlay – 1 option (Plan 7)
- Distributed Overlay - 1 option (Plan 8)

Relief Options using the Concentrated Overlay were not examined by the CNA as Growth is spread throughout the NPA and there is not sufficient time to implement a Concentrated Overlay.

See Annex A, Figures 9 through 22 for diagrams of the Relief Options identified by the RPC.

6.1 *Geographic Split*

Twelve different Relief Options were evaluated to introduce a new area code in the NPA 450 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 Code 450. Selecting a split option for NPA Relief will impact from 33% to 67% of the customers with a number change.

Split Options 1a and 1b – St Lawrence River as the boundary

Split 1 uses the St Lawrence River as the boundary. This bisects Local Interconnection Region 04 (LIR 04), with a portion of LIR 04 (11 Exchange Areas) in the North and a portion (4 Exchange Areas) in the South.

An LIR is a geographic area defined 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”. LIRs are unique groupings of ILEC Exchange Areas which provide for more efficient interconnection between Local Exchange Carriers (LECs).

- 1a - Split – Northern Region (55 Exchange Areas) retains NPA 450 and Southern Region (73 Exchange Areas) changes to New NPA
- 1b - Split – Southern Region (73 Exchange Areas) retains NPA 450 and Northern Region (55 Exchange Areas) changes to New NPA

The Northern Region consists of the following 55 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|-----------------------|
| 1 | Berthierville | 20 | Mirabel-Ste-Scholastique | 39 | St-Jérôme |
| 2 | Brownsburg | 21 | Morin Heights | 40 | St-Lin |
| 3 | Chomedey | 22 | Oka | 41 | St-Michel-des-Saints |
| 4 | Côteau-du-Lac | 23 | Pont-Viau | 42 | St-Polycarpe |
| 5 | Côteau-Landing | 24 | Rawdon | 43 | St-Sauveur |
| 6 | Crabtree | 25 | Rigaud | 44 | St-Vincent-de-Paul |
| 7 | Hudson | 26 | Rivière Beaudette | 45 | St-Zénon |
| 8 | Joliette | 27 | Shawbridge | 46 | Ste-Adèle |
| 9 | L'Épiphanie-l'Assomption | 28 | St-Alphonse-de-Rodriguez | 47 | Ste-Anne-des-Plaines |
| 10 | Lachute | 29 | St-André-Est | 48 | Ste-Julienne |
| 11 | Lanoraie | 30 | St-Barthélémy | 49 | Ste-Justine-de-Newton |
| 12 | Laval-Est | 31 | St-Calixte-de-Kilkenny | 50 | Ste-Marguerite |
| 13 | Laval-Ouest | 32 | St-Clet | 51 | Ste-Marthe |
| 14 | Lavaltrie | 33 | St-Eustache | 52 | Ste-Rose |
| 15 | Le Gardeur | 34 | St-Félix-de-Valois | 53 | Ste-Thérèse |
| 16 | Les Cèdres | 35 | St-Gabriel-de-Brandon | 54 | Terrebonne |
| 17 | Mascouche | 36 | St-Hippolyte | 55 | Vaudreuil |
| 18 | Mirabel-Aéroport | 37 | St-Jacques | | |
| 19 | Mirabel-St-Augustin | 38 | St-Jean-de-Matha | | |

The Southern Region consists of the following 73 Exchange Areas:

| | | | | | |
|----|-----------------|----|--------------------------|----|------------------------|
| 1 | Actonvale | 26 | Lawrenceville | 51 | St-Ours |
| 2 | Baie-du-Fèvre | 27 | Longueuil | 52 | St-Paul-d'Abbottsford |
| 3 | Beauharnois | 28 | Mansonville | 53 | St-Pie |
| 4 | Bedford | 29 | Marieville | 54 | St-Pie-de-Guire |
| 5 | Beloeil | 30 | Napierville | 55 | St-Rémi |
| 6 | Boucherville | 31 | Notre-Dame-de-Stanbridge | 56 | Ste-Rosalie |
| 7 | Bromont | 32 | Ormstown | 57 | St-Simon |
| 8 | Chambly | 33 | Pierreville | 58 | St-Thomas-d'Aquin |
| 9 | Chateauguay | 34 | Roxton Falls | 59 | St-Zépherin |
| 10 | Clarenceville | 35 | Sorel | 60 | Ste-Hélène-de-Bagot |
| 11 | Contrecoeur | 36 | St-Aimé | 61 | Ste-Julie-de-Verchères |
| 12 | Cowansville | 37 | St-Blaise | 62 | Ste-Madeleine |
| 13 | Dunham | 38 | St-Bruno | 63 | Ste-Martine |
| 14 | Eastman | 39 | St-Césaire | 64 | Ste-Victoire |
| 15 | Farnham | 40 | St-Chrysostôme | 65 | Sutton |
| 16 | Franklin Centre | 41 | St-Constant | 66 | Upton |
| 17 | Frelighsburg | 42 | St-Damase | 67 | Valcourt |
| 18 | Granby | 43 | St-Denis | 68 | Valleyfield |
| 19 | Hemmingford | 44 | St-Hughes | 69 | Varenes |
| 20 | Henryville | 45 | St-Hyacinthe | 70 | Venise-en-Québec |
| 21 | Howick | 46 | St-Jean | 71 | Verchères |
| 22 | Huntingdon | 47 | St-Jude | 72 | Waterloo |
| 23 | Knowlton | 48 | St-Lambert | 73 | Yamaska |
| 24 | Lacolle | 49 | St-Liboire | | |
| 25 | Laprairie | 50 | St-Marc | | |

In these two geographic split options (Plans 1a and 1b), the 55 Exchange Areas would be included in one NPA and the remaining 73 Exchange Areas would be included in the other NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| Area | Number of Exchange Areas in Split regions | Assigned CO Codes in NPA 450 (2008-11-10) | |
|---|---|---|-------------------------|
| | | % of Total NPA 450 CO Codes | Qty of NPA 450 CO Codes |
| 450 North – (Exchange Areas in Northern Region) | 55 | 45% | 255 |
| 450 South – (Exchange Areas in Southern Region) | 73 | 55% | 384 |

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

Split Options 2a and 2b – St Lawrence and Ottawa Rivers as the boundary, LIR 04 in South

Split 2 uses the St Lawrence and Ottawa Rivers as the boundary. LIR 04 is entirely within the South in this option.

- 2a - Split St Lawrence and Ottawa Rivers as the boundary – Northern Region (44 Exchange Areas) retains NPA 450 and Southern Region (84 Exchange Areas) changes to New NPA
- 2b - Split St Lawrence and Ottawa Rivers as the boundary - Southern Region (84 Exchange Areas) retains NPA 450 and Northern Region (44 Exchange Areas) changes to New NPA

The Northern Region consists of the following 44 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|----------------------|
| 1 | Berthierville | 16 | Mirabel-Ste-Scholastique | 31 | St-Jean-de-Matha |
| 2 | Brownsburg | 17 | Morin Heights | 32 | St-Jérôme |
| 3 | Chomedey | 18 | Oka | 33 | St-Lin |
| 4 | Crabtree | 19 | Pont-Viau | 34 | St-Michel-des-Saints |
| 5 | Joliette | 20 | Rawdon | 35 | St-Sauveur |
| 6 | L'Épiphanie-l'Assomption | 21 | Shawbridge | 36 | St-Vincent-de-Paul |
| 7 | Lachute | 22 | St-Alphonse-de-Rodriguez | 37 | St-Zénon |
| 8 | Lanoraie | 23 | St-André-Est | 38 | Ste-Adèle |
| 9 | Laval-Est | 24 | St-Barthélémy | 39 | Ste-Anne-des-Plaines |
| 10 | Laval-Ouest | 25 | St-Calixte-de-Kilkenny | 40 | Ste-Julienne |
| 11 | Lavaltrie | 26 | St-Eustache | 41 | Ste-Marguerite |
| 12 | Le Gardeur | 27 | St-Félix-de-Valois | 42 | Ste-Rose |
| 13 | Mascouche | 28 | St-Gabriel-de-Brandon | 43 | Ste-Thérèse |
| 14 | Mirabel-Aéroport | 29 | St-Hippolyte | 44 | Terrebonne |
| 15 | Mirabel-St-Augustin | 30 | St-Jacques | | |

The Southern Region consists of the following 84 Exchange Areas:

| | | | | | |
|----|-----------------|----|--------------------------|----|------------------------|
| 1 | Actonvale | 29 | Lawrenceville | 57 | St-Marc |
| 2 | Baie-du-Fèvre | 30 | Les Cèdres | 58 | St-Ours |
| 3 | Beauharnois | 31 | Longueuil | 59 | St-Paul-d'Abbottsford |
| 4 | Bedford | 32 | Mansonville | 60 | St-Pie |
| 5 | Beloeil | 33 | Marieville | 61 | St-Pie-de-Guire |
| 6 | Boucherville | 34 | Napierville | 62 | St-Polycarpe |
| 7 | Bromont | 35 | Notre-Dame-de-Stanbridge | 63 | St-Rémi |
| 8 | Chambly | 36 | Ormstown | 64 | Ste-Rosalie |
| 9 | Chateauguay | 37 | Pierreville | 65 | St-Simon |
| 10 | Clarenceville | 38 | Rigaud | 66 | St-Thomas-d'Aquin |
| 11 | Contrecoeur | 39 | Rivière Beaudette | 67 | St-Zépherin |
| 12 | Côteau-du-Lac | 40 | Roxton Falls | 68 | Ste-Hélène-de-Bagot |
| 13 | Côteau-Landing | 41 | Sorel | 69 | Ste-Julie-de-Verchères |
| 14 | Cowansville | 42 | St-Aimé | 70 | Ste-Justine-de-Newton |
| 15 | Dunham | 43 | St-Blaise | 71 | Ste-Madeleine |
| 16 | Eastman | 44 | St-Bruno | 72 | Ste-Marthe |
| 17 | Farnham | 45 | St-Césaire | 73 | Ste-Martine |
| 18 | Franklin Centre | 46 | St-Chrysostôme | 74 | Ste-Victoire |
| 19 | Frelighsburg | 47 | St-Clet | 75 | Sutton |
| 20 | Granby | 48 | St-Constant | 76 | Upton |
| 21 | Hemmingford | 49 | St-Damase | 77 | Valcourt |
| 22 | Henryville | 50 | St-Denis | 78 | Valleyfield |
| 23 | Howick | 51 | St-Hughes | 79 | Varenes |
| 24 | Hudson | 52 | St-Hyacinthe | 80 | Vaudreuil |
| 25 | Huntingdon | 53 | St-Jean | 81 | Venise-en-Québec |
| 26 | Knowlton | 54 | St-Jude | 82 | Verchères |
| 27 | Lacolle | 55 | St-Lambert | 83 | Waterloo |
| 28 | Laprairie | 56 | St-Liboire | 84 | Yamaska |

In these two geographic split options (Plans 2a and 2b), the 44 Exchange Areas are included in one NPA and the remaining 84 Exchange Areas are included in the second NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| Area | Number of Exchange Areas in Split regions | Assigned CO Codes in NPA 450 (2008-11-10) | |
|---|---|---|-------------------------|
| | | % of Total NPA 450 CO Codes | Qty of NPA 450 CO Codes |
| 450 North – (Exchange Areas in Northern Region) | 44 | 40% | 255 |
| 450 South – (Exchange Areas in Southern Region) | 84 | 60% | 384 |

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

Split Options 3a and 3b – St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North

Split 3 places LIR 04 entirely in the North.

- 3a - Split LIR 04 entirely in the North – Northern Region (59 Exchange Areas) retains NPA 450 and Southern Region (69 Exchange Areas) changes to New NPA
- 3b - Split LIR 04 entirely in the North - Southern Region (69 Exchange Areas) retains NPA 450 and Northern Region (59 Exchange Areas) changes to New NPA

The Northern Region consists of the following 59 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|-----------------------|
| 1 | Berthierville | 21 | Mirabel-St-Augustin | 41 | St-Jean-de-Matha |
| 2 | Brownsburg | 22 | Mirabel-Ste-Scholastique | 42 | St-Jérôme |
| 3 | Chomedey | 23 | Morin Heights | 43 | St-Lin |
| 4 | Côteau-du-Lac | 24 | Oka | 44 | St-Michel-des-Saints |
| 5 | Côteau-Landing | 25 | Ormstown | 45 | St-Polycarpe |
| 6 | Crabtree | 26 | Pont-Viau | 46 | St-Sauveur |
| 7 | Franklin Centre | 27 | Rawdon | 47 | St-Vincent-de-Paul |
| 8 | Hudson | 28 | Rigaud | 48 | St-Zénon |
| 9 | Huntingdon | 29 | Rivière Beaudette | 49 | Ste-Adèle |
| 10 | Joliette | 30 | Shawbridge | 50 | Ste-Anne-des-Plaines |
| 11 | L'Épiphanie-l'Assomption | 31 | St-Alphonse-de-Rodriguez | 51 | Ste-Julienne |
| 12 | Lachute | 32 | St-André-Est | 52 | Ste-Justine-de-Newton |
| 13 | Lanoraie | 33 | St-Barthélémy | 53 | Ste-Marguerite |
| 14 | Laval-Est | 34 | St-Calixte-de-Kilkenny | 54 | Ste-Marthe |
| 15 | Laval-Ouest | 35 | St-Clet | 55 | Ste-Rose |
| 16 | Lavaltrie | 36 | St-Eustache | 56 | Ste-Thérèse |
| 17 | Le Gardeur | 37 | St-Félix-de-Valois | 57 | Terrebonne |
| 18 | Les Cèdres | 38 | St-Gabriel-de-Brandon | 58 | Valleyfield |
| 19 | Mascouche | 39 | St-Hippolyte | 59 | Vaudreuil |
| 20 | Mirabel-Aéroport | 40 | St-Jacques | | |

The Southern Region consists of the following 69 Exchange Areas:

| | | | | | |
|----|---------------|----|--------------------------|----|------------------------|
| 1 | Actonvale | 24 | Lawrenceville | 47 | St-Marc |
| 2 | Baie-du-Fèvre | 25 | Longueuil | 48 | St-Ours |
| 3 | Beauharnois | 26 | Mansonville | 49 | St-Paul-d'Abbottsford |
| 4 | Bedford | 27 | Marieville | 50 | St-Pie |
| 5 | Beloeil | 28 | Napierville | 51 | St-Pie-de-Guire |
| 6 | Boucherville | 29 | Notre-Dame-de-Stanbridge | 52 | St-Rémi |
| 7 | Bromont | 30 | Pierreville | 53 | Ste-Rosalie |
| 8 | Chambly | 31 | Roxton Falls | 54 | St-Simon |
| 9 | Chateauguay | 32 | Sorel | 55 | St-Thomas-d'Aquin |
| 10 | Clarenceville | 33 | St-Aimé | 56 | St-Zépherin |
| 11 | Contrecoeur | 34 | St-Blaise | 57 | Ste-Hélène-de-Bagot |
| 12 | Cowansville | 35 | St-Bruno | 58 | Ste-Julie-de-Verchères |
| 13 | Dunham | 36 | St-Césaire | 59 | Ste-Madeleine |
| 14 | Eastman | 37 | St-Chrysostôme | 60 | Ste-Martine |
| 15 | Farnham | 38 | St-Constant | 61 | Ste-Victoire |
| 16 | Frelighsburg | 39 | St-Damase | 62 | Sutton |
| 17 | Granby | 40 | St-Denis | 63 | Upton |
| 18 | Hemmingford | 41 | St-Hughes | 64 | Valcourt |
| 19 | Henryville | 42 | St-Hyacinthe | 65 | Varenes |
| 20 | Howick | 43 | St-Jean | 66 | Venise-en-Québec |
| 21 | Knowlton | 44 | St-Jude | 67 | Verchères |
| 22 | Lacolle | 45 | St-Lambert | 68 | Waterloo |
| 23 | Laprairie | 46 | St-Liboire | 69 | Yamaska |

In these two geographic split options (Plans 3a and 3b), the 59 Exchange Areas would be included in one NPA and the remaining 69 Exchange Areas would be included in the other NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| Area | Number of Exchange Areas in Split regions | Assigned CO Codes in NPA 450 (2008-11-10) | |
|---|---|---|-------------------------|
| | | % of Total NPA 450 CO Codes | Qty of NPA 450 CO Codes |
| 450 North – (Exchange Areas in Northern Region) | 59 | 49% | 310 |
| 450 South – (Exchange Areas in Southern Region) | 69 | 51% | 329 |

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

Split Options 4a and 4b – LIR 16 (Sorel Region) Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North

Split 4 is a modification of Split 2. In Split 4 LIR 16 (Sorel Region) as well as Independent LIRs 07 & 08 & the Independent Exchange of Baie-du-Fèvre are included in the Northern region.

- 4a - Split LIR 16 (Sorel Region) as well as Independent LIRs 07 & 08 & the Independent Exchange of Baie-du-Fèvre are included in the Northern region – Northern Region (60 Exchange Areas) retains NPA 450 and Southern Region (68 Exchange Areas) changes to New NPA
- 4b - Split LIR 16 (Sorel Region) as well as Independent LIRs 07 & 08 & the Independent Exchange of Baie-du-Fèvre are included in the Northern region - Southern Region (68 Exchange Areas) retains NPA 450 and Northern Region (60 Exchange Areas) changes to New NPA

The Northern Region consists of the following 60 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|----------------------|
| 1 | Baie-du-Fèvre | 21 | Pierreville | 41 | St-Lin |
| 2 | Berthierville | 22 | Pont-Viau | 42 | St-Michel-des-Saints |
| 3 | Brownsburg | 23 | Rawdon | 43 | St-Ours |
| 4 | Chomedey | 24 | Shawbridge | 44 | St-Pie-de-Guire |
| 5 | Contrecoeur | 25 | Sorel | 45 | St-Sauveur |
| 6 | Crabtree | 26 | St-Aimé | 46 | St-Simon |
| 7 | Joliette | 27 | St-Alphonse-de-Rodriguez | 47 | St-Thomas-d'Aquin |
| 8 | L'Épiphanie-l'Assomption | 28 | St-André-Est | 48 | St-Vincent-de-Paul |
| 9 | Lachute | 29 | St-Barthélémy | 49 | St-Zénon |
| 10 | Lanoraie | 30 | St-Calixte-de-Kilkenny | 50 | St-Zéphérin |
| 11 | Laval-Est | 31 | St-Denis | 51 | Ste-Adèle |
| 12 | Laval-Ouest | 32 | St-Eustache | 52 | Ste-Anne-des-Plaines |
| 13 | Lavaltrie | 33 | St-Félix-de-Valois | 53 | Ste-Hélène-de-Bagot |
| 14 | Le Gardeur | 34 | St-Gabriel-de-Brandon | 54 | Ste-Julienne |
| 15 | Mascouche | 35 | St-Hippolyte | 55 | Ste-Marguerite |
| 16 | Mirabel-Aéroport | 36 | St-Hughes | 56 | Ste-Rose |
| 17 | Mirabel-St-Augustin | 37 | St-Jacques | 57 | Ste-Thérèse |
| 18 | Mirabel-Ste-Scholastique | 38 | St-Jean-de-Matha | 58 | Ste-Victoire |
| 19 | Morin Heights | 39 | St-Jérôme | 59 | Terrebonne |
| 20 | Oka | 40 | St-Jude | 60 | Yamaska |

The Southern Region consists of the following 68 Exchange Areas:

| | | | | | |
|----|-----------------|----|--------------------------|----|------------------------|
| 1 | Actonvale | 24 | Knowlton | 47 | St-Lambert |
| 2 | Beauharnois | 25 | Lacolle | 48 | St-Liboire |
| 3 | Bedford | 26 | Laprairie | 49 | St-Marc |
| 4 | Beloeil | 27 | Lawrenceville | 50 | St-Paul-d'Abbottsford |
| 5 | Boucherville | 28 | Les Cèdres | 51 | St-Pie |
| 6 | Bromont | 29 | Longueuil | 52 | St-Polycarpe |
| 7 | Chambly | 30 | Mansonville | 53 | St-Rémi |
| 8 | Chateauguay | 31 | Marieville | 54 | Ste-Rosalie |
| 9 | Clarenceville | 32 | Napierville | 55 | Ste-Julie-de-Verchères |
| 10 | Côteau-du-Lac | 33 | Notre-Dame-de-Stanbridge | 56 | Ste-Justine-de-Newton |
| 11 | Côteau-Landing | 34 | Ormstown | 57 | Ste-Madeleine |
| 12 | Cowansville | 35 | Rigaud | 58 | Ste-Marthe |
| 13 | Dunham | 36 | Rivière Beaudette | 59 | Ste-Martine |
| 14 | Eastman | 37 | Roxton Falls | 60 | Sutton |
| 15 | Farnham | 38 | St-Blaise | 61 | Upton |
| 16 | Franklin Centre | 39 | St-Bruno | 62 | Valcourt |
| 17 | Frelighsburg | 40 | St-Césaire | 63 | Valleyfield |
| 18 | Granby | 41 | St-Chrysostôme | 64 | Varennes |
| 19 | Hemmingford | 42 | St-Clet | 65 | Vaudreuil |
| 20 | Henryville | 43 | St-Constant | 66 | Venise-en-Québec |
| 21 | Howick | 44 | St-Damase | 67 | Verchères |
| 22 | Hudson | 45 | St-Hyacinthe | 68 | Waterloo |
| 23 | Huntingdon | 46 | St-Jean | | |

In these two geographic split options (Plans 4a and 4b), the 60 Exchange Areas would be included in one NPA and the remaining 68 Exchange Areas would be included in the other NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| <i>Area</i> | <i>Number of Exchange Areas in Split regions</i> | <i>Assigned CO Codes in NPA 450 (2008-11-10)</i> | |
|---|--|--|--------------------------------|
| | | <i>% of Total NPA 450 CO Codes</i> | <i>Qty of NPA 450 CO Codes</i> |
| 450 North – (Exchange Areas in Northern Region) | 60 | 48% | 306 |
| 450 South – (Exchange Areas in Southern Region) | 68 | 52% | 333 |

With these two options (Plans 4a and 4b), number changes would be required in either region (as defined above).

Split Options 5a and 5b – East West split with LIR 13 (Terrebonne – 2 Exchange Areas) in West

Split 5 is an East West split with LIR 13 (Terrebonne – 2 Exchange Areas) in the West.

- 5a - Split East West with LIR 13 (Terrebonne – 2 Exchange Areas) in the West – Eastern Region (56 Exchange Areas) retains NPA 450 and Western Region (72 Exchange Areas) changes to New NPA
- 5b - Split East West with LIR 13 (Terrebonne – 2 Exchange Areas) in the West - Western Region (72 Exchange Areas) retains NPA 450 and Eastern Region (56 Exchange Areas) changes to New NPA

The Eastern Region consists of the following 56 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|-----------------------|
| 1 | Actonvale | 20 | Pierreville | 39 | St-Ours |
| 2 | Baie-du-Fèvre | 21 | Rawdon | 40 | St-Paul-d'Abbottsford |
| 3 | Berthierville | 22 | Roxton Falls | 41 | St-Pie |
| 4 | Bromont | 23 | Sorel | 42 | St-Pie-de-Guire |
| 5 | Contrecoeur | 24 | St-Aimé | 43 | Ste-Rosalie |
| 6 | Cowansville | 25 | St-Alphonse-de-Rodriguez | 44 | St-Simon |
| 7 | Crabtree | 26 | St-Barthélémy | 45 | St-Thomas-d'Aquin |
| 8 | Dunham | 27 | St-Césaire | 46 | St-Zénon |
| 9 | Eastman | 28 | St-Damase | 47 | St-Zépherin |
| 10 | Frelighsburg | 29 | St-Denis | 48 | Ste-Hélène-de-Bagot |
| 11 | Granby | 30 | St-Félix-de-Valois | 49 | Ste-Julienne |
| 12 | Joliette | 31 | St-Gabriel-de-Brandon | 50 | Ste-Madeleine |
| 13 | Knowlton | 32 | St-Hughes | 51 | Ste-Victoire |
| 14 | L'Épiphanie-l'Assomption | 33 | St-Hyacinthe | 52 | Sutton |
| 15 | Lanoraie | 34 | St-Jacques | 53 | Upton |
| 16 | Lavaltrie | 35 | St-Jean-de-Matha | 54 | Valcourt |
| 17 | Lawrenceville | 36 | St-Jude | 55 | Waterloo |
| 18 | Le Gardeur | 37 | St-Liboire | 56 | Yamaska |
| 19 | Mansonville | 38 | St-Michel-des-Saints | | |

The Western Region consists of the following 72 Exchange Areas:

| | | | | | |
|----|-----------------|----|--------------------------|----|------------------------|
| 1 | Beauharnois | 25 | Longueuil | 49 | St-Jean |
| 2 | Bedford | 26 | Marieville | 50 | St-Jérôme |
| 3 | Beloeil | 27 | Mascouche | 51 | St-Lambert |
| 4 | Boucherville | 28 | Mirabel-Aéroport | 52 | St-Lin |
| 5 | Brownsburg | 29 | Mirabel-St-Augustin | 53 | St-Marc |
| 6 | Chambly | 30 | Mirabel-Ste-Scholastique | 54 | St-Polycarpe |
| 7 | Chateauguay | 31 | Morin Heights | 55 | St-Rémi |
| 8 | Chomedey | 32 | Napierville | 56 | St-Sauveur |
| 9 | Clarenceville | 33 | Notre-Dame-de-Stanbridge | 57 | St-Vincent-de-Paul |
| 10 | Côteau-du-Lac | 34 | Oka | 58 | Ste-Adèle |
| 11 | Côteau-Landing | 35 | Ormstown | 59 | Ste-Anne-des-Plaines |
| 12 | Farnham | 36 | Pont-Viau | 60 | Ste-Julie-de-Verchères |
| 13 | Franklin Centre | 37 | Rigaud | 61 | Ste-Justine-de-Newton |
| 14 | Hemmingford | 38 | Rivière Beaudette | 62 | Ste-Marguerite |
| 15 | Henryville | 39 | Shawbridge | 63 | Ste-Marthe |
| 16 | Howick | 40 | St-André-Est | 64 | Ste-Martine |
| 17 | Hudson | 41 | St-Blaise | 65 | Ste-Rose |
| 18 | Huntingdon | 42 | St-Bruno | 66 | Ste-Thérèse |
| 19 | Lachute | 43 | St-Calixte-de-Kilkenny | 67 | Terrebonne |
| 20 | Lacolle | 44 | St-Chrysostôme | 68 | Valleyfield |
| 21 | Laprairie | 45 | St-Clet | 69 | Varenes |
| 22 | Laval-Est | 46 | St-Constant | 70 | Vaudreuil |
| 23 | Laval-Ouest | 47 | St-Eustache | 71 | Venise-en-Québec |
| 24 | Les Cèdres | 48 | St-Hippolyte | 72 | Verchères |

In these two geographic split options (Plans 5a and 5b), the 56 Exchange Areas would be included in one NPA and the remaining 72 Exchange Areas would be included in the other NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| Area | Number of Exchange Areas in Split regions | Assigned CO Codes in NPA 450 (2008-11-10) | |
|---|---|---|-------------------------|
| | | % of Total NPA 450 CO Codes | Qty of NPA 450 CO Codes |
| 450 East – (Exchange Areas in Eastern Region) | 56 | 33% | 214 |
| 450 West – (Exchange Areas in Western Region) | 72 | 67% | 425 |

With these two options (Plans 5a and 5b); number changes would be required in either region (as defined above).

Split Options 6a and 6b – East West split with LIR 13 (Terrebonne – 2 Exchange Areas) in East

Split 6 is an East West split with LIR 13 (Terrebonne – 2 Exchange Areas) in the East.

- 6a - Split East West with LIR 13 (Terrebonne – 2 Exchange Areas) in the East – Eastern Region (58 Exchange Areas) retains NPA 450 and Western Region (70 Exchange Areas) changes to New NPA
- 6b - Split East West with LIR 13 (Terrebonne – 2 Exchange Areas) in the East - Western Region (70 Exchange Areas) retains NPA 450 and Eastern Region (58 Exchange Areas) changes to New NPA

The Eastern Region consists of the following 58 Exchange Areas:

| | | | | | |
|----|--------------------------|----|--------------------------|----|-----------------------|
| 1 | Actonvale | 21 | Pierreville | 41 | St-Paul-d'Abbottsford |
| 2 | Baie-du-Fèvre | 22 | Rawdon | 42 | St-Pie |
| 3 | Berthierville | 23 | Roxton Falls | 43 | St-Pie-de-Guire |
| 4 | Bromont | 24 | Sorel | 44 | Ste-Rosalie |
| 5 | Contrecoeur | 25 | St-Aimé | 45 | St-Simon |
| 6 | Cowansville | 26 | St-Alphonse-de-Rodriguez | 46 | St-Thomas-d'Aquin |
| 7 | Crabtree | 27 | St-Barthélémy | 47 | St-Zénon |
| 8 | Dunham | 28 | St-Césaire | 48 | St-Zépherin |
| 9 | Eastman | 29 | St-Damase | 49 | Ste-Hélène-de-Bagot |
| 10 | Frelighsburg | 30 | St-Denis | 50 | Ste-Julienne |
| 11 | Granby | 31 | St-Félix-de-Valois | 51 | Ste-Madeleine |
| 12 | Joliette | 32 | St-Gabriel-de-Brandon | 52 | Ste-Victoire |
| 13 | Knowlton | 33 | St-Hughes | 53 | Sutton |
| 14 | L'Épiphanie-l'Assomption | 34 | St-Hyacinthe | 54 | Terrebonne |
| 15 | Lanoraie | 35 | St-Jacques | 55 | Upton |
| 16 | Lavaltrie | 36 | St-Jean-de-Matha | 56 | Valcourt |
| 17 | Lawrenceville | 37 | St-Jude | 57 | Waterloo |
| 18 | Le Gardeur | 38 | St-Liboire | 58 | Yamaska |
| 19 | Mansonville | 39 | St-Michel-des-Saints | | |
| 20 | Mascouche | 40 | St-Ours | | |

The Western Region consists of the following 70 Exchange Areas:

| | | | | | |
|----|-----------------|----|--------------------------|----|------------------------|
| 1 | Beauharnois | 25 | Longueuil | 49 | St-Jérôme |
| 2 | Bedford | 26 | Marieville | 50 | St-Lambert |
| 3 | Beloeil | 27 | Mirabel-Aéroport | 51 | St-Lin |
| 4 | Boucherville | 28 | Mirabel-St-Augustin | 52 | St-Marc |
| 5 | Brownsburg | 29 | Mirabel-Ste-Scholastique | 53 | St-Polycarpe |
| 6 | Chambly | 30 | Morin Heights | 54 | St-Rémi |
| 7 | Chateauguay | 31 | Napierville | 55 | St-Sauveur |
| 8 | Chomedey | 32 | Notre-Dame-de-Stanbridge | 56 | St-Vincent-de-Paul |
| 9 | Clarenceville | 33 | Oka | 57 | Ste-Adèle |
| 10 | Côteau-du-Lac | 34 | Ormstown | 58 | Ste-Anne-des-Plaines |
| 11 | Côteau-Landing | 35 | Pont-Viau | 59 | Ste-Julie-de-Verchères |
| 12 | Farnham | 36 | Rigaud | 60 | Ste-Justine-de-Newton |
| 13 | Franklin Centre | 37 | Rivière Beaudette | 61 | Ste-Marguerite |
| 14 | Hemmingford | 38 | Shawbridge | 62 | Ste-Marthe |
| 15 | Henryville | 39 | St-André-Est | 63 | Ste-Martine |
| 16 | Howick | 40 | St-Blaise | 64 | Ste-Rose |
| 17 | Hudson | 41 | St-Bruno | 65 | Ste-Thérèse |
| 18 | Huntingdon | 42 | St-Calixte-de-Kilkenny | 66 | Valleyfield |
| 19 | Lachute | 43 | St-Chrysostôme | 67 | Varenes |
| 20 | Lacolle | 44 | St-Clet | 68 | Vaudreuil |
| 21 | Laprairie | 45 | St-Constant | 69 | Venise-en-Québec |
| 22 | Laval-Est | 46 | St-Eustache | 70 | Verchères |
| 23 | Laval-Ouest | 47 | St-Hippolyte | | |
| 24 | Les Cèdres | 48 | St-Jean | | |

The difference between the split options 5 and 6 East/West splits is LIR 13 (Terrebonne) the two Exchange Areas that make up LIR 13. LIR 13 is located to the NE of the island of Montreal. There is no easily described boundary from a consumers' point of view. The boundary is based entirely upon LIRs.

In these two geographic split options (Plans 6a and 6b), the 58 Exchange Areas are included in one NPA and the remaining 70 Exchange Areas are included in the second NPA.

With these options, the Exchange Areas and NPA 450 assigned CO Codes would split as follows:

| Area | Number of Exchange Areas in Split regions | Assigned CO Codes in NPA 450 (2008-11-10) | |
|---|---|---|-------------------------|
| | | % of Total NPA 450 CO Codes | Qty of NPA 450 CO Codes |
| 450 East – (Exchange Areas in Eastern Region) | 58 | 36% | 232 |
| 450 West – (Exchange Areas in Western Region) | 70 | 64% | 407 |

With these two options (Plans 6a and 6b), number changes would be required in either region (as defined above).

6.1.1. Plans 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b: Splits

Description:

Detailed descriptions of the split plans 1a through 6b listed below are provided in section 6.1 above.

If a split plan is implemented, future exhausts of area code 450 and the new area code would be expected to occur as follows:

| <u>Plan</u> | | <u>Future Exhausts</u> | |
|-------------|--|------------------------|----------------|
| | | <u>NPA 450</u> | <u>New NPA</u> |
| 1a | St Lawrence River as the boundary (North retains NPA 450) | 2053 | 2047 |
| 1b | St Lawrence River as the boundary (South retains NPA 450) | 2047 | 2053 |
| 2a | St Lawrence and Ottawa Rivers as the boundary (North retains NPA 450) | 2062 | 2040 |
| 2b | St Lawrence and Ottawa Rivers as the boundary (South retains NPA 450) | 2040 | 2062 |
| 3a | St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (North retains NPA 450) | 2047 | 2055 |
| 3b | St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (South retains NPA 450) | 2055 | 2047 |
| 4a | LIR 16 (Sorel Region) Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (North retains NPA 450) | 2051 | 2049 |
| 4b | LIR 16 (Sorel Region) Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (South retains NPA 450) | 2049 | 2051 |
| 5a | East-West split , LIR 13 (Terrebonne – 2 Exchange Areas) in West (East retains NPA 450) | 2053 | 2045 |
| 5b | East-West split, LIR 13 (Terrebonne – 2 Exchange Areas) in West (West retains NPA 450) | 2045 | 2053 |
| 6a | East-West Split, LIR 13 (Terrebonne – 2 Exchange Areas) in East (East retains NPA 450) | 2051 | 2048 |
| 6b | East-West Split, LIR 13 (Terrebonne – 2 Exchange Areas) in East (West retains NPA 450) | 2048 | 2051 |

Assessment:

The RPC does not recommend any of these Split Relief Options. There would be insufficient time to implement any of them as split options require a minimum of two years to implement. In addition, between 33% and 67% of the people (based on the percentage of CO Codes in each part of the NPA being split) 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. A split would provide little or no benefit since customers and Carriers have previously changed to mandatory 10-digit local dialling. A change back to 7-digit local dialling would also be inconsistent with the industry migration towards the Uniform Dialling Plan (i.e., 10-digit local and toll dialling). 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. One drawback of the split options is that the number of separate Relief Planning areas in Québec would be increased to five (5) compared to the four (4) for the Distributed Overlay and three (3) for the Boundary Extension Overlay option. The use of a new NPA in a split configuration for the geographic area served by NPA 450 would be an inefficient use of numbering resources compared to an overlay option because it would require two new NPAs to be implemented in subsequent relief projects between 2040 and 2062 versus one subsequent relief project in 2028 for a Boundary Extension Overlay or 2050 for a Distributed Overlay (i.e., 3 new NPAs versus 2).

6.2 NPA Boundary Extension Overlay

One Relief Option was evaluated using the Boundary Extension Overlay method of providing NPA relief.

6.2.1 Plan 7: NPA 438 Boundary Extension Overlay

Description:

Currently, NPA 450 and 438 are expected to exhaust in the years 2010 and 2043 respectively. The PED for NPA 438 is based on the January 2008 G-NRUF results. This Relief Option would extend the boundaries of NPA 438 to include all the 128 Exchange Areas comprising NPA 450. NPA 450 resources will not be assigned to the 6 exchanges in the current NPA 514/438 area.

This Relief Option would reduce the number of separate Relief Planning areas in Québec from four (4) to three (3).

After the Boundary Extension Overlay, the NPA 450 and the 438 NPA would be expected to exhaust in 2010 and 2028 respectively.

Assessment:

The RPC views this option as a viable relief option and preferable to all of the split options because it would not require telephone number changes that would inconvenience customers and would cost Carriers and customers less to implement than splits. Overlays are more convenient than Splits for customers and are less expensive for business customers as they would not be required to change their advertising, stationery, etc. as there are no number changes required. Costs for TSPs would be lower for an overlay due to the avoidance of the need to reprogram wireless telephones, and lower costs to change office support and billing systems, etc.

One advantage of the Boundary Extension Overlay option is that the number of separate Relief Planning areas in Québec would be reduced to three (3) compared to four (4) for the Distributed Overlay and five (5) for the split options. The use of existing NPA 438 in a Boundary Extension Overlay of the geographic area served by NPA 450 would be an efficient use of numbering resources compared to the Distributed Overlay option because it would not require a new NPA to be implemented at this time. This option does not change the boundaries of NPA 450. In addition, this Boundary Extension Overlay option may cost carriers and customers less to

implement than a new Distributed Overlay NPA since a new NPA will not have to be entered into many systems and tables. With the Boundary Extension Overlay of NPA 250 by NPA 778, the costs incurred by the Incumbent LEC (ILEC), TELUS, were lower than the costs that would have been incurred with a Distributed Overlay. On the other hand, the wireless company associated with the ILEC, TELUS Mobility, would have preferred a Distributed Overlay primarily because of the wireless company's lower costs to implement and maintain a Distributed Overlay as a new NPA would have had the same boundary as the existing NPA. Therefore, some Carriers prefer the Boundary Extension Overlay option while some other Carriers prefer the Distributed Overlay option. Implementing a boundary change for NPA 438 would eliminate the need for Carriers to make customers in the 450/514 region aware of the existence of new NPA 579 and its boundaries; however it would require Carriers to make customers in the 450/514 region aware of the expanded boundary of NPA 438. Also since the length of time available for implementation of relief for NPA 450 is short and NPA 438 is already recognized by Carriers operating in the rest of the North American Numbering Plan Area, the incidence of errors due to the relief NPA not being implemented in customer and Carrier networks will be less than if a completely new NPA were to be introduced. One drawback of the Boundary Extension Overlay option is that it reduces the PED of NPA Code 438 from 2043 to 2028, thus requiring subsequent relief in the 438/450/514 region in about 2026 (relief is generally implemented about 12 to 18 months prior to exhaust), compared to 2041 for NPA 438/514 and about 2048 for NPA 450/579.

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 8: Distributed Overlay of New NPA on NPA 450

Description:

This Relief Option would introduce a new area code to overlay area code 450.

Area code 450 and the new area code would be expected to exhaust in 2010 and 2050 respectively.

Assessment:

The RPC views this option as a viable relief option and preferable to all of the split options because it would not require telephone number changes that would inconvenience customers and would cost Carriers and customers less to implement than splits. Overlays are more convenient than splits for customers and are less expensive for business customers as they would not be required to change their advertising, stationery, etc. as there are no number changes required. Costs for TSPs would be lower for an overlay due to the avoidance of need to reprogram wireless telephones, and lower costs to change office support and billing systems, etc.

Based on experience with the boundary expansion of NPA 778 to cover all of area codes 604 and 250 in British Columbia, it is possible that the ILEC's costs of implementing a Distributed

Overlay of a new NPA on NPA 450 could be greater than the costs of implementing a Boundary Extension Overlay. In addition, this particular Distributed Overlay option would retain the existing boundaries of the NPA 450 area, and provide a longer time frame (40 years versus 18 years for the boundary extension option) before relief would be required again in this region. Drawbacks of the Distributed Overlay option are that the number of separate Relief Planning areas in Québec would remain as four (4), compared to three (3) for the Boundary Extension Overlay and five (5) for the split options, and the next new NPA to be assigned in the 450/514 region will be in 2009 rather than 2027 for the Boundary Extension Overlay. Implementing new NPA 579 would eliminate the need for Carriers to make customers in the 450/514 region aware of the existence of a boundary change for NPA 438; however it would require Carriers to make customers in the 450/514 region aware of the new NPA 579 serving the NPA 450 area.

7. SUMMARY OF RELIEF OPTIONS

The following table summarizes the Relief Options, Projected Exhaust Dates, Relief Timing and Type, and Impacts:

| Plan | | Projected Exhaust Dates | | Relief - Timing & Type | | Qty & % of NPA 450 CO Codes affected by Number. Changes* | Local Dial # of digits |
|------|---|-------------------------|---------|---|-------------|--|------------------------|
| # | Description | NPA 450 | New NPA | Relief Date | Type | | |
| 1a | Split - St Lawrence River as the boundary (North retains NPA 450) | 2010 2053 | 2047 | 2010 (450) 2051 (450) 2045 (new NPA) | S ? ? | 350 / 55% ? ? | 10 ? ? |
| 1b | Split - St Lawrence River as the boundary (South retains NPA 450) | 2010 2047 | 2053 | 2010 (450) 2045 (450) 2051 (new NPA) | S ? ? | 289 / 45% ? ? | 10 ? ? |
| 2a | Split - St Lawrence and Ottawa Rivers as the boundary (North retains NPA 450) | 2010 2062 | 2040 | 2010 (450) 2060 (450) 2038 (new NPA) | S ? ? | 384 / 60% ? ? | 10 ? ? |
| 2b | Split - St Lawrence and Ottawa Rivers as the boundary (South retains NPA 450) | 2010 2040 | 2062 | 2010 (450) 2038 (450) 2060 (new NPA) | S ? ? | 255 / 40% ? ? | 10 ? ? |
| 3a | Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (North retains NPA 450) | 2010 2047 | 2055 | 2010 (450) 2045 (450) 2053 (new NPA) | S ? ? | 392 / 51% ? ? | 10 ? ? |
| 3b | Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (South retains NPA 450) | 2010 2055 | 2047 | 2010 (450) 2053 (450) 2045 (new NPA) | S ? ? | 310 / 49% ? ? | 10 ? ? |
| 4a | Split – LIR 16 (Sorel Region), Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (North retains NPA 450) | 2010 2051 | 2049 | 2010 (450) 2049 (450) 2047 (new NPA) | S ? ? | 333 / 52% ? ? | 10 ? ? |
| 4b | Split – LIR 16 (Sorel Region), Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (South retains NPA 450) | 2010 2049 | 2051 | 2010 (450) 2047 (450) 2049 (new NPA) | S ? ? | 306 / 48% ? ? | 10 ? ? |
| 5a | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (East retains NPA 450) | 2010 2053 | 2045 | 2010 (450) 2051 (450) 2043 (new NPA) | S ? ? | 425 / 67% ? ? | 10 ? ? |

| Plan | | Projected Exhaust Dates | | Relief - Timing & Type | | Qty & % of NPA 450 CO Codes affected by Number. Changes* | Local Dial # of digits |
|------|--|-------------------------|-------------------|---|-------------|--|------------------------|
| # | Description | NPA 450 | New NPA | Relief Date | Type | | |
| 5b | East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (West retains NPA 450) | 2010 2045 | 2053 | 2010 (450) 2043 (450) 2051 (new NPA) | S ? ? | 214 / 33% ? ? | 10 ? ? |
| 6a | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (East retains NPA 450) | 2010 2051 | 2048 | 2010 (450) 2049 (450) 2046 (new NPA) | S ? ? | 407 / 64% ? ? | 10 |
| 6b | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (West retains NPA 450) | 2010 2048 | 2051 | 2010 (450) 2046 (450) 2049 (new NPA) | S ? ? | 232 / 36% ? ? | 10 |
| 7 | NPA 438 Boundary Extension Overlay | 2010 2028 | 2028 ¹ | 2010 (450) 2026 (438/450/514) | O(BE) O | Nil Nil | 10 10 |
| 8 | Distributed Overlay of New NPA on NPA 450 | 2010 | 2050 | 2010 (450) 2048 (450/new NPA) | O(D) O | Nil Nil | 10 10 |
| Key | 10 = mandatory 10-digit local dialling, O(BE) = Boundary Extension Overlay, O(D) = Distributed Overlay, S = Split. ? = Unknown (population affected by number changes, subsequent relief type and dial plan) * As of 10 November 2008 1 Numbering resources in the geographic region served by NPA 438 (i.e., the combined area served by NPAs 450 and 514) are projected to exhaust in 2028. However, the PED for NPA 438 for the geographic region served by NPA 514 only is 2043 based on the January 2008 G-NRUF. | | | | | | |

8. COMPARATIVE ASSESSMENT OF RELIEF OPTIONS

The CNA identified 14 Relief Options in section 6 of this document. 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 relief NPAs required in NPA 450 within the next 20 years, including the current relief project (P = 0 relief NPAs; N = 1 relief NPA; C = 2 or more relief NPAs)
- B. NPA Code Conservation – quantity of new NPA assignments required for NPA 450 within the next 15 years, including the current relief project (P = 0 new NPAs; N = 1 new NPAs; C = 2 or more new NPAs)
- C. Number of separate Relief Planning areas in Québec in the long term after this relief project is completed (P = decrease; N = stays same; C = increase)
- D. Quantity of Number Changes for existing customers' numbers (none = P, many = C)
- E. Level of Carrier Costs – e.g., including implementation, customer awareness, rate of return (P = Low; N = Medium; C = High)
- F. Time required to implement relief, i.e., time between the CRTC's Decision date and the date when CO Codes in the new/relief NPA can be activated (shortest = P, medium = N, longest = C)
- G. Longevity – the length of time between this relief and subsequent relief activity in NPA 450 (e.g., a new area code) (P = 20 or more years; N = 9 through 19 years; C = within 8 years)
- H. Geographic Identity – NPA boundaries align with boundaries of known areas (e.g., existing NPA areas, provinces) or identifiable geographical features (e.g., rivers, islands) (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 15 years (1 NPA = P, 2 NPAs = N, 3 NPAs = C)
- K. Does the option set the potential direction for future reliefs in NPA 450? (P = Yes; C = No)
- L. Potential for customer confusion (e.g., caused by boundary, number and dialling plan changes) (P = Low Confusion; N = Medium Confusion; C = High Confusion)

| Relief Option | | Ratings by attributes | | | | | | | | | | | | Overall |
|---------------|--|-----------------------|---|---|---|---|---|---|---|---|---|---|---|---------------|
| # | Description | A | B | C | D | E | F | G | H | I | J | K | L | SCORE |
| 1a | Split - St Lawrence River as the boundary (North retains NPA 450) | N | N | C | C | C | C | P | N | C | P | C | C | -5 |
| 1b | Split - St Lawrence River as the boundary (South retains NPA 450) | N | N | C | C | C | C | P | N | C | P | C | C | -5 |
| 2a | Split - St Lawrence and Ottawa Rivers as the boundary (North retains NPA 450) | N | N | C | C | C | C | P | N | C | P | C | C | -5 |
| 2b | Split - St Lawrence and Ottawa Rivers as the boundary (South retains NPA 450) | N | N | C | C | C | C | P | N | C | P | C | C | -5 |
| 3a | Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (North retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 3b | Split - St Lawrence and Ottawa Rivers as the boundary, LIR 04 in North (South retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 4a | Split – LIR 16 (Sorel Region) Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (North retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 4b | Split – LIR 16 (Sorel Region) Independent LIRs 07 & 08, & the Independent Exchange of Baie-du-Fèvre in North (South retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 5a | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (East retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 5b | East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in West (West retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 6a | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (East retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 6b | Split - East West Split – LIR 13 (Terrebonne – 2 Exchange Areas) in East (West retains NPA 450) | N | N | C | C | C | C | P | C | C | P | C | C | -6 |
| 7 | NPA 438 Boundary Extension Overlay | C | P | P | P | P | P | N | N | P | N | P | N | 6 Max / 3 Min |
| | | C | P | P | P | N | N | N | C | P | N | P | N | |
| 8 | Distributed Overlay of New NPA on NPA 450 | N | N | N | P | P | P | P | P | P | N | P | P | 8 Max / 6 Min |
| | | N | N | N | P | N | N | P | P | P | N | P | P | |

Note: Relief Options 7 and 8 have two different overall scores reflecting differing opinions amongst the RPC participants.

If P, N and C are assigned a weighting of +1, 0 and -1, respectively, then analysis of the above table gives the highest ratings to the two Overlay Plans 7 and 8 and a significantly lower rating to the twelve split options. The two Overlay Plans 7 and 8 are clearly superior to the split options when assessed using the above criteria.

The RPC recommends that one of the two overlay options, Plan 7 - NPA 438 Boundary Extension Overlay, and Plan 8 - Distributed Overlay of New NPA on NPA 450 should be used as the relief method for NPA 450.

Some RPC participants (Bell Canada and Bell Mobility) prefer Plan 7 - NPA 438 Boundary Extension Overlay as the overlay method since the use of an existing NPA rather than a new assignment may reduce some Carriers' and some customers' costs and time to implement relief, would reduce the number of planning areas in Québec, and allow a new NPA assignment to be deferred until 2026. This relief method is consistent with the previous relief method used in NPA 250.

Some RPC participants (TELUS including TELUS Mobility, Québecor on behalf of Videotron, Rogers Communications Inc. (Rogers Telecom, Rogers Wireless, Fido) and Cogeco Cable,) prefer Plan 8 - Distributed Overlay of New NPA on NPA 450 as the overlay method since the use of a new NPA rather than an extension of an existing NPA may reduce some Carriers' costs and customer confusion would be low since this option would not change any existing NPA boundaries, and would delay subsequent reliefs for NPAs 450 and 514/438 to 2050 and 2043 respectively. This relief method is consistent with the previous relief methods used in NPAs 514 and 418.

With respect to the implementation timeframe, the RPC recognizes that:

- 1) Bell Canada indicates it will require a minimum of 15 months, and preferably a longer time period, from the date of a CRTC Decision to implement an overlay of NPA 450 using either one of the two overlay methods identified above (i.e., a new Distributed Overlay or Boundary Extension Overlay). This is the minimum timeframe needed by Bell Canada to allocate funding and staff resources, form a project team, and implement network and information systems changes for an overlay.
- 2) TELUS indicates that it will require an approximately similar timeframe as Bell Canada.
- 3) Rogers indicates that it will require less than 15 months for network implementation, and notes that consumer awareness activities may take a longer interval than its network implementation.

9. DIALLING IMPACTS FOR LOCAL CALLS

None of the Relief Options considered in this document would change the local dialling plans in area code 450 or in adjacent area codes.

Currently 10-digit dialling has been mandatory since October 2006 for local calls originating within area code 450, and for local calls originating in adjacent area codes and terminating in area code 450.

The mandatory 10-digit local dialling that exists between some Exchange Areas in NPA 450 and some Exchange Areas in adjacent NPAs 438/514, 343/613 and 819 is listed in the table below.

Toll call dialling arrangements for NPA 450 will not be impacted by NPA relief.

| NPA 450 Exchange Areas | Neighbouring NPA | Exchange Area in Neighbouring NPA |
|-------------------------------|-------------------------|---|
| Actonvale | 819 | South Durham, St-Nazaire-d'Acton |
| Baie-du-Fèvre | 819 | Drummondville, Nicolet, Trois Rivières |
| Beauharnois | 438/514 | Montréal |
| Bedford | 438/514 | Montréal |
| Beloil | 438/514 | Montréal |
| Boucherville | 438/514 | Montréal |
| Chambly | 438/514 | Montréal |
| Châteauguay | 438/514 | Lachine, Montréal, Pointe-Claire |
| Chomedey | 438/514 | Lachine, Montréal, Roxboro |
| Clarenceville | 438/514 | Montréal |
| Contrecoeur | 438/514 | Montréal |
| Eastman | 819 | Deauville, Magog, Sherbrooke |
| Franklin Centre | 438/514 | Montréal |
| Hemmingford | 438/514 | Montréal |
| Howick | 438/514 | Montréal |
| Hudson | 438/514 | Île-Perrot, Montréal, Pointe-Claire, Roxboro, Ste-Geneviève |
| L'Épiphanie-l'Assomption | 438/514 | Montréal |
| Lachute | 819 | Grenville |
| | 438/514 | Montréal |
| Lacolle | 438/514 | Montréal |
| Laprairie | 438/514 | Lachine, Montréal |
| Laval-Est | 438/514 | Lachine, Montréal |
| Laval-Ouest | 438/514 | Lachine, Montréal, Roxboro, Ste-Geneviève |
| Lavaltrie | 438/514 | Montréal |
| Lawrenceville | 819 | Magog, Sherbrooke |
| Le Gardeur | 438/514 | Montréal |
| Les Cèdres | 438/514 | Île-Perrot, Montréal |
| Longueuil | 438/514 | Montréal |
| Mansonville | 819 | Deauville, Magog, Sherbrooke |
| Marieville | 438/514 | Montréal |
| Mascouche | 438/514 | Montréal |
| Mirabel-Aéroport | 438/514 | Lachine, Montréal, Pointe-Claire, Roxboro, Ste-Geneviève |

| NPA 450 Exchange Areas | Neighbouring NPA | Exchange Area in Neighbouring NPA |
|-------------------------------|-------------------------|--|
| Mirabel-St-Augustin | 438/514 | Montréal |
| Mirabel-St-Scholastique | 438/514 | Montréal |
| Napierville | 438/514 | Montréal |
| Oka | 438/514 | Montréal |
| Pont-Viau | 438/514 | Lachine, Montréal |
| Rawdon | 438/514 | Montréal |
| Rigaud | 438/514 | Île-Perrot, Montréal, Roxboro, Ste-Geneviève |
| Rivière-Beaudette | 343/613 | Lancaster |
| Shawbridge | 438/514 | Montréal |
| St-André-Est | 438/514 | Montréal |
| St-Barthélémy | 819 | Maskinongé |
| St-Bruno | 438/514 | Montréal |
| St-Calixte-de-Kilkenny | 438/514 | Montréal |
| St-Chrysostôme | 438/514 | Montréal |
| St-Constant | 438/514 | Lachine, Montréal, Roxboro |
| St-Denis | 438/514 | Montréal |
| St-Eustache | 438/514 | Montréal |
| St-Hippolyte | 438/514 | Montréal |
| St-Hyacinthe | 819 | St-Nazaire-d'Acton |
| St-Jean | 438/514 | Montréal |
| St-Jérôme | 819 | Grenville |
| St-Lambert | 438/514 | Montréal |
| St-Lin | 438/514 | Montréal |
| St-Marc | 438/514 | Montréal |
| St-Ours | 438/514 | Montréal |
| St-Pie-du-Guire | 819 | Drummondville, St-Guillaume |
| St-Rémi | 438/514 | Montréal |
| St-Sauveur | 438/514 | Montréal |
| St-Vincent-de-Paul | 438/514 | Lachine, Montréal |
| St-Zéphirin | 819 | Drummondville, Nicolet |
| Ste-Anne-des-Plaines | 438/514 | Montréal |
| Ste-Hélène-de-Bagot | 819 | St-Nazaire-d'Acton |
| Ste-Julie-de-Verchères | 438/514 | Montréal |
| Ste-Julienne | 438/514 | Montréal |
| Ste-Madeleine | 438/514 | Montréal |
| Ste-Martine | 438/514 | Montréal |
| Ste-Rose | 438/514 | Lachine, Montréal |
| Ste-Thérèse | 438/514 | Montréal |
| Terrebonne | 438/514 | Montréal |
| Valcourt | 819 | Bromptonville, Sherbrooke |
| Varennes | 438/514 | Montréal |
| Vaudreuil | 438/514 | Île-Perrot, Lachine, Montréal, Pointe-Claire, Roxboro, Ste-Geneviève |
| Venise-en-Québec | 438/514 | Montréal |
| Verchères | 438/514 | Montréal |

10. CO CODES FOR INITIAL CODE ASSIGNMENTS AND CO CODES FOR INITIAL CODE ASSIGNMENTS FOR NEW ENTRANTS ONLY

Prior to NPA relief, a quantity of CO Codes in the exhausting NPA will typically be set aside per Telecom Decisions CRTC 2001-365 and 2008-89 (re: NPA 613 relief) as unavailable for assignment in order to ensure that some CO Codes in the exhausting NPA will be available for assignment to initial code applicants for a period of time following relief via an overlay.

In Telecom Public Notice 2008-17, the CRTC stated in item 7 that: "In developing its recommendations in the Planning Document, the 450 RPC is directed to set aside, at a minimum, 7 central office codes for initial code assignments and 10 central office codes for initial code assignments for new entrants only."

The CNA interprets this statement to mean that these codes should be set aside immediately and not be made available for assignment until the Commission approves a relief method.

If the CRTC-approved relief method is an overlay, then all 17 set aside CO Codes would only become available for initial code assignments for new entrants only and initial code assignments when the general pool of assignable CO Codes exhausts or during the two year time period after implementation of the overlay.

If the CRTC-approved relief method is a split, the 17 set aside CO Codes would only become available for initial code assignments for new entrants only and initial code assignments when the general pool of assignable CO Codes exhausts. After implementation of the split, any remaining set aside CO Codes would be returned to the general pool of assignable CO Codes.

CRTC staff has advised the CNA that in a Jeopardy Condition, the 7 CO Codes set aside for initial code assignments would be made available for assignment prior to relief being implemented.

In conformance with the above directive and discussion, and since a Jeopardy Condition has been in effect since 10 November 2008, the RPC recommends that the CNA maintain the quantity of CO Codes set aside for initial code assignments as follows:

- 10 CO Codes set aside for initial code assignments to new entrants only
- no CO Codes set aside for initial code assignments to applicants in general
- the 10 CO Codes set aside for initial code assignments to new entrants only shall be available for assignment as initial codes for new entrants for activation on or after the relief date
- any of the CO Codes that were set aside for initial code assignments to new entrants only that remain unassigned two years after relief via an overlay shall be returned to the general assignment pool
- a new entrant is an entity who at the time of its first request for assignment of CO Codes in an NPA does not provide any telecommunications service in the NPA and does not hold any CO Codes in the NPA
- in the event that a split is approved, all CO Codes set aside for initial code assignments shall be returned to the general assignment pool on the Relief Date.

11. JEOPARDY CONTINGENCY PLAN (JCP)

The RPC has developed the following JCP for inclusion in the PD for NPA 450, based on recent JCPs submitted by other RPCs and changes currently being proposed for the Canadian NPA Relief Planning Guidelines.

This JCP shall remain in effect until either the Jeopardy Condition is suspended or 66 days before the Relief Date. A CO Code Applicant needing to activate a CO Code in the minimum amount of time (i.e., 66 days) can obtain a CO Code from the post-relief inventory by applying 66 days prior to the Relief Date.

During a Jeopardy Condition, CO Code Applicants shall submit all CO Code applications and related correspondence for the Jeopardy NPA to CRTC staff in addition to the CNA. The CNA shall only assign CO Codes from the exhausting NPA to a CO Code Applicant upon approval of CRTC staff.

The following measures shall be implemented by the CNA and all CO Code Holders in NPA 450 when this JCP is approved by the CRTC and while a Jeopardy Condition is in effect.

- 1) CO Code Holders:
 - a) shall age disconnected residential telephone numbers for a maximum of two months;
 - b) shall age disconnected wireless telephone numbers for a maximum of three months;
 - c) shall 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) shall 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) 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) shall not allow the quantity of reserved numbers to 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) shall, within 45 days from the date that the CNA declares a Jeopardy Condition, submit a Part 1 Form for each remaining reserved CO Code either returning the reserved CO Code to the CNA or requesting assignment of the reserved CO Code. Once the 45-day period has elapsed, the CNA shall make available for general assignment all CO Codes that are still reserved and have not been

- applied for as assignments on a Part 1 Form received by the CNA. Within 60 days from the date that the CNA declares a Jeopardy Condition, 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) shall not be permitted to obtain a new CO Code reservation;
 - i) shall place all CO Codes assigned prior to the Jeopardy Condition being declared 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. If the CO Code is an Initial Code and the CO Code Holder can demonstrate that, due to circumstances beyond its control, the In-Service date has been delayed beyond the applicable timeframe, then the CNA may grant an extension of up to two months to the In-Service date. The CNA shall initiate reclamation procedures for all CO Codes that have not been placed In-Service within these timeframes;
- 2) 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 CO Code Holder can demonstrate that, due to circumstances beyond its control, the In-Service date has been delayed not more than six months from the original application date, 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 has been delayed more than six months from the original application date, then the CNA shall reclaim the Code.
- 3) When applying for an Additional Code for Growth, a CO Code Holder who is submitting a Part 1 form and an Appendix B worksheet shall also submit a completed Supplementary form for a Growth CO Code Application (attached) which certifies and/or provides the following information for the specific for the switching entity/POI and Exchange Area when the Growth CO Code is being requested in a Jeopardy Condition:
- a) certification that all held telephone numbers have been released;
 - b) certification that reserved numbers do not exceed ten percent of the total quantity of numbers as defined in Appendix G of the Canadian CO Code (NXX) Assignment Guidelines;
 - c) certification that each reseller/dealer had been advised of the Jeopardy Condition and the requirement that they would only be allocated additional numbers during the Jeopardy Condition on the provision to the CO Code Holder of written confirmation that their number inventory has been reduced to an amount less than two times the highest quantity of customer numbers assigned in any month during the previous 12 months. Additional numbering resources will only be provided by the CO Code Holder to the reseller/dealer to the extent that the reseller's/dealer's inventory can only increase up to a maximum of three months' inventory;
 - d) confirmation that the Part 1 form submitted with the application has the Jeopardy Condition box in section 1.6 checked to certify that the existing CO Codes are projected to exhaust within 4 months of the date of application or within the period specified within an approved JCP, and that the Months-to-Exhaust is documented on an Appendix B submitted to the CNA;

- e) a completed Telephone Number Utilization Report;
 - f) confirmation that the requested Growth CO Code was forecasted in the most recent NRUF, or an explanation as to why it was not is attached; and,
 - g) confirmation that the requested Growth CO Code will be placed In-Service within four months of the date of assignment.
- 4) Any Growth CO Codes assigned after the implementation of this JCP must be activated in the network and placed In-Service within four months of assignment. In the event that a CO Code Holder is unable to place the CO Code In-Service within four months of the date of assignment, 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 unless CRTC staff approves a further extension.
- 5) A Telecommunications Service Provider (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.
- 6) 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 TSP. If the CNA is dissatisfied with the reasonableness, or the rationale provided for the deviations, then the matter will be referred to the Commission.
- 7) The CNA will request subsequent J-NRUF input from all current and prospective 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 TSP. 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) A CO Code Applicant must have submitted a completed J-NRUF to the CNA before the CNA may assign a CO Code to that CO Code Applicant.
- 9) When a CO Code Applicant requests more CO Codes than it identified in its most recent J-NRUF forecast, the CNA will discuss the matter with the CO Code Applicant, and if the CO Code Applicant wishes to proceed with the request, the CNA will forward the request to CRTC staff for consideration.
- 10) The CO Codes identified in the NPA CO Code Inventory Chart as "CO Codes unassignable prior to a Jeopardy Condition that become assignable 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 11 February 2009" have been assigned.

- 11) After each J-NRUF, the CNA shall provide the Commission 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.
- 12) In order that New Entrants might be assured of receiving CO Codes in the exhausting NPA during a Jeopardy Condition, the 10 CO Codes in NPA 450 that have been set aside for initial code assignments for New Entrants only for activation following relief via an overlay shall be made available for initial code assignments for New Entrants only for activation prior to relief if no CO Codes are available from the general assignment pool.
- 13) Exceptional issues or concerns may be referred by the CNA, or by individual entities (with a courtesy copy to the CNA), to the Commission for resolution.
- 14) In a situation where the Relief Date is on or after the PED, the quantity of CO Codes that may be assigned to a CO Code Applicant prior to the end of the Jeopardy Condition (e.g., 66 days prior to the Relief Date) shall be limited to the quantity forecasted by the CO Code Applicant in its most recent NRUF forecast submitted prior to the Jeopardy Condition being declared by the CNA (if no previous NRUF was submitted, then the previous forecast will be deemed to be zero codes). When making requests to obtain CO Codes prior to the end of the Jeopardy Condition, the CO 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 PED to after the Relief Date. CO Codes that become available for assignment due to future reduced demand from other current and prospective CO Code Holders may be assigned at the discretion of CRTC staff.
- 15) 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.).

Supplementary form for a Growth CO Code Application – Page 1 of 2

This form is required with each request for an Additional Code for Growth in an NPA where a Jeopardy Condition is in effect. It should be submitted to the CNA together with the Part 1 and Appendix B forms that are required for an application for an Additional Code for Growth. See the Part 1 form for information on how and where to submit the form.

I hereby certify that the following information is true and accurate to the best of my knowledge and has been prepared in accordance with Special Conservation Procedures for a Jeopardy Condition contained in the Canadian Relief Planning Guidelines or the applicable approved Jeopardy Contingency Plan.

Signature of Authorized Representative of Code Holder

Title

Date

Contact information: Entity Name: _____ Contact Name: _____
 Address: _____ City, Province, Postal Code: _____
 Telephone: _____ Facsimile: _____
 E-mail: _____

Switch Identification (Switching Entity/POI) CLLI: _____ **Exchange Area:** _____

For the above Switch Identification and Exchange Area for which a Growth CO code is requested:

- I certify that all held telephone numbers have been released
- I certify the total quantity of reserved numbers does not exceed 10% of the total quantity of telephone numbers as defined in Appendix G of the Canadian CO Code (NXX) Assignment Guidelines
- I certify that each reseller/dealer has been advised of the Jeopardy Condition and the requirement that they would only be allocated additional numbers during the Jeopardy Condition on the provision to the CO Code Holder of written confirmation that their number inventory has been reduced to an amount less than two times the highest quantity of customer numbers assigned in any month during the previous 12 months. Additional numbering resources will only be provided by the CO Code Holder to the reseller/dealer to the extent that the reseller's/dealer's inventory can only increase up to a maximum of three months' inventory.
- the Part 1 form submitted with the application has the Jeopardy Condition box in section 6 checked (this certifies that the existing CO Codes are projected to exhaust within 4 months of the date of the application or within the period specified in an approved Jeopardy Contingency Plan, and that the months-to-exhaust is documented on an Appendix B submitted to the CNA)
- the Telephone Number Utilization Report on the page 2 of this form has been completed

- the requested Growth CO Code was forecasted in the most recent NRUF, or an explanation as to why it was not is attached.
- the requested Growth CO Code will be placed In-Service within four months of the date of assignment

NPA 450 CO Code Inventory Chart

The following chart and the instructions it contains will apply in NPA 450 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 450 assigned and In-Service as of 11 February 2009. For an Overlay option it identifies 53 CO Codes that are unassignable prior to a Jeopardy Condition, 25 of which become assignable in a Jeopardy Condition. For a Split option it identifies 46 CO Codes that are unassignable prior to a Jeopardy Condition, 18 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.

| | | Overlay | Split |
|----------|---|----------------|--------------|
| A | Total CO Codes in an NPA (NXX format) | 800 | 800 |
| B | CO Codes unassignable prior to a Jeopardy Condition | | |
| | N11 Service Codes (211, 311, 411, 511, 611, 711, 811, 911) | 8 | 8 |
| | Special Use Codes (555 & 950) | 2 | 2 |
| | Protected Code(s) | 0 | 0 |
| | Home NPA Code(s) (450) | 1 | 1 |
| | Current Neighbouring NPA Codes (514, 819, 343) (CO Codes 438 & 613 are assigned in NPA 450) | 3 | 3 |
| | Future Canadian Geographic NPA Codes (Note 1) | 18 | 18 |
| | Plant Test Codes (958 & 959) | 2 | 2 |
| | Special 7-digit Dialling Codes (610 & 810) | 2 | 2 |
| | CO Codes set aside for New Entrants only before the Relief Date | N/A | 10 |
| | CO Codes set aside for Initial Code assignments after relief via an overlay | 7 | N/A |
| | CO Codes set aside for Initial Code assignments for New Entrants only after relief via an overlay | 10 | N/A |
| | Subtotal | 53 | 46 |
| C | CO Codes assignable prior to a Jeopardy Condition (C=A-B) | 747 | 754 |
| D | CO Codes unassignable prior to a Jeopardy Condition that became assignable in a Jeopardy Condition: | | |
| | Future Canadian Geographic NPA Codes (Note 2) | 17 | 17 |
| | Current Neighbouring NPA Codes (assign 343 in the North Eastern portion of NPA 450 as far as possible from the Rivière-Beaudette EAS) | 1 | 1 |
| | CO Codes set aside for Initial Code assignments after relief via an overlay | 7 | N/A |
| | Subtotal | 25 | 18 |
| E | Assignable CO Codes in a Jeopardy Condition (E=C+D) | 772 | 754 |
| F | Assigned CO Codes as of 11 February 2009 | 646 | 646 |
| G | Net CO Codes available for assignment as of 11 February 2009 without a Jeopardy Condition (G=C-F) | 101 | 108 |
| H | Net CO Codes available for assignment as of 11 February 2009 in a Jeopardy Condition (H=E-F) | 126 | 126 |

Notes:

1. 16 out of a total of 34 Future Canadian Geographic NPA Codes are already assigned in NPA 450.
2. The following 18 Future Canadian Geographic NPA Codes are currently unavailable for assignment as CO Codes in NPA 450: 249, 257, 273, 354, 365, 367, 382, 387, 428, 487, 579, 639, 683, 851, 871, 873, 879, and 972. The following 17 Future Canadian Geographic NPA Codes should be made available for assignment as CO Codes in this NPA 450 in and after a Jeopardy Condition: 249, 257, 273, 354, 365, 367, 382, 387, 428, 487, 639, 683, 851, 871, 873, 879, and 972. (See Note 3 for disposition of NPA 579.)
3. The following 1 Future Canadian Geographic NPA should NOT be assigned as a CO Code in NPA 450 and the new NPA: 579. NPA 579 is the only NPA that is not assigned as a CO Code in any of the neighbouring NPAs and is therefore the best choice for an immediate Distributed Overlay or a future distributed overlay following a Boundary Extension Overlay.

12. SELECTION OF RELIEF NPA

In the event that the recommended relief option requires a new NPA Code, the criteria for selection of an appropriate area code for relief is addressed in section 4.6 of the Canadian NPA Relief Planning Guidelines. The criteria that should be taken into account when Future Canadian Geographic NPAs are being considered as candidates for relief of a specific current Canadian Geographic NPA include the following:

- a) The preferred Future Canadian Geographic NPA Code should not be an NPA Code that is assigned as a CO Code in the area that is being relieved (Home NPA(s)).
- b) The preferred Future Canadian Geographic NPA Code should not be an NPA Code that is assigned as a CO Code in another NPA within the same province where there is a possibility that a single new NPA Code could be overlaid on more than one NPA within the province, or where a boundary realignment could occur that affects another NPA.
- c) The preferred Future Canadian Geographic NPA Code should not be an NPA Code that is assigned as a CO Code in an Exchange Area in a neighbouring NPA, if the neighbouring NPA has 7-digit local calling within the NPA, and i) the Exchange Area in the neighbouring NPA where the CO Code is assigned has local calling to the NPA being relieved, or ii) the Exchange Area in the neighbouring NPA where the CO Code is assigned does not have local calling to the NPA being relieved, but other Exchange Areas within that neighbouring NPA have 7-digit local calling to the Exchange Area where the CO Code is assigned as well as local calling to the new NPA.

On the CNA web site there is an NPA Selection Tool that can assist in determining which of the NPA Codes that are currently available for assignment in Canada are most suitable for relief of an exhausting NPA. This NPA Selection Tool is located at:
http://www.cnac.ca/npa_codes/relief/overview.htm.

CO Code 579 is the only CO Code corresponding to a Future Canadian Geographic NPA Code that is not assigned in NPA 450 and any of its neighbouring NPAs 438/514, 613/343 and 819. It is therefore recommended that NPA Code 579 be assigned as the area code for the forthcoming relief of NPA 450 if the relief is a Split or Distributed Overlay, or be reserved for the subsequent relief of NPA 450/438/514 if the forthcoming relief of NPA 450 is a Boundary Extension Overlay using NPA 438.

See Annex B, Table 3 for details of the status in NPA 450 and adjacent NPAs of CO Codes that correspond to Future Canadian Geographic NPA Codes (extracted from NPA Selection Tool).

13. RECOMMENDATIONS

- 1) To ensure that the supply of CO Codes in NPA 450 is maximized and to extend the life of NPA 450 and the relief NPA as much as reasonably possible, the RPC recommends that 17 CO Codes corresponding to future Canadian Geographic NPAs that are currently designated as unavailable for assignment in NPA 450 (i.e., 249, 257, 273, 354, 365, 367, 382, 387, 428, 487, 639, 683, 851, 871, 873, 879, & 942) be made available for assignment at the time of CRTC approval of a split, Distributed Overlay or Boundary Extension Overlay, and in any new NPA when CO Codes become available for assignment in that NPA. Retaining these 17 CO Codes as unavailable for assignment would serve no useful purpose and would unnecessarily reduce the life of area code 450.
- 2) The revised PED be February 2011 based upon the deliberations of the RPC in section 5 of this report regarding the revised quantity of CO Codes available for assignment.
- 3) The Relief Date should be 23 October 2010 in order to provide Carriers and customers with advanced notification and sufficient lead-time to implement relief;
- 4) The relief method be an overlay – however, no consensus concerning the type of overlay was reached.

The following companies preferred the Distributed Overlay using NPA Code 579:

- TELUS including TELUS Mobility;
- Québecor on behalf of Videotron;
- Rogers Communications Inc. (Rogers Telecom, Rogers Wireless, Fido); and
- Cogeco Cable
- ACTQ
- Maskatel

The following companies preferred the Boundary Extension Overlay using existing NPA Code 438:

- Bell Canada including Bell Mobility

- 5) The RPC recommends that the Commission not suspend their deliberations concerning the Relief Implementation Method and Relief Date pending submission of the Relief Implementation Plan (RIP). The RIP including schedule, Consumer Awareness Plan and Network Implementation Plan, will be submitted at a later date for approval for implementation of relief for NPA 450.
- 6) Per the discussion in section 10 of this Planning Document, the RPC recommends that, since a Jeopardy Condition has been in effect since 10 November 2008, the CNA maintain the quantity of CO Codes set aside for initial code assignments as follows:
 - 10 CO Codes set aside for initial code assignments to new entrants only;
 - no CO Codes set aside for initial code assignments to applicants in general;

- the 10 CO Codes set aside for initial code assignments to new entrants only shall be available for assignment as initial codes for new entrants for activation on or after the relief date;
 - any of the CO Codes that were set aside for initial code assignments to new entrants only that remain unassigned two years after relief via an overlay shall be returned to the general assignment pool;
 - a new entrant is an entity who at the time of its first request for assignment of CO Codes in an NPA does not provide any telecommunications service in the NPA and does not hold any CO Codes in the NPA;
 - in the event that a split is approved, all CO Codes set aside for initial code assignments shall be returned to the general assignment pool on the Relief Date.
- 7) Per the discussion in section 12 of this Planning Document, the RPC recommends that NPA Code 579 be assigned as the area code for the forthcoming relief of NPA 450 if the relief is a Split or Distributed Overlay, or be reserved for the subsequent relief of NPA 450/438/514 if the forthcoming relief of NPA 450 is a Boundary Extension Overlay using NPA 438.

**NPA 450
PLANNING DOCUMENT
ANNEXES**