

NPA 289/905 RELIEF PLANNING COMMITTEE - TIF REPORT

Date Submitted: 7 December 2009

WORKING GROUP: NPA 289/905 Relief Planning Committee (Ad Hoc)

REPORT #: NPA 289/905 TIF Report 1 **File ID:** 289-905RE1A.doc

REPORT TITLE: Relief Planning Committee (RPC) Recommendation for the NPA 289/905 Planning Document and Relief Implementation Plan

OUTCOME: Consensus

RELATED TASK(s) #: None

BACKGROUND:

On 28 May 2009, the CRTC issued Telecom Notice of Consultation CRTC 2009-310 *Establishment of a CISC ad hoc committee for area code relief planning for area codes 289 and 905 in southern Ontario*, in which it established the CISC ad hoc Relief Planning Committee (RPC) for NPA 289/905.

The NPA 289/905 RPC developed the attached Planning Document (PD) which was prepared in accordance with the CRTC-approved Canadian NPA Relief Planning Guideline dated 2 June 2009. The purpose of the PD is to identify and assess NPA 289/905 Relief Options and to make recommendations to the CISC and CRTC for the preferred relief method for NPA 289/905.

Based on the assessment of Relief Options and other issues contained in the PD, the RPC submits the attached PD to the CISC and CRTC for approval. The PD contains various recommendations including but not limited to the following:

- 1) The Relief Option should be a distributed overlay of a new NPA Code on NPA 289/905 (option 4a);
- 2) NPA Code 365 should be used for the Relief NPA Code for NPA 289/905;
- 3) NPA Code 742 should be reserved for subsequent relief in the 365/289/905 region as the 289/905 region has been forecast in the latest R-NRUF (June 2009) to exhaust twice in the next 26 years;
- 4) The Relief Date should be 24 October 2015 in order to provide Carriers and customers with advance notification and sufficient lead-time to implement relief, which would be 12 months in advance of the current Projected Exhaust Date;
- 5) The local dialling plan should remain as 10 digits for all local calls originating within the NPA 289/905 area.

For additional details and recommendations see the PD.

On November 24, 2009 the NPA 289/905 Relief Planning Committee agreed that a Relief Implementation Plan (RIP) for area code 289/905 be submitted to the CISC and CRTC at the same time as the NPA 289/905 PD.

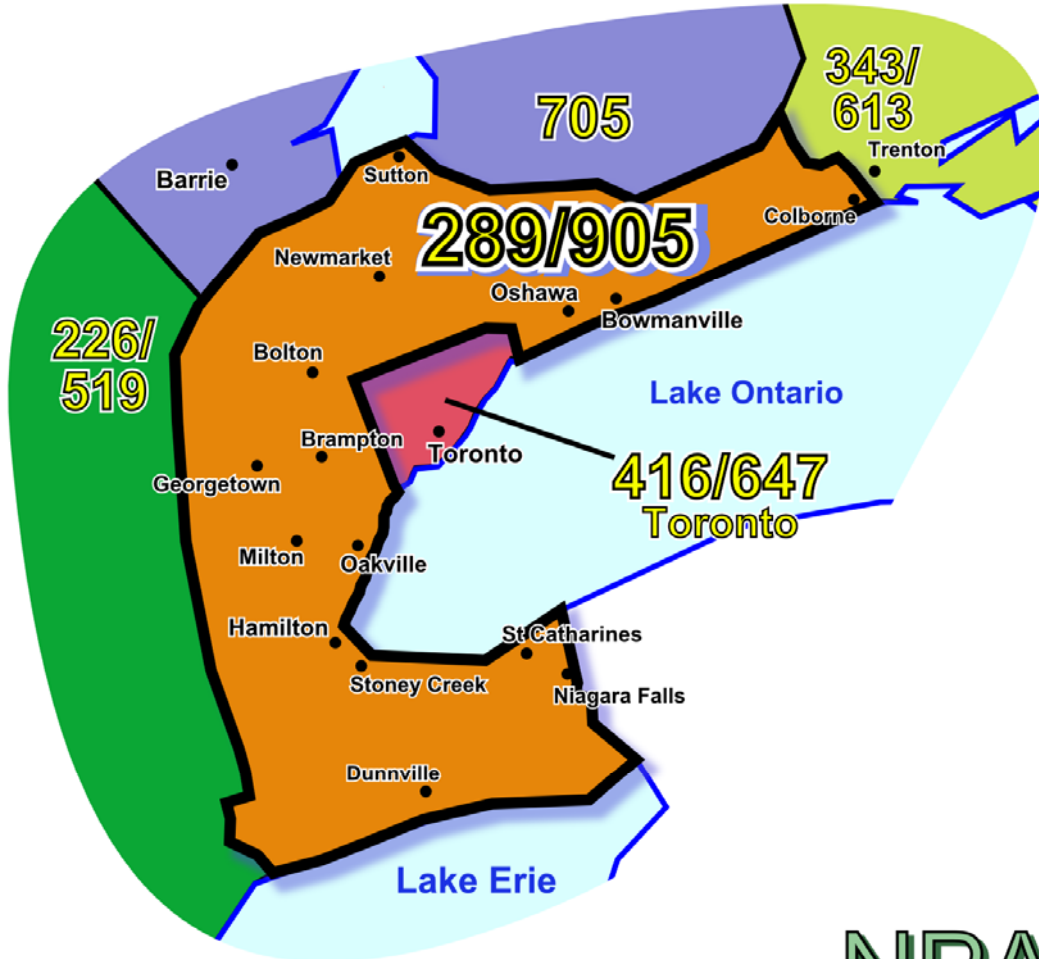
The attached RIP was prepared in accordance with the recommendations contained in the PD. The RIP establishes a public framework and timeframe for implementing relief for area code 289/905. This RIP also addresses the activities, deliverables, and issues impacting more than one individual TSP. It does not cover activities internal to each TSP. In addition, this RIP does not cover areas for which there is already an established process for coordination between TSPs to establish service (e.g., interconnection agreements between carriers).

RECOMMENDATIONS:

The NPA 289/905 RPC hereby recommends that the attached NPA 289/905 Planning Document and Relief Implementation Plan be approved by the CISC and CRTC.

ATTACHMENT:

NPA 289/905 Planning Document, dated 7 December 2009
NPA 289/905 Relief Implementation Plan, dated 7 December 2009



NPA 289/905 Relief Planning

Planning Document (PD)
Version 1.0 – December 7, 2009

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From Science to Solutions



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NPA 289/905 Planning Document (PD)

1. INTRODUCTION

The 289/905 Numbering Plan Area (NPA) consists of 94 Exchange Areas serving southern Ontario, and includes the major communities of Ajax-Pickering, Brampton, Burlington, Hamilton, Markham, Milton, Mississauga, Oakville, Oshawa, Richmond Hill, St. Catharines, and Whitby.

The majority of the projected growth in area codes 289 and 905 is spread over 14 Exchange Areas; in the remaining Exchange Areas there is little projected growth. The Exchange Areas growing the most are Ajax-Pickering, Aurora, Brampton, Burlington, Cooksville, Georgetown, Hamilton, Markham, Newmarket, Oakville, Oshawa, Richmond Hill, South Pickering and St. Catharines. See Annex C Table 1 for a list of Exchange Areas in NPA 289/905.

On 23 March 2009, the Canadian Numbering Administrator (CNA) announced that Number Plan Area (NPA) 289/905 had entered the relief planning window of 72 months according to the aggregate results from the 2009 General Numbering Resource Utilization Forecast (G-NRUF). The CNA advised the Canadian Radio-television and Telecommunications Commission (CRTC) and industry of this situation. At the Canadian Steering Committee on Numbering (CSCN) conference call held to review the draft aggregate 2009 G-NRUF results, the Bell Canada representative suggested, and the industry agreed, that planning for Ontario and Québec NPAs that are in the relief planning window (NPAs 705, 819 and 289/905) be accelerated so that decisions on the NPA Relief Methods and Codes could be issued by Q3 2009. This would allow Bell Canada, and other companies if they desire, to minimize costs through single IS/IT modification coincident with the NPAs 613 and 450 modifications. Subsequently agreement was reached by CSCN that the CNA should immediately request Relief Planning NRUFs (R-NRUFs) for NPAs 819 and 289/905.

On 28 May 2009, the CRTC issued Telecom Notice of Consultation CRTC 2009-310 *Establishment of a CISC ad hoc committee for area code relief planning for area codes 289 and 905 in southern Ontario*, by which it established the CISC ad hoc Relief Planning Committee (RPC) for NPA 289/905. The Notice of Consultation directed the RPC to set aside 7 CO Codes for initial code assignments for Carriers already providing service in area codes 289 and 905, and 15 CO Codes for initial code assignments for new entrants only.

The June 2009 NPA 289/905 R-NRUF results, when adjusted for the CO Codes set aside per Telecom Notice of Consultation CRTC 2009-310, indicated that NPA 289/905 would exhaust in October 2016.

The Initial Planning Document (IPD) was developed by the CNA in accordance with the CRTC-approved Canadian NPA Relief Planning Guideline (the Guideline) dated 2 June 2009. A copy of the Guideline is available from the CRTC CISC guidelines web page at <http://www.crtc.gc.ca/cisc/eng/cisf3fg.htm> or via a link from the CNA website at <http://www.cnac.ca/>.

The purpose of the IPD was to identify alternatives for providing relief in the NPA 289/905 geographic area. Based on the IPD, the NPA 289/905 RPC developed this Planning Document (PD) to assess the alternatives, modify or add to them if necessary, and to make recommendations for relief to be submitted to the CRTC.

The purpose of identifying Relief Options, and 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.

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 a new NPA.

It is very important to closely monitor the CO Code requirements of all existing and prospective CO Code Holders so that relief can be timed to ensure that CO Codes and telephone numbers are always available for service providers and customers.

NPA Relief Planning is conducted under the regulatory oversight of the CRTC in accordance with the Guideline. 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.

2. 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 Guideline (the Guideline), dated 2 June 2009. A copy of the Guideline is available from the CRTC CISC guidelines web page at <http://www.crtc.gc.ca/cisc/eng/cisf3fg.htm> or via a link from the CNA website at <http://www.cnac.ca/>.

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.

A copy of the CISC Administrative Guidelines can be obtained from the CRTC website at <http://www.crtc.gc.ca/public/cisc/c-docs/CISC2001-03-31.doc>

NPA Relief Planning is conducted under the regulatory oversight of the CRTC. Notwithstanding the process detailed in the Guideline, 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 by the RPC to the CRTC via the CISC process.

Section 6.1.6 of the Canadian NPA Relief Planning Guideline requires the CNA to create and maintain a distribution list of parties who may be interested in participating in the RPC and to provide them with advance notice of the initial RPC meeting and the IPD.

Any person wishing to participate in the NPA Relief Planning process can contact the CNA and request to be added to the RPC 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/info_sht/g4.htm.

Annex D contains a brief summary of Canadian geographic area code relief history and approved relief plans.

3. 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 (also known as area codes) may be assigned.

The following paragraphs provide descriptions and general attributes of the NPA Relief Methods that may be considered when the necessity for NPA relief is established. The following descriptions and general attributes are primarily extracts from the Canadian NPA Relief Planning Guideline. Information relating to the elimination of 7-digit local dialling has not been included since mandatory 10-digit local dialling is already in place in NPA 289/905. The NPA Relief Methods that may be considered are the Geographic Split, the Overlay (including the Distributed, Concentrated, and Boundary Extension), and the Boundary Realignment Relief Method.

3.1 Geographic Split

3.1.1 Description

Under the split method, the geographic area served by an existing NPA is divided or “split” into two or more unique geographic areas (i.e., new NPAs). One of the areas retains the existing NPA Code, and the other area or each of the other areas changes to a new unique NPA. The projected lives of all the areas following the split should be similar. The area with the largest quantity of customers usually retains the existing NPA Code in order to minimize the quantity of number changes.

Provided that new NPA boundaries created by a split do not divide Exchange Areas, the boundaries may be chosen to correspond to jurisdictional, natural or physical boundaries (e.g., county, municipality and city boundaries, rivers, major highways, etc.). Alternatively the boundaries may correspond to none of the above features but be chosen only so they do not divide Exchange Areas while meeting criteria such as the need for a balanced split, maintaining contiguous NPA areas, minimizing the quantity of Local Calling Areas (LCAs) that cross the new NPA boundaries, and aligning with general regional identities.

In order to facilitate the transition to the new NPA Code, a permissive dialling arrangement is established. During the Permissive Dialling Period, long distance calls and any local 10-digit local calls to numbers that are being changed to the new NPA Code may be dialled with either the old or new NPA Code. During the Permissive Dialling Period, when calls to numbers in the new NPA Code are dialled using the old NPA Code, all Carriers in the new NPA shall play a standard network announcement before completing the call in order to advise customers of the change of area code.

The length of the Permissive Dialling Period prior to the Mandatory Dialling date should be sufficient to permit callers and customers to adjust their dialling habits and for customers to reprogram their equipment and notify others of their number changes before the Mandatory Dialling Date. This is typically about four months.

The Permissive Dialling Period ends on the Mandatory Dialling Date, which is the date when callers must dial the new NPA Code in order to complete calls to the area where the NPA Code has changed.

At the end of the Permissive Dialling Period, calls that are dialled to CO Codes whose NPA has changed shall be intercepted and sent to a mandatory dialling announcement that informs the caller to hang up and redial using the new area code. The mandatory dialling announcement should be retained for a specified period of time with exceptions if the same CO Code is assigned in both NPA Codes. The “phasing-in” of the mandatory dialling announcement is not permitted.

Calls that are dialled using the new NPA Code before the start of the Permissive Dialling Period may be routed to a “pre-permissive recording” that advises the caller that the new area code is not effective until a specified future date, and to redial using the old area code.

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).

3.1.2 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 local dialling for a first-time overlay.*
- *It 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), large quantities of 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.*

- *All Mobile Directory Numbers (MDNs) in the portion of the existing NPA that takes the new NPA Code will change to the new NPA Code. This creates a problem for Wireless Carriers who require Mobile Identification Number (MIN) Block Identifiers (MBIs) to be associated with the Exchange Areas of the MDNs' corresponding CO Codes.*

3.2 Overlay

3.2.1 Description

Under the overlay method, a relief NPA Code is superimposed or “overlaid” on top of part or all of an existing NPA or NPAs. With overlays, changes to existing telephone numbers are not required.

Once an initial overlay has been introduced, subsequent reliefs will generally be provided using additional 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).

When an overlay relief NPA Code is activated, mandatory 10-digit dialling must be in place for all local calls originating within the area being relieved, which means that local calls dialled with 7 digits will not be completed. When mandatory 10-digit local dialling is in place it will apply equally to calls originating from numbers in the existing NPA Code(s) and from numbers in any new overlay NPA Code(s). This is a CRTC policy that provides competitive equity for the communications industry since all customers in the area will have to dial the same number of digits regardless of the NPA Code in which the calling or called parties' numbers are assigned.

In some NPAs where relief is to be provided by an overlay, mandatory 10-digit dialling will already be in place because it was previously implemented for an earlier overlay or other reasons. This simplifies relief implementation for Carriers, TSPs, customers and users as no dialling changes are required.

Under the distributed overlay method, a new NPA Code is overlaid on top of the entire NPA (i.e., geographic area) requiring relief. The following types of distributed overlay may be considered:

- a) *a distributed overlay over a single existing NPA served by a single NPA Code*

Under this method a new NPA Code is overlaid over a single existing NPA (i.e., the geographic area) that is served by a single NPA Code; e.g., NPA Code 438 implemented as a distributed overlay on the NPA (i.e., the geographic area) served by NPA Code 514.

- b) *a distributed overlay over a single existing NPA (i.e., the geographic area) served by multiple existing overlay NPA Codes*

Under this method, a new NPA Code would be assigned to overlay a single existing NPA (i.e., the geographic area) that is served by multiple existing overlay NPA Codes; e.g., potential future relief NPA Code implemented as distributed overlay on the NPA (i.e., the geographic area) served by NPA Codes 416 & 647 (Toronto).

- c) *a distributed overlay over multiple existing NPAs (i.e., different geographic areas) served by multiple NPA Codes*

Under this method, a new NPA Code is overlaid over multiple existing NPAs (i.e., different geographic areas served by multiple NPA Codes); e.g., NPA Code 587 implemented as a distributed overlay on the NPAs served by NPA Codes 403 (S. Alberta) and 780 (N. Alberta). This method may be considered where relief is required in two or more NPAs (i.e., geographic areas) within a province.

A Distributed Overlay option of type a) above for the relief of NPAs 289/905 is included in this IPD.

Under the concentrated overlay method, a new NPA Code is overlaid on top of part of the NPA (i.e., geographic area) requiring relief (e.g., NPA Code 778 was initially overlaid on part of the geographic area already served by NPA Code 604). A concentrated overlay 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, for example, a fast growing metropolitan area in an NPA that also contains a slowly growing rural area. The new NPA Code would be assigned to the section of the original NPA 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 NPA Code. In the area not covered by the new NPA Code(s), future needs for new CO Codes would be met by the assignment of CO Codes from the original NPA Code.

In order to ensure that sufficient CO Codes remain available for assignment from the original NPA Code to the section of the NPA that will not be covered by the new concentrated overlay NPA Code, relief using a concentrated overlay must be implemented sooner than relief using other overlay methods or a split. This may mean that there is insufficient time to implement a concentrated overlay, or, 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 NPA in order to ensure that sufficient CO Codes will be available for growth in the area outside the concentrated overlay.

When subsequent relief is required in the original NPA due to growth in the sections outside the concentrated overlay, this could be provided by expanding the geographic coverage area of the concentrated overlay NPA Code with a boundary extension overlay, or by a new concentrated overlay of the exhausting sections, or by another relief method.

It is possible to implement two or more relief NPA Codes at the same time using concentrated overlays each covering a different section of a single existing NPA. This would avoid the need to advance the Relief Date to ensure that sufficient CO Codes remain available for assignment outside the concentrated overlay, but it is less efficient than implementing the same two or more relief NPA Codes as distributed overlays on a single existing NPA, since the number of planning areas will increase, and the next relief will occur sooner with multiple concentrated overlays than it will with the same number of multiple distributed overlays. Multiple simultaneous overlays

should generally only be considered when the forecasted life for a single relief NPA Code is less than 72 months.

Under a boundary extension overlay method, the boundary of one NPA that has spare capacity is extended to overlay part or all of the coverage area of the exhausting NPA or NPAs. Unassigned CO Codes from the NPA Code(s) whose boundary is extended can be assigned within the overlay area of the exhausting NPA(s) as well as within the original coverage area. An appropriate use of boundary extension might be in a province consisting of two or more NPAs, where one NPA is exhausting and another has spare capacity (e.g., the NPA served by NPA Code 778, originally a concentrated overlay of part of the NPA served by NPA Code 604, was extended to cover all of the exhausting NPA served by NPA Code 250 as well as the rest of the NPA served by NPA Code 604, thereby creating a province-wide NPA over British Columbia).

This solution has the advantage of not requiring a new NPA Code. The lives of the NPA whose boundary is being extended and the NPA being relieved will be shorter than if a new NPA Code is introduced, however it uses NPA Code capacity more efficiently (e.g. may provide an opportunity to use spare capacity from an NPA Code that would otherwise not exhaust until the distant future), and it reduces the number of relief planning areas. The boundary extension overlay would not normally be used to create an NPA that overlays more than one province.

Under the multiple NPA overlay, a new NPA would be assigned to overlay multiple existing NPA or NPAs serving more than one specific geographic area.

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.

3.2.2 General Attributes

- *A frequently implemented method of NPA relief in recent years; the primary method used since 1999 for relief projects in Canada (e.g., 416/647, 289/905, 514/438, 519/226, 604/778, 581/418).*
- *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 concentrated; it must be implemented sooner than if the overlay is distributed, and it increases the number of areas for which future relief must be planned separately.*
- *If the overlay is of multiple NPAs, it reduces the number of areas for which future relief must be separately planned.*
- *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 may 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.*

3.3 Boundary Realignment

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

3.3.1 Description

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

3.3.2 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.*

4. NPA EXHAUST INFORMATION

As indicated in the following table, NRUFs for NPA 289/905 were used to determine Projected Exhaust Dates, i.e. the dates when CO Codes in NPA 289/905 would be expected to exhaust.

NRUF	Projected Exhaust Date
G-NRUF January 2007	March 2017
G-NRUF January 2008	August 2014
R-NRUF July 2008	August 2024
G-NRUF January 2009	May 2015
G – NRUF (Updated Jan 2009 due to change in Carriers' forecasts)	February 2014
R - NRUF June 2009, adjusted per Telecom Notice of Consultation CRTC 2009-310 directive to set aside 7 CO Codes for initial code assignments for carriers already providing service, and 15 for initial code assignments for new entrants)	October 2016

Refer to Annex A, Figures 3, 4, 5, and 6 for graphs of forecasted CO Codes and charts of Miscellaneous and LEC + WSP CO Codes in area codes 289/905.

5. RELIEF OPTIONS

The basic NPA relief methods described in section 3 of this IPD are the Geographic Split, the Overlay, and the Boundary Realignment.

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

- Geographic Split - 2 options (Plans 1a and 1b)
- Concentrated Overlay – 2 options (Plans 2a and 2b)
- Boundary Extension Overlay – 2 options (Plans 3a and 3b)
- Distributed Overlay - 3 options (Plans 4a, 4b, and 4c)

See Annex A, Figures 7 through 15 for diagrams of the Relief Options identified and examined by the RPC.

The Relief Options that are not examined in detail in this PD are:

- Boundary Realignment - not examined since growth is also occurring across adjacent NPAs, and Boundary Realignment is a short-term measure that would require NPA and CO Code changes for telephone numbers.
- Technology-specific overlay - not examined because assigning NPAs to specific types of technology has not been possible since number portability between technologies came into effect.
- A Distributed Overlay option which would also have provided relief to NPA 705 was described in detail in the IPD but is not examined in the PD since it was ruled out by Telecom Decision CRTC 2009-622 dated 6 October 2009 which ordered that NPA 705 be relieved by a distributed overlay of a new NPA on NPA 705 effective 11 March 2011. The CRTC decision has eliminated this plan as an option for relief of NPA 289/905.

5.1 Geographic Split

The geographic split method has never been used to provide relief to an area already served by overlay NPAs, however in order to ensure that this PD considers a wide range of Relief Options, two different Relief Options were evaluated in detail to introduce a new area code in the NPA 289/905 area using the geographic split method of providing NPA relief.

In NPA 289/905, the existence of two overlay NPAs serving one area means that a much larger number of geographic split options exist than would be the case in an area served by a single NPA Code. Approaches that could be considered include splitting NPA 289, splitting NPA 905, or splitting both NPAs 289 and 905. Annex B includes a description of 34 different geographical split options, two of which are examined in more detail in the following section.

With all geographic split options described for NPA 289/905, number changes are required. In areas that retain one existing NPA but not the other, approximately half the numbers change to a new NPA. In areas that retain neither existing NPA all numbers change to a new NPA, and up to half of the numbers would also have to change to a new CO Code. Selecting a split option for NPA Relief would impact from 40% to 60% of the customers with a number change.

A split usually allows existing 7-digit local dialling to be retained in both portions of the split area code after relief. This attribute does not apply in NPA 289/905 since 7-digit local dialling was eliminated in 2001 with the implementation of mandatory 10-digit local dialling.

After the split, local calls in the NPA 289/905 and NPA 905/New areas would continue to be dialled using 10-digits.

Split Options 1a and 1b – East West Split

With these options, NPA 289 would be split into NPA 289 and a new NPA, while NPA 905 would remain as an overlay covering NPA 289 and the new NPA, i.e. the same geographical coverage area for NPA 905 as currently exists.

1a - Split – East West Split – Eastern Region (58 Exchange Areas) retains NPAs 289 and remains in 905, and Western Region (36 Exchange Areas) remains in NPA 905 and telephone numbers in NPA 289 change to a new NPA

1b - Split – East West Split - Western Region (36 Exchange Areas) retains NPAs 289 and remains in 905, and Eastern Region (58 Exchange Areas) remains in NPA 905 and telephone numbers in NPA 289 change to a new NPA

In these two geographic split options (Plans 1a and 1b), 58 Exchange Areas are included in one NPA and the remaining 36 Exchange Areas are included in the other NPA. After the split each NPA area would each be served by two NPA Codes, one area being served by an overlay of NPAs 289 and 905 and the other by an overlay of NPA 905 and a New NPA.

With these options, the NPA 289 assigned CO Codes would split as follows:

Area	Forecasted CO Codes in NPA 289 (01-01-15)
	% of Total NPA 289 CO Codes
Eastern Region	343 codes - 52%
Western Region	311 codes - 48%

With these two options (Plans 1a and 1b); number changes would be required in one of the regions (as defined above).

As 10-digit local dialling is mandatory throughout NPA 289/905, there would be no requirement to implement CO Code Protection to address local dialling between these Eastern and Western regions.

5.1.1 Plan 1a: Split - East West Split of NPA 289, East retains NPA 289

Description:

The 58 Exchange Areas within the eastern region would retain NPAs 289 and remain within NPA 905. The 36 Exchange Areas in the western region would remain within NPA 905, and all numbers in NPA 289 in the western region would be changed to a new NPA. The area that would retain NPA 289 contains the rapidly growing Exchange Areas of Ajax-Pickering, Aurora, Brampton, Cooksville, Markham, Newmarket, Oakville, Oshawa, Richmond Hill, and South Pickering, while the new NPA would contain the rapidly growing Exchange Areas of Burlington, Georgetown, Hamilton, and St. Catharines. Using this option, customers in 311 CO Codes would be affected by a telephone number change to the new area code.

After the split is implemented in 2015, NPA 289/905 and the new NPA/905 would be expected to exhaust in 2033 and 2043 respectively.

5.1.2 Plan 1b: Split - East West Split of NPA 289, West retains NPA 289

Description:

The 36 Exchange Areas within the western region would retain NPAs 289 and remain within NPA 905. The 58 Exchange Areas in the eastern region would remain within NPA 905 and all numbers in NPA 289 in the eastern region would be reassigned a new NPA Code. The area that would retain NPAs 289 contains the rapidly growing Exchange Areas of Burlington, Georgetown, Hamilton, and St. Catharines, while the new NPA would contain the rapidly growing Exchange Areas of Ajax-Pickering, Aurora, Brampton, Cooksville, Markham, Newmarket, Oakville, Oshawa, Richmond Hill, and South Pickering. Using this option, customers in 343 CO Codes would be affected by a telephone number change to the new area code.

After the split is implemented in 2015, NPA 289/905 and the new NPA/NPA 905 would be expected to exhaust in 2043 and 2033 respectively.

Assessment of Split Plans 1a and 1b:

The RPC views the overlay options as preferable to the split options (1a, 1b and others in Annex B) and, in fact, does not view any of the split options as viable. Therefore, the RPC does not recommend any of the split options for consideration by the CRTC.

The RPC's rationale for not recommending any of the split options is based on the following assessment.

Customers in 48% to 52% of the assigned CO Codes in NPA 289 (24% to 26% of CO Codes in the NPA 289/905 area) would be affected by a telephone number change, which would be very inconvenient and confusing for those customers and would be significantly more expensive for business customers as they would be required to change their advertising, stationery, etc. In addition, under some of the other split options contained in Annex B, some customers would have to change their CO Code as well as their NPA Code, which would be even more disruptive than normal splits.

In addition, costs for all Carriers would be higher for a split due to the need to modify operational, network, customer, and billing support systems due to telephone number changes. Additional costs would also be incurred by Wireless Carriers to reprogram wireless telephones due to changes in telephone numbers and Mobile Identity Numbers.

NPA 289/905 already has mandatory 10-digit local dialling. As it would be impractical and costly for customers and Carriers to change the local dialling plan back to 7-digits, one of the perceived benefits of a split would not be obtainable.

One drawback of the split options is that the number of separate relief planning areas in Ontario would be increased to seven which is higher than some other options being considered and therefore would require more relief planning projects at additional cost in the future.

The use of a new NPA Code in a split configuration for the geographic area served by NPA 289/905 would be an inefficient use of numbering resources compared to the distributed overlay option 4a. It would require one new NPA Code in 2015 plus two new NPA Codes to be implemented in subsequent relief projects (in 2032 and 2042 under split options 1a and b (i.e. a total of three new NPA Codes). This compares to:

- a) two new NPA Codes in subsequent relief projects in 2017 and 2024 for the NPA 226 boundary extension overlay;
- b) two new NPA Codes in subsequent relief projects in 2015 and 2027 for the NPA 343 boundary extension overlay;
- c) two new NPA Codes in 2015 and 2038 for a distributed overlay of a new NPA Code on NPA 289/905;
- d) two new NPA Codes in 2015 and 2027 for a distributed overlay of a new NPA Code on Multiple NPA areas 289/905 and 416/647.

Split options may cause discrimination against some customers and Carriers in the area served by the new NPA Code since some customers and Carriers may operate only in the East and some customers and Carriers may operate only in the West of existing NPA 289/905. Customers and Carriers that will operate in the area changing to the new NPA Code would incur additional implementation costs while customers and Carriers that only operate in the area retaining the existing NPA Code would not have to incur such costs.

5.2 Concentrated Overlay

Two Relief Options were evaluated using the Concentrated Overlay method of providing NPA relief.

5.2.1 Plan 2a: Single Concentrated Overlay – Central Area

Description:

This option would introduce a new NPA to overlay 27 Exchanges Areas along Lake Ontario from Hamilton to Port Credit and from South Pickering to Oshawa, and north up to Newmarket and Georgetown. The remaining 67 Exchange Areas would continue to grow using the

remaining CO Codes available for assignment in NPAs 289/905. The area that would be overlaid contains the rapidly growing Exchange Areas of Ajax-Pickering, Aurora, Brampton, Burlington, Cooksville, Georgetown, Hamilton, Markham, Newmarket, Oakville, Oshawa, Richmond Hill, St. Catharines, and South Pickering.

The concentrated overlay option would have to be implemented in 2012 in order to provide a pool of CO Codes in the existing NPA Codes 289/905 for use outside the area to be served by the new concentrated overlay. After this concentrated overlay is implemented in 2012, the concentrated area NPA 289/905/New NPA and the rest of NPA 289/905 outside the concentrated overlay would be expected to exhaust in 2033 and 2046 respectively.

Assessment of Single Concentrated Overlay Plan 2a:

This concentrated overlay plan is impractical because it would have to be implemented in 2012, earlier than relief would be required for all other options. This would require customers and carriers to incur relief costs earlier than necessary.

Another drawback of this concentrated overlay plan is that the number of separate relief planning areas in Ontario would be increased to seven which is higher than some other options being considered and therefore would require more relief planning projects at additional cost in the future.

The use of a new NPA Code in a concentrated overlay configuration (option 2) for the geographic area served by NPA 289/905 would be an inefficient use of numbering resources compared to the distributed overlay option. It would require one new NPA Code in 2012 plus potentially two new NPA Codes to be implemented in subsequent relief projects (in 2038 and 2041). This compares to:

- a) two new NPA Codes in subsequent relief projects in 2015 and 2027 for the NPA 343 boundary extension overlay;
- b) two new NPA Codes in 2015 and 2038 for a distributed overlay of a new NPA Code on NPA 289/905;
- c) two new NPA Codes in 2015 and 2027 for a distributed overlay of a new NPA Code on Multiple NPA areas 289/905 and 416/647;
- d) three new NPA Codes in 2011, 2024 and 2035 for a distributed overlay of a new NPA Code on Multiple NPA areas 289/905 and 705.

Consequently, the RPC does not view this concentrated overlay plan as a practical or desirable solution and therefore does not recommend it for consideration or approval by the CRTC.

5.2.2 Plan 2b: Dual Concentrated Overlay – East West Areas

Description:

This option would introduce two new NPAs at the same time, one new NPA as an overlay on the western region of NPA 289/905 and the other new NPA as an overlay on the eastern region of NPA 289/905. The boundary between the two regions would be as defined by Split Plans 1a and 1b, with 36 Exchange Areas in the west and 58 in the east. The eastern region contains the rapidly growing Exchange Areas of Ajax-Pickering, Aurora, Brampton, Cooksville, Markham,

Newmarket, Oakville, Oshawa, Richmond Hill, and South Pickering, while the western region contains the rapidly growing Exchange Areas of Burlington, Georgetown, Hamilton, and St. Catharines.

After the dual concentrated overlay is implemented in 2015, the eastern region (289/905/new NPA 1) and the western region (289/905/new NPA 2) would be expected to exhaust in 2048 and 2055 respectively.

Assessment of Dual Concentrated Overlay Plan 2b:

Introducing two new NPAs simultaneously would provide the longest term relief of any of the options. Unlike Concentrated Overlay Plan 2a, relief planning does not need to be advanced in order to provide sufficient relief.

However, there are several drawbacks.

The most significant drawback is that two new NPAs would be required simultaneously in the NPA 289/905 region in 2015, which would be an inefficient use of numbering resources as compared to the distributed overlay or boundary extension overlay options, even though no additional NPAs would be required in the region until 2047 and 2054. In addition, the boundary between the two new NPAs is not well-defined and would be difficult to understand by Carriers and customers.

Another drawback of this concentrated overlay plan is that the number of separate relief planning areas in Ontario would be increased to seven which is higher than some other options being considered and therefore would require more relief planning projects at additional cost in the future.

5.3 Boundary Extension Overlay

Two Relief Options were evaluated using the boundary extension overlay method of providing NPA relief.

5.3.2 Plan 3a: NPA 226 Boundary Extension Overlay

Description:

Currently, NPA 289/905 and 226/519 are expected to exhaust in the years 2016 and 2019 respectively. This Relief Option would realign the boundaries of NPA 226 to include all 94 Exchange Areas comprising NPA 289/905. NPA 289/905 resources will not be assigned to the 210 Exchange Areas in the current NPA 226/519 area. NPA 519 resources would not be assigned in the 94 Exchange Areas in the current NPA 289/905 area. Local dialling in NPA 289/905 and NPAs 226/519 is currently 10-digit. After the boundary extension overlay, local calls in the NPA 226/289/519/905 areas would continue to require 10-digit dialling.

This Relief Option would reduce the number of separate Relief Planning areas in Ontario from six to five.

After this boundary extension overlay is implemented in 2015, NPA 226/289/519/905 would be expected to exhaust in 2018, with a subsequent exhaust in 2025.

5.3.2 Plan 3b: NPA 343 Boundary Extension Overlay

Description:

Currently, NPAs 289/905 and 343 are expected to exhaust in the years 2016 and 2036 respectively. This Relief Option would realign the boundaries of NPA 343 to include all 94 Exchange Areas comprising NPA 289/905 in addition to the 132 Exchange Areas in NPA 343/613 area. NPA 289/905 resources will not be assigned to the 132 Exchange Areas in the current NPA 343/613 area. NPA 613 resources would not be assigned in the 94 Exchange Areas in the current NPA 289/905 area. Local dialling in NPA 289/905 and NPAs 343/613 are currently 10-digit. After the boundary extension overlay, local calls in the NPA 289/343/613/905 areas would continue to require 10-digit dialling.

This Relief Option would reduce the number of separate Relief Planning areas in Ontario from six to five.

After this boundary extension overlay is implemented in 2015, NPA 343/289/613/905 would be expected to exhaust in 2026.

Assessment of Boundary Extension Overlay Plans 3a and 3b:

Unlike splits and a new distributed overlay, a boundary extension plan would not require a new NPA Code to be implemented at this time.

The use of existing NPAs 226 or 343 in a boundary extension overlay of the geographic area served by NPA Code 289/905 would be a more efficient use of numbering resources than any other option because NPAs 226 and 343 have CO Code resources that would otherwise not exhaust until 2018 and 2026 respectively.

Another advantage of the boundary extension overlay options is that the number of separate relief planning areas in Ontario would be reduced to five which is lower than some other options being considered. This would reduce the quantity of geographic areas that would require future relief planning activity.

However, the boundary extension overlays have some significant disadvantages.

A major drawback of the NPA 226 boundary extension overlay plan is that the boundary expansion of NPA 226 would cause NPA 226 to exhaust relatively soon in 2018 and require a new NPA to be implemented in the current NPA 226/519 region one year earlier than currently forecast while only providing about two extra years of life for the NPA 289/905 region (NPA 289/905/226 would exhaust in 2018, just two years later than the exhaust of NPA 289/905 in 2016). Such a plan therefore fails to satisfy the requirement identified in section 4.8 c of the Canadian NPA Relief Planning Guideline to provide a minimum life span of at least 8 years beyond the Projected Exhaust Date. Therefore the boundary extension of 226 is not acceptable and was rejected from further consideration.

In addition, the assignment of a relief NPA Code corresponding to an existing CO Code in one or more of NPAs 226/289/519/905, could create customer confusion and potentially require telephone number changes to avoid customers having telephone numbers where the CO Code is the same as the future relief NPA.

A major drawback of the NPA 343 boundary extension overlay option is that it would cause NPA Code 343 to exhaust in 2026 and require a new NPA to be implemented in the current NPA 343/613 region 17 years earlier (i.e., in 2025) than currently forecast (i.e., in 2042).

Boundary extension overlay options require that the boundary of NPAs 226 or 343 be changed, and this may cause customer confusion and resistance from Carriers.

Finally, costs for some Carriers would be higher for a boundary extension overlay than a distributed overlay due to the greater complexity of implementing and managing a boundary extension overlay over time.

Consequently, the RPC does not view the boundary extension overlay plans 3a and 3b as practical or desirable for providing relief and therefore does not recommend them for consideration and approval by the CRTC.

5.4 Distributed Overlay

Three Relief Options were evaluated to introduce a new area code using the distributed overlay method of providing NPA relief.

5.4.1 Plan 4a: Distributed Overlay of New NPA on NPA 289/905

Description:

This Relief Option would introduce a new NPA Code as a distributed overlay on the NPA 289/905 area.

The number of separate relief planning areas in Ontario would remain at six.

After this distributed overlay is implemented in 2015, NPA 289/905 and the new NPA would be expected to exhaust in 2036.

Assessment of a Distributed Overlay of a New NPA on NPA 289/905 Plan 4a:

A distributed overlay of a new NPA Code on NPA Code 289/905 would cost less for some Carriers to implement and manage in the future than all other Relief Options considered by the RPC.

Customer telephone number changes are not required, thus minimizing negative customer impacts.

Wireless communication devices do not have to be reprogrammed and therefore customers will not be inconvenienced by having to take their sets to their service providers for reprogramming and Carrier costs would not be incurred.

Costs for Carriers would be minimized with an overlay due to few changes being required for back-office support and billing systems.

With a distributed overlay on the NPA 289/905 region the existing NPA Code 289/905 boundary is maintained and no other existing NPA boundaries are changed, thus minimizing any customer confusion that may arise regarding NPA boundaries.

Long-term relief is provided as the new Projected Exhaust Date would be 2036.

Since 2000, relief activity in Canada has been provided through overlay methods and predominantly through distributed overlays. Consequently, the public and Carriers are most familiar with the distributed overlay Relief Method.

5.4.3 Plan 4b: Distributed Overlay of New NPA on Multiple NPAs 289/905 and 416/647

This Relief Option would introduce a new NPA Code as an overlay on multiple NPA areas 289/905 and 416/647. NPA 416/647 is expected to exhaust in the year 2020.

This distributed overlay option would retain the existing boundaries of the NPA 289/905 and 416/647 regions; however, it would create a new NPA covering both of these regions.

The number of separate relief planning areas in Ontario would be reduced to five.

After this distributed overlay is implemented in 2015, NPAs 289/905, 416/647, and the new NPA would be expected to exhaust in 2027.

Assessment of Distributed Overlay of New NPA on Multiple NPAs 289/905 and 416/647 **Plan 4b:**

One advantage of this Multiple NPA Overlay plan is that the number of separate relief planning areas in Ontario would be reduced to five which is lower than some other options being considered. This would reduce the quantity of geographic areas that would require future relief planning activity.

This option would require relief for NPA 416/647 to be implemented four years earlier in 2015 rather than in 2019.

5.4.3 Plan 4c: Distributed Overlay of separate New NPAs on NPAs 289/905 and 416/647 at the same time

This Relief Option would introduce a new NPA Code as an overlay on the NPA 289/905 area and a second new NPA Code as an overlay on the NPA 416/647 area at the same time. NPA 416/647 is expected to exhaust in the year 2020.

This distributed overlay option would retain the existing boundaries of the NPA 289/905 and 416/647 regions.

The number of separate relief planning areas in Ontario will remain at six.

After this distributed overlay is implemented in 2015, NPAs 289/905 and its new NPA and NPA 416/647 and its new NPA would be expected to exhaust in 2036 and 2036, respectively.

This option would require relief for NPA 416/647 to be implemented four years earlier in 2015 rather than in 2019.

Assessment of a Distributed Overlay of separate New NPAs on NPAs 289/905 and 416/647 at the same time Plan 4c:

This Relief Option is similar to Distributed Overlay Plan 4a in terms of impact and lifespan in the NPA 289/905 region, while also introducing a new NPA in 2015 in the 416/647 region. It would provide relief to the 416/647 region four years prior to the normal relief schedule based on the June 2009 R-NRUF projection; however, the PED in the 416/647 region has shown volatility in recent years.

An advantage is that the cost and resources that would otherwise be required to plan and implement the forthcoming relief of NPAs 416/647 starting in 2014 based on the 2009 G-NRUF might be reduced if the relief plan for NPA 289/905 also sets a relief plan for NPA 416/647 region. In addition, costs might also be reduced for carriers and customers as a combined awareness campaign across the Greater Toronto Area would be possible with the simultaneous relief dates. However, that could potentially create a drawback in that relief is provided before it is necessary in the NPA 416/647 region which could increase short-term costs (while reducing longer-term costs). Bell Canada has noted that establishing the relief NPA Code for NPA 416/647 in advance at this time (but not implementing relief earlier than the projected relief date for NPA 416/647) would help reduce the cost for Bell Canada to implement relief for NPA 416/647.

A minor drawback of this distributed overlay option is that the number of separate relief planning areas in Ontario would remain at six.

5.5. Conclusions

The RPC strongly prefers a distributed overlay of a new NPA on the NPA 289/905 region based on the assessment of relief plans and other issues contained in this document.

The RPC prefers a distributed overlay of a new NPA Code on the NPA 289/905 region to the split plans for the following reasons:

- Customer telephone number changes are not required, thus minimizing negative customer impacts.
- Wireless communication devices do not have to be reprogrammed and therefore customers will not be inconvenienced by having to take their sets to their service providers for reprogramming and Carrier costs would not be incurred.

- Costs for Carriers would be lower with an overlay due to lower costs for changes to back-office support and billing systems.
- With a distributed overlay on the NPA 289/905 region the existing NPA 289/905 boundary is maintained and no other existing NPA boundaries are changed, thus avoiding customer confusion regarding NPA boundaries. With a split, two new NPAs are created thus significantly changing the NPA boundaries.
- A distributed overlay Relief Option does not favour customers and Carriers in one part of NPA 289/905 versus another, such as would occur with a split or a concentrated overlay. Retaining the NPA 289 or 905 Code in one of these areas would benefit certain customers and Carriers located in that area, and changing it in the other area would disadvantage the customers and Carriers located in the other area.
- Since 2000, relief activity in Canada has been provided through overlay methods and predominantly through distributed overlays. Consequently, the public and Carriers are most familiar with the distributed overlay Relief Method.

The RPC prefers a distributed overlay of a new NPA Code on the NPA 289/905 region to the concentrated overlay for the following reasons:

- Introduction of the new NPA would be in 2015 instead of 2012, thus deferring the incurrance of costs for customers and Carriers for three years.
- The number of relief planning areas would remain at six, thus not increasing the quantity of future relief projects in this region.
- With a distributed overlay on the NPA 289/905 region the existing NPA 289/905 boundary is maintained and no other existing NPA boundaries are changed, thus avoiding customer confusion regarding NPA boundaries. With a concentrated overlay, two new NPAs are created thus changing the NPA boundaries.
- A distributed overlay of a new NPA Code on the NPA 289/905 region would cost less for Carriers to implement and manage than a concentrated overlay.

The RPC prefers a distributed overlay of a new NPA Code on the NPA 289/905 region to the NPA 226 and 343 boundary extension overlays for the following reasons:

- The life span of a relief using a distributed overlay of a new NPA Code on the NPA 289/905 region (2036) would be longer than the life span of the boundary extension overlays (2018 for NPA 226 and 2026 for 343).
- With a distributed overlay on the NPA 289/905 region the existing NPA 289/905 boundary is maintained and no other existing NPA boundaries are changed, thus avoiding customer confusion regarding NPA boundaries. With a boundary extension overlay, a new NPA boundary defining the geographic area served by the existing four NPAs (i.e., 289/905 and 343/613) would be created.
- A distributed overlay of a new NPA Code on the NPA 289/905 region would cost less for Carriers to implement and manage than a boundary extension overlay.

The RPC prefers a distributed overlay of a new NPA Code on NPA 289/905 (plan 4a) to distributed overlay of a new NPA on NPAs 289/905 and 416/647 (plan 4b) for the following reasons:

- The life span of plan 4a (2036) would be nine years longer than the life span of plan 4b (2027).

- With plan 4a the existing NPA 289/905 boundary is maintained and no other existing NPA boundaries are changed, thus avoiding customer confusion regarding NPA boundaries. With plan 4b, a new NPA boundary defining the geographic area served by the existing four NPAs (i.e., 289/905 and 416/647) would be created.
- Plan 4a would cost less for Carriers to implement and manage than plan 4b.

The RPC prefers a distributed overlay of a new NPA Code on NPA 289/905 (plan 4a) to the simultaneous implementation of two new NPAs consisting of one new NPA overlaid on NPA 289/905 and another new NPA overlaid on NPA 416/647 (plan 4c) for the following reasons:

- The proposal to implement relief for NPA 416/647 is beyond the scope of Telecom Notice of Consultation CRTC 2009-310 which directed relief planning activities for area codes 289/905.
- Plan 4a uses one new NPA Code as opposed to plan 4c, which uses two new NPA Codes, which would implement one new NPA for area code 416/647 four years earlier than required.
- Plan 4a would cost less for customers and Carriers to implement and manage than plan 4c as only relief for NPA 289/905 would be implemented in 2015.

Consequently, the RPC views plan 4a as the preferred Relief Option and therefore recommends that a Distributed Overlay of a New NPA on NPA 289/905 be approved for NPA 289/905 relief.

6. 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		Quantity of CO Codes affected by No. changes	Local Dist. # of digits	
#	Description	NPA 289/905	New NPA 1	NPA 226	NPA 343	NPA 647	New NPA 2	Relief Date			Type
1a	Split - East West Split of NPA 289 - East retains NPA 289	2016 2033	2043					2015 (289/905) 2032 (289/905) 2042 (905/new)	S ? ?	411 ? ?	10 ? ?
1b	Split - East West Split of NPA 289 - West retains NPA 289	2016 2043	2033					2015 (289/905) 2032 (905/new) 2042 (289/905)	S ? ?	343 ? ?	10 ? ?
2a	Single Concentrated Overlay – Central area	2016 2046	2033					2012 (289/905) 2032 (289/905/new) 2045 (rest of 289/905)	CO ? ?	Nil. ? ?	10 10 10
2b	Dual Concentrated Overlay – East area West area	2016 2048	2048				2055	2015 (289/905) 2047 (289/905/new 1) 2054 (289/905/new 2)	CO ? ?	Nil ? ?	10 10 10
3a	NPA 226 Boundary Extension Overlay	2016 2018	2025	2019* 2018				2015 (289/905) 2017 (226/289/519/905) 2024 (226/289/519/905/new)	BO ? ?	Nil. ? ?	10 10 10
3b	NPA 343 Boundary Extension Overlay	2016 2026			2043* 2026			2015 (289/905) 2025 (289/343/905)	BO ?	Nil. ?	10 10
4a	Distributed Overlay of New NPA on NPA 289/905	2016 2036	2036					2015 (289/905) 2035 (289/905/new)	DO ?	Nil. ?	10 10
4b	Distributed Overlay of New NPA on Multiple NPA areas 289/905 and 416/647	2016 2027	2027			2020* 2027		2015 (289/905) 2026 (289/416/647/905/new)	DO ?	Nil ?	10 10

Plan		Projected Exhaust Dates						Relief - Timing & Type		Quantity of CO Codes affected by No. changes	Local Dial # of digits
#	Description	NPA 289/905	New NPA 1	NPA 226	NPA 343	NPA 647	New NPA 2	Relief Date	Type		
4c	Distributed Overlay of separate New NPAs on NPA areas 289/905 and 416/647 at the same time	2016 2036	2036			2020* 2036		2015 (289/905) 2015 (416/647) 2035 (289/905/new 1) 2035 (416/647/new 2)	DO DO ? ?	Nil Nil ? ?	10 10 10 10
<p>Key: 10-D = mandatory 10-digit local dialling, CO = Concentrated Overlay, S= Split, BO= Boundary Extension Overlay, DO = Distributed Overlay ? = Unknown (population affected by number changes, subsequent relief type and dial plan) Year* = exhaust date of adjacent NPA applicable if NPA 289/905 relief option affecting adjacent NPA is not implemented</p>											

7. COMPARATIVE ASSESSMENT OF RELIEF OPTIONS

The RPC evaluated 9 Relief Options in section 5 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 new NPAs required in Ontario within the next 20 years after NPAs 249 and 343 are implemented (i.e., 2011-2031) (P = 2 or fewer new NPAs; N = 3 new NPAs; C = 4 or more new NPAs)
- B. Number of separate Relief Planning areas in Ontario in the long term (P = decrease; N = stays same; C = increase)
- C. Quantity of potential Number Changes for existing customers' numbers, either immediately or in the future (P = none; N = small amount; C = many)
- D. Level of Carrier Costs – e.g., including implementation, customer awareness, rate of return (P = Low; N = Medium; C = High)
- E. Time required to implement relief, i.e., time between the CRTC's Decision date and the date when CO Codes in the new/relief NPA can be activated (P = shortest; N = medium; C = longest)
- F. Longevity – the length of time between this relief and subsequent relief activity in NPA 289/905 (e.g., a new area code) (P = 21 or more years; N = 11 through 20 years; C = within 10 years)
- G. Established Geographic Identities – changes in boundaries of existing NPAs (P = none; C = 1 or more existing NPA affected)
- H. New Geographic Identities – boundaries of new NPA align with boundaries of known areas (e.g., existing NPA areas, provinces) or identifiable geographical features (e.g., rivers, islands) (P = aligns with existing NPA boundaries; N = aligns with geographical features but not with existing NPA boundaries; C = aligns with neither existing NPA boundaries, nor identifiable geographical features)
- I. Reprogram Mobile Phones – requirement to reprogram wireless devices to accommodate the number changes (P = low; N = medium; C = high)
- J. Potential maximum quantity of NPAs in an Exchange Area in the next 20 years (P = 2 or fewer NPAs; N = 3 NPAs; C = 4 or more NPAs)
- K. Does the option consider the potential direction for future reliefs in NPA 289/905? (P = Yes; C = No)

Relief Plan		Pro, Neutral or Con for Each Attribute											Rating
#	Description	A	B	C	D	E	F	G	H	I	J	K	
1a	Split - East West Split of NPA 289 - East retains NPA 289	N	C	C	C	C	P	C	C	C	P	C	-6
1b	Split - East West Split of NPA 289- West retains NPA 289	N	C	C	C	C	P	C	C	C	P	C	-6
2a	Single Concentrated Overlay – Central area	N	C	P	N	N	P	P	C	P	N	C	+1
2b	Dual Concentrated Overlay – East West areas	C	C	P	N	N	P	P	C	P	N	C	0
3a	NPA 226 Boundary Extension Overlay	N	P	N*	N	P	C	C	C	N	C	P	-1
3b	NPA 343 Boundary Extension Overlay	N	P	P	N	P	N	C	C	P	C	P	+2
4a	Distributed Overlay of New NPA on NPA 289/905	N	N	P	P	N	P	P	P	P	N	P	+7
4b	Distributed Overlay of New NPA on Multiple NPA areas 289/905 and 416/647	N	P	P	N	N	N	P	C	P	C	P	+3
4c	Distributed Overlay of separate new NPAs on NPA areas 289/905 and 416/647 at the same time	N	N	P	N	N	P	P	P	P	N	P	+6

If P, N and C are assigned a weighting of +1, 0 and -1, respectively, then analysis of the above table gives the highest rating of +7 points to Plan 4a, and the next highest rating of +6 points to Plan 4c, +3 points to plan 4b; and +2 points to plan 3b. Plan 4a is superior when assessed using the above criteria. Although Plan 4c is not within the scope of Telecom Notice of Consultation CRTC 2009-310, the RPC considered this option and determined that it was not the RPC's preferred option based on the assessment contained in section 5.

*Note: the N in column C in Relief Plan 3a is due to the potential for telephone number changes that could be required to accommodate a future relief NPA, as CO Codes corresponding to all Future Canadian Geographic NPA Codes are assigned in at least one of the affected NPAs.

8. DIALLING IMPACTS FOR LOCAL CALLS

Currently 10-digit dialling is mandatory for local calls originating within area code 289/905, and for local calls to area code 289/905 from adjacent area codes 226/519, 249/705, 343/613 and 416/647. Local dialling plans will not change when NPA 289/905 relief is implemented.

NPA relief will not affect the dialling plan for long-distance calls originating in NPA 289/905 or any other NPA. No local calling will become long-distance and no long-distance calling will become local as a result of NPA relief.

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

In Telecom Notice of Consultation CRTC 2009-310, the CRTC stated in item 7 that: "*In developing its recommendations, the 289/905 RPC is directed to set aside, at a minimum, 7 central office codes for initial code assignments for carriers already providing service in area codes 289 and 905 and 15 central office codes for initial code assignments for new entrants only*".

Accordingly the CNA has set aside 7 CO Codes for initial code assignments for Carriers already providing service in the 289/905 area, and 15 CO Codes for initial code assignments for new entrants only.

If the CRTC-approved relief method is an overlay, then these quantities of set aside CO Codes would become available for assignment as specified above during the two-year time period after implementation of the overlay. Any set-aside CO Codes remaining unassigned at the end of the two-year time period would be returned to the general pool of assignable CO Codes.

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

If a Jeopardy Condition is declared, then for the purposes of calculating the CO Code Inventory quantities in the Jeopardy Contingency Plan, it is recommended that the 7 CO Codes for initial code assignments for Carriers already providing service should be made available for general assignment prior to relief, and the 15 CO Codes for initial code assignments for new entrants should also become available prior to relief only for initial code assignments for new entrants.

10. PROPOSED SCHEDULE

The RPC submits the following schedule for NPA 289/905 relief based on the recommendations contained in this Planning Document and the current Projected Exhaust Date (PED) of October 2016. The RPC will monitor the PED, and if it changes significantly in the future (e.g., is advanced or delayed by greater than 6 months), the RPC will assess the situation and, if necessary, submit recommendations including a revised schedule to the CRTC for consideration and approval.

RELIEF IMPLEMENTATION SCHEDULE for a Distributed Overlay of new NPA over NPAs 289/905

	ITEM	PRIME	START	END
1	CNA identifies NPA exhaust and notifies CRTC staff, CSCN, NANPA & CISC	CNA	23 Mar 2009	23 Mar 2009
2	CNA conducts first R-NRUF (June 2009 R-NRUF)	CNA	23 Mar 2009	June 2009
3	CRTC issues Telecom Notice of Consultation regarding RPC Ad Hoc CISC and Interested Parties list	CRTC		28 May 2009
4	CNA develops and distributes IPD to RPC	CNA	23 Mar 2009	23 Sept 2009
5	CNA holds initial RPC meeting to review NPA 289/905 situation, relief planning process, IPD, create CATF and NITF, and commence development of Planning Document (PD), Planning Letter (PL) and Relief Implementation Plan (RIP)	CNA	26 Oct 2009	27 Oct 2009
6	CNA chairs subsequent RPC meetings & conference calls to finalize PD, PL & RIP	CNA RPC	28 Oct 2009	30 Nov 2009
7	CNA submits PD, PL & RIP to the CISC and CRTC for approval	CNA		30 Nov 2009
8	Special Types of Telecommunications Service Users (911 PSAPs, N11 call center operators, alarm companies, ISPs, paging companies, etc.) to identify any concerns regarding relief to CRTC	Special Users	28 May 2009	30 Nov 2009
9	CRTC issues Telecom Decision approving Relief Method, Relief Date and RIP	CRTC		28 Feb 2010
10	All Carriers to develop Consumer Awareness Plans to be filed with the CRTC (may be done collectively by the Telecommunications Alliance)		28 Feb 2010	24 Oct 2013
11	CNA prepares and issues media release (in coordination with Telecommunications Alliance)	CNA	28 Feb 2010	24 Oct 2013
12	CNA submits PL and RIP to NANPA	CNA	28 Feb 2010	24 Oct 2013
13	NANPA Posts Planning Letter (usually at least 12 months prior to Relief Date)	NANPA	24 Oct 2013	1 Nov 2013
14	Task Forces, Carriers and users implement relief	Task Forces TSPs Users	28 Feb 2010	24 Oct 2015
15	All Carriers implement consumer awareness activities	Carriers	24 Oct 2013	24 Oct 2015
16	All Carriers to notify all customers (including residence, business & special customers) of the new NPA	Carriers	24 Oct 2013	18 April 2014
17	Telcordia TRA database updates to add exchanges to NPA 365 (starts on the issue date of the PL and must be completed by 6 months prior to the relief date for the distributed overlay)	Telcordia TRA	1 Nov 2013	24 April 2015
18	All Telecommunications Service Users (including Special Users 911 PSAPs, alarm companies, ISPs, paging companies, etc.) to implement changes to their telecom equipment & systems to accommodate the new NPA		28 Feb 2010	24 Oct 2015
19	Payphone Providers Reprogram Payphones	Payphone Providers	28 Feb 2010	24 Oct 2015

	ITEM	PRIME	START	END
20	TSPs and database owners/operators to modify systems and industry databases	Database Owners	28 Feb 2010	24 Oct 2015
21	Operator Services & Directory Assistance Readiness	Carriers	28 Feb 2010	24 Oct 2015
22	Directory Publisher Readiness for overlays (ability to identify the NPA in telephone numbers in the directory published after the Overlay NPA is activated)	Directory Publishers	28 Feb 2010	24 Oct 2015
23	9-1-1 PSAP Systems and Databases Readiness	PSAPS & TSPs	28 Feb 2010	24 Oct 2015
24	9-1-1 TSP Readiness	TSPs	28 Feb 2010	24 Oct 2015
25	ISCP & Service Order Systems Readiness	Carriers	28 Feb 2010	24 Oct 2015
26	Carriers to submit Progress Report #1 to NITF and CATF	Carriers	18 April 2014	2 May 2014
27	NITF and CATF develop & submit Progress Report #1 to RPC	NITF & CATF	2 May 2014	16 May 2014
28	RPC develops & submits Progress Report #1 to CISC/CRTC	RPC	16 May 2014	30 May 2014
29	Carriers to submit Progress Report #2 to NITF and CATF	Carriers	13 June 2015	27 June 2015
30	NITF and CATF develop & submit Progress Report #2 to RPC	NITF & CATF	27 June 2015	11 July 2015
31	RPC develops & submits Progress Report #2 to CISC/CRTC	RPC	11 July 2015	25 July 2015
32	Carriers apply for Test CO Codes in new NPA (no more than 6 months and no less than 66 days prior to the start date for testing (Section 7.16.4 Canadian RP GL)	TSPs	25 Jan 2015	19 May 2015
33	Develop Inter-Carrier Network Test Plans and prepare for testing (individual carriers to make arrangements in accordance with interconnection agreements)	NITF Carriers	25 Jan 2015	25 July 2015
34	All international and domestic Telecommunications Service Providers (TSPs) should ensure that the new NPA is activated throughout their networks by the start date for network testing.	TSPs		25 July 2015
35	Inter-Carrier Testing Period (subject to Inter-Carrier Network Test Plans –continues up to introduction of new NPA) (start about 3 months prior to relief date)	NITF Carriers	25 July 2015	24 Oct 2015
36	Relief Date (earliest date when CO Codes in new NPA may be activated)			24 Oct 2015
37	Carriers submit Final Report to CATF and NITF	Carriers	24 Oct 2015	7 Nov 2015
38	Submission of NITF and CATF Final Report to RPC	NITF & CATF	7 Nov 2015	21 Nov 2015
39	RPC submits Final Report to CISC/CRTC	RPC	21 Nov 2015	5 Dec 2015
40	Carriers disconnect Test Codes & Numbers, and submit Part 1 form to return or request Test Codes		24 Nov 2015	24 Dec 2015

11. JEOPARDY CONTINGENCY PLAN (JCP)

The Relief Planning Committee (RPC) has developed the following JCP for inclusion in the Planning Document (PD) for NPA 289/905]. This JCP is based on the example contained in Appendix F to the Canadian NPA Relief Planning Guideline.

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.

During a Jeopardy Condition, 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 all CO Code Holders in NPA 289/905 when this JCP is approved by the CRTC and while a Jeopardy Condition is in effect.

- 1) Carriers and/or Telecommunications Service Providers (TSPs):
 - 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 unless CRTC staff approves a further extension.
- 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, that 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 unless CRTC staff approves a further extension.
- 3) When applying for an Additional Code for Growth, a CO Code Holder who is submitting a Part 1 Form and 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 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 Guideline;
 - 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

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- 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 CO Codes for growth assigned after the implementation of this JCP must be activated in the network and placed In-Service within four months of 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 Carrier 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 Carrier. 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. If one or more R-NRUFs have already been conducted, and depending on the severity of the Jeopardy Condition, the CNA may defer a J-NRUF by up to two months if such a deferral brings the timing of that J-NRUF and subsequent J-NRUFs into alignment with other NRUFs that are conducted at 12, 6 or 3 month intervals. Subsequent J-NRUF input will be compared with the initial J-NRUF input to evaluate the effectiveness of the JCP. The CNA shall monitor all J-NRUF inputs and shall test them for reasonableness in consultation with the Telecommunications Service Providers. If the CNA is dissatisfied with the reasonableness, or the rationale provided for the changed forecasts, 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.
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- 10) The CO Codes identified in the NPA CO Code Inventory Chart as “Assignable CO Codes in a Jeopardy Condition” will be assigned in the order determined by the RPC after all CO Codes which are “Available for Assignment as of dd/mm/yyyy” 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) 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.
 - 13) 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 (i.e., 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 (i.e., 66 days prior to the Relief Date), 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.
 - 14) 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.).

NPA 289/905 CO Code Inventory Chart

The following chart and the instructions it contains will apply in NPA 289/905 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 289/905 assigned and In-Service as of 3 December 2009. For an Overlay option it identifies 83 CO Codes that are unassignable prior to a Jeopardy Condition, 34 of which become assignable in a Jeopardy Condition. For a Split option it identifies 83 CO Codes that are unassignable prior to a Jeopardy Condition, 34 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.

		Quantity
A	Total CO Codes in NPAs 289/905 (NXX format)	1600
B	CO Codes unassignable prior to a Jeopardy Condition	
	N11 Service Codes (211, 311, 411, 511, 611, 711, 811, 911)	16
	Special Use Codes (555 & 950)	4
	Protected Code(s)	0
	Home NPA Code(s) (289, 905)	4
	Current Neighbouring NPA Codes (226, 249, 343, 416, 519, 613, 647, 705)	16
	Future Canadian Geographic NPA Codes (365, 367, 368, 437, 742, 942 - see Note 1)	12
	Plant Test Codes (958 & 959)	4
	Special 7-digit Dialling Codes (310, 610 & 810)	5
	CO Codes set aside for Initial Codes for New Entrants only (for assignment after relief via an overlay [or before if a split])	15
	CO Codes set aside for Initial Codes for carriers already providing service (for assignment after relief via an overlay, [or before if a split])	7
	Total B	83
C	CO Codes assignable prior to a Jeopardy Condition (C=A-B)	1517
D	CO Codes unassignable prior to a Jeopardy Condition that become assignable in a Jeopardy Condition:	
	Future Canadian Geographic NPA Codes (367, 368, 942 - see Note 2)	6
	Current Neighbouring NPA Codes (see Note 3)	0
	CO Codes set aside for Initial Code assignments after relief via an overlay (available subject to CRTC staff approval)	22
	Total D	28
E	Assignable CO Codes in a Jeopardy Condition (E=C+D)	1545
F	Assigned CO Codes as of 3 December 2009	1143
G	Net CO Codes available for assignment as of 3 December 2009 without a Jeopardy Condition (G=C-F)	374
H	Net CO Codes available for assignment as of 3 December 2009 in a Jeopardy Condition (H=E-F)	402

Notes:

1. 26 of the 32 CO Codes corresponding to Future Canadian Geographic NPA Codes are already assigned, in-service, or available for assignment in NPA 289/905 leaving 6 as currently unavailable for assignment.
2. The 6 CO Codes corresponding to Future Canadian Geographic NPA Codes that currently are unavailable for assignment in NPA 289/905 are 365, 367, 368, 437, 742, and 942. CO Codes 365, 742, and 437 should remain unavailable for assignment in NPA 289/905 since NPA Codes 365 and 742 are recommended as the future relief NPAs for NPA 289/905 per Section 13, and NPA Code 437 has been recommended as a future relief NPA for NPA 416/647 and would be a neighbouring NPA to NPA 289/905/365. NPA Code 942 has been identified as a potential future relief NPA for NPA 902 (Nova Scotia and PEI) which is not a neighbouring NPA. Therefore the 3 CO Codes 367, 368 & 942 may be made available for assignment in NPA 289/905 (i.e. 3 Codes in two existing NPAs = a total of 6 CO Codes) during a Jeopardy Condition if required, subject to CRTC staff approval.
3. In an extreme Jeopardy Condition (i.e., when the Projected Exhaust Date is earlier than the Relief Date), 8 of the CO Codes corresponding to current Neighbouring NPA Codes (249, 343, 613, 705) may be made assignable in certain portions of NPA 289/905 with CRTC staff approval. Bell Canada has identified that releasing the other 8 CO Codes corresponding to Neighbouring NPA Codes 226/519 and 416/647 would cause Bell to incur significant expense for software upgrades to support the local calling that exists between these NPAs and 289/905. It is therefore recommended that the CO Codes 226, 519, 416 and 647 not be made assignable in NPA 289/905 in an extreme Jeopardy Condition.

12. SELECTION OF RELIEF NPA

When an immediate or subsequent NPA relief requires a new NPA Code, some of the criteria for selecting the new NPA Code from the list of available Future Canadian Geographic NPAs are described in section 4.9 of the Canadian NPA Relief Planning Guideline as follows.

- 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.

The NPA Code Selection Tool located on the CNA web site at http://www.cnac.ca/npa_codes/relief/overview.htm can assist in selecting a relief NPA Code from the pool of NPA Codes reserved for relief of geographic Canadian NPAs. The following table, extracted from the NPA Code Selection Tool, shows all codes corresponding to Future Canadian Geographic NPA Codes that are designated as unassignable CO Codes in Home or Home and Neighbouring NPAs, therefore are preferred candidates when selecting a relief NPA Code for NPA 289/905.

NXX corresponding to Future NPA →	365	367	368	437	742	942
Split - East West Split - East (58 Exchange Areas) retains NPAs 289	✓	✓	✓	✓	✓	✓
Split - East West Split - West (36 Exchange Areas) retains NPAs 289	✓	✓	✓	✓	✓	✓
Single Concentrated Overlay – Central area	✓	✓	✓	✓	✓	✓
Dual Concentrated Overlay – East West areas	✓	✓	✓	✓	✓	✓
NPA 226 Boundary Extension Overlay	x	x	x	x	x	x
NPA 343 Boundary Extension Overlay	✓	✓	x	✓	x	✓
Distributed Overlay of New NPA on NPA 289/905	✓	✓	✓	✓	✓	✓
Distributed Overlay of New NPA on multiple NPAs 289/905 and 416/647	x	x	x	✓	x	✓
Distributed Overlay of separate New NPAs on NPA 289/905 and 416/647 at the same time	✓*	✓*	✓*	✓*	✓*	✓*

- ✓ indicates that corresponding CO Code is designated as unassignable in Home NPA(s)
- ✓✓ indicates that corresponding CO Code is designated as unassignable in Home NPA(s) and all adjacent NPAs
- x indicates NPA Code meets neither criteria
- ✓* indicates status of suitable NPAs for the relief of NPA 289/905 only.

Although the RPC has determined that the relief of NPA 416/647 is beyond the scope of the NPA 289/905 RPC the following applies to option 4c that includes relief of NPA 416/647. The applicable status of relief NPAs would be:

- ✓✓ for Future NPAs 437 and 942
- ✓ for Future NPAs 257, 387, 474, 584, 639, 672 and 851

Additional factors to consider when recommending a relief NPA Code are:

- 942: since CO Code 942 is the only CO Code corresponding to a future Canadian Geographic NPA that is unavailable for assignment in NPA 902 and all its neighbouring NPAs, it may be prudent to avoid using 942 for the relief of NPA 289/905 when other suitable codes are available.
- TSP switch software requirements may indicate a preference for one of the remaining suitable codes over another

Bell Canada has considered the potential NPA Codes to be used to provide relief for NPA 289/905 and proposes that NPA Code 365 be assigned for relief of 289/905 as it would require the minimum quantity of software upgrades to support existing local dialling between NPA 289/905 and its neighbouring NPAs.

The RPC considered NPA Codes 365, 367, 368, 437 and 742 for relief of NPA 289/905. The RPC recommends that NPA Code 365 be the relief NPA Code for NPA 289/905.

Due to the fact that the future demand for CO Codes in NPA 289/905 has been volatile in recent NRUFs and that the 289/905 region has been forecast to exhaust twice in the next 20 to 30 year period in the 2008 and 2009 Annual G-NRUFs and the adjusted June 2009 R-NRUF, it is recommended that NPA Code 742 be reserved for future subsequent relief of the 289/905 region.

13. RECOMMENDATIONS

Based on the assessment of Relief Options and other issues contained in this document, the RPC submits the following recommendations to the CISC and CRTC:

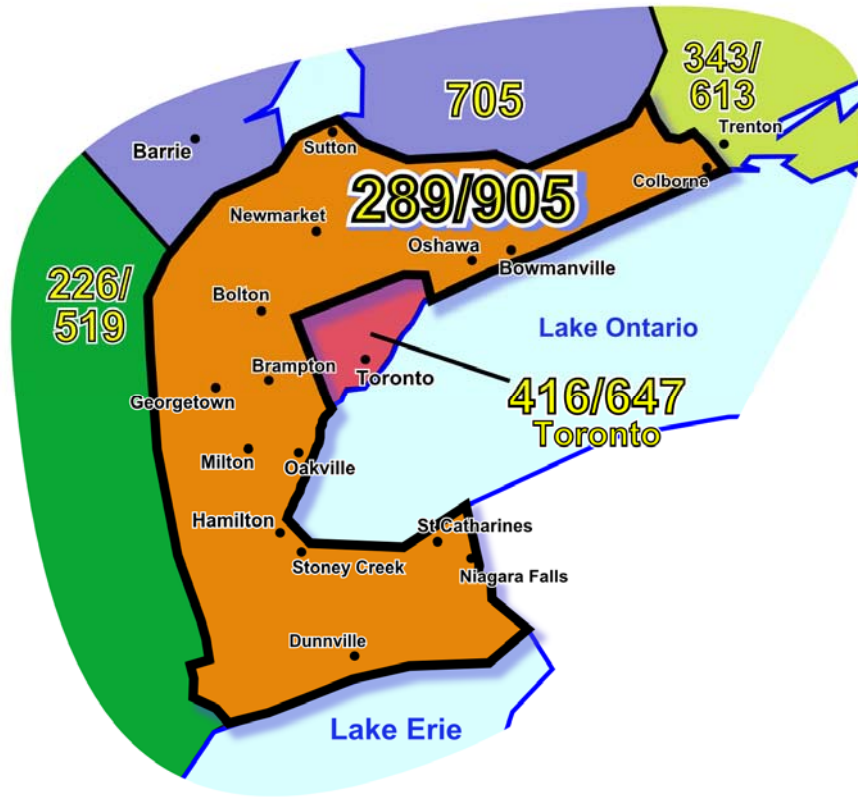
- a) The relief method should be a distributed overlay of a new NPA Code on NPA 289/905 (option 4a);
- b) NPA Code 365 should be used for the Relief NPA Code for NPA 289/905;
- c) NPA Code 742 should be reserved for subsequent relief in the 365/289/905 region as the 289/905 region has been forecast in the latest R-NRUF (June 2009) to exhaust twice in the next 26 years.
- d) The Relief Date should be 24 October 2015 in order to provide Carriers and customers with advance notification and sufficient lead-time to implement relief, which would be 12 months in advance of the current Projected Exhaust Date;
- e) The local dialling plan should remain as 10 digits for all local calls originating within the NPA 289/905 area and the new relief NPA Code;
- f) Per section 9, if a Jeopardy Condition is declared, it is recommended that the 7 CO Codes for initial code assignments for Carriers already providing service should be made available for general assignment prior to relief, and the 15 CO Codes for initial code assignments for new entrants should also become available prior to relief for initial code assignments for new entrants only.

NPA 289/905
PLANNING DOCUMENT

ANNEXES

Annexes

Planning Document NPA 289/905 Numbering Relief



Planning Document (PD)
Version 1.0 – December 7, 2009

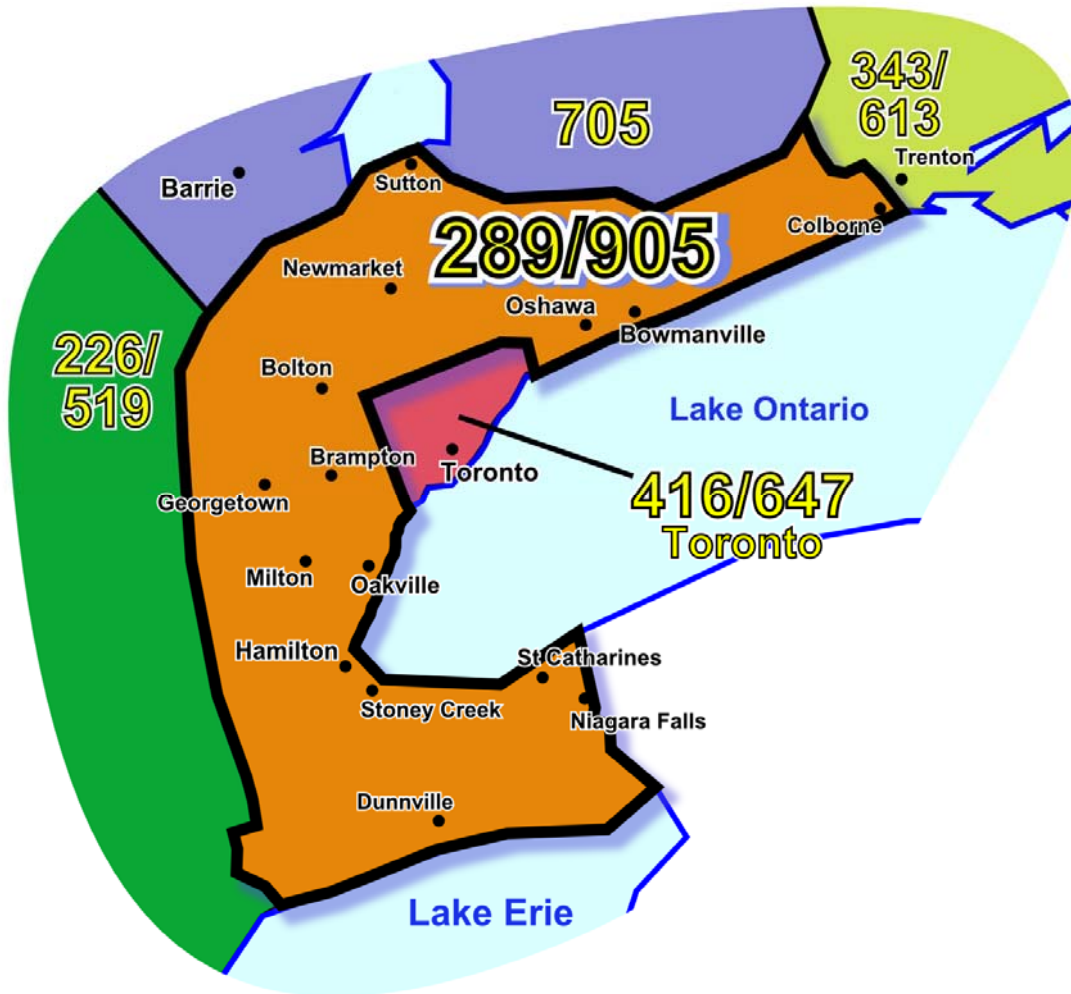


Figure 1 - Overview of NPA 289/905 and Adjacent NPAs

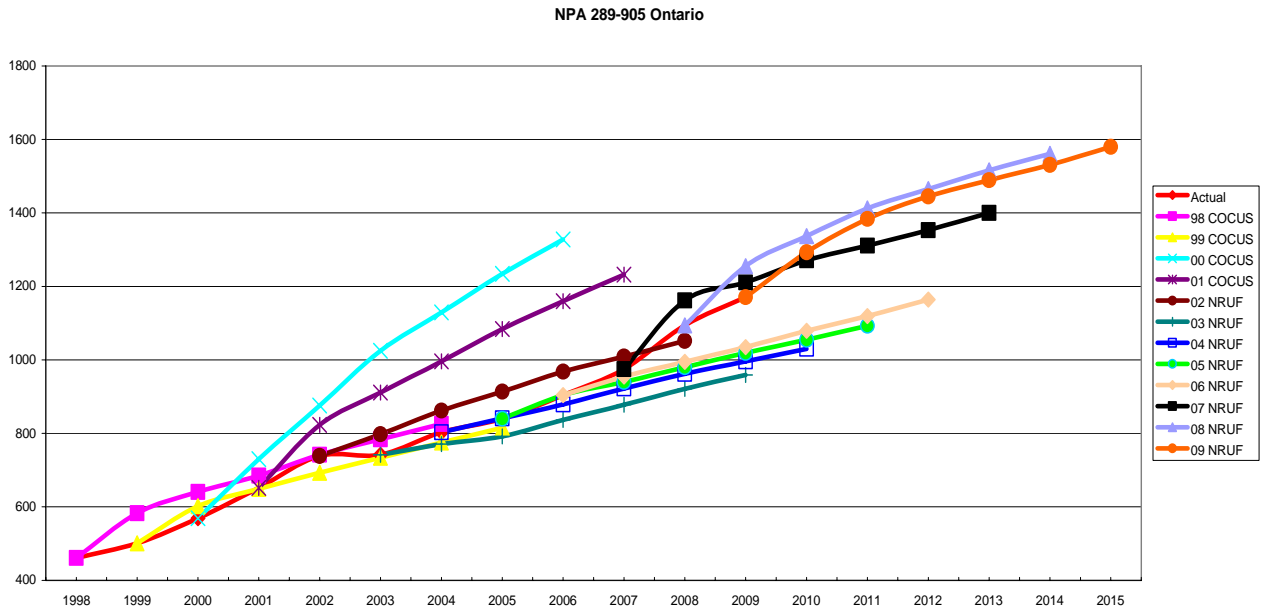


Figure 2 - NPA 289/905 Actual and Forecast CO Code Assignments

NPA289/905 CO Code Exhaust January 2009 G-NRUF

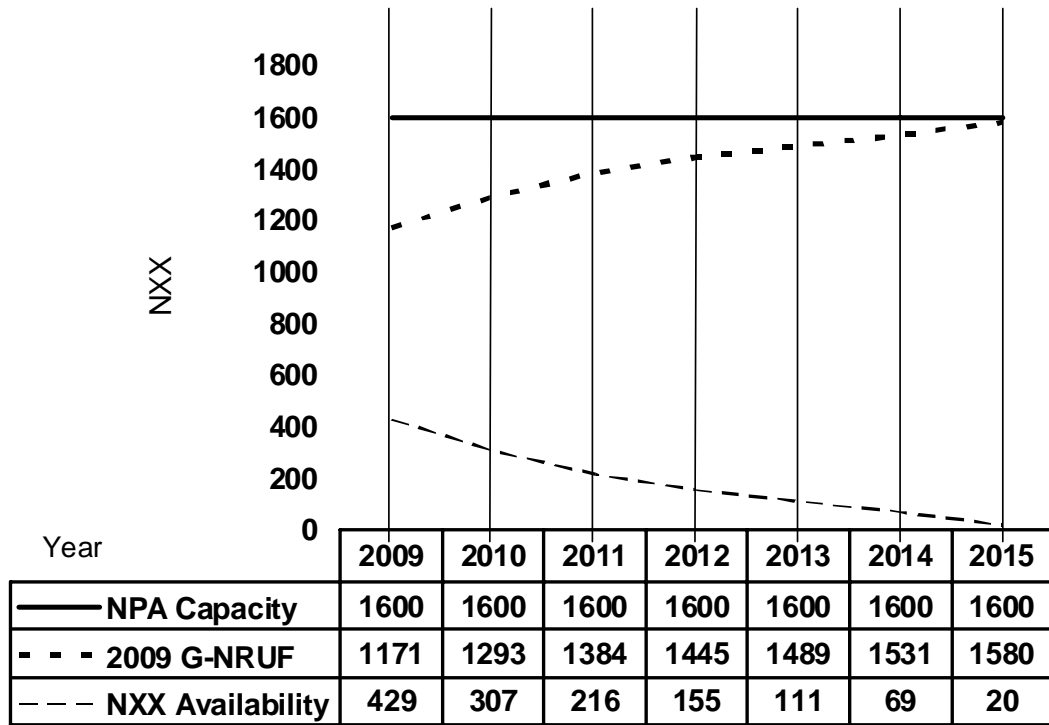


Figure 3 - NPA 289/905 CO Code Exhaust 2009 G-NRUF

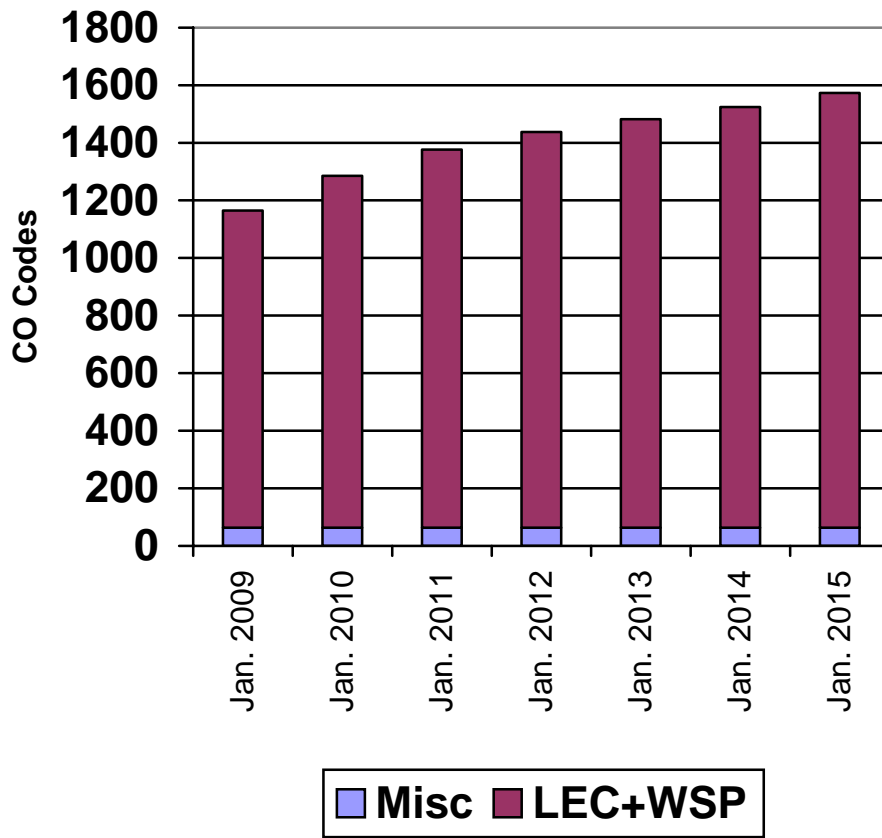


Figure 4 - NPA 289/905 Miscellaneous and LEC+WSP CO Codes 2009 G-NRUF

NPA 289/905 CO Code Exhaust based on TNC 2009-310 R-NRUF

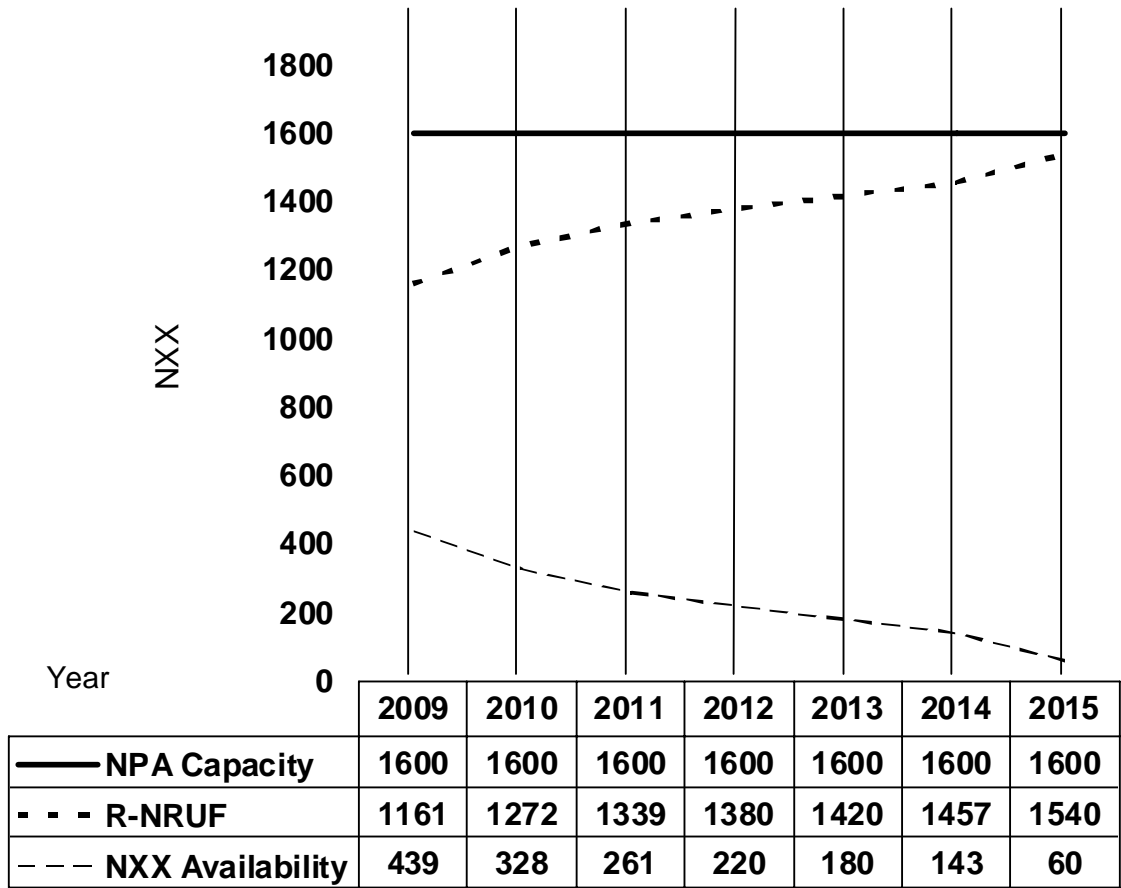


Figure 5 - NPA 289/905 CO Code Exhaust after release of Telecom Notice of Consultation CRTC 2009-310

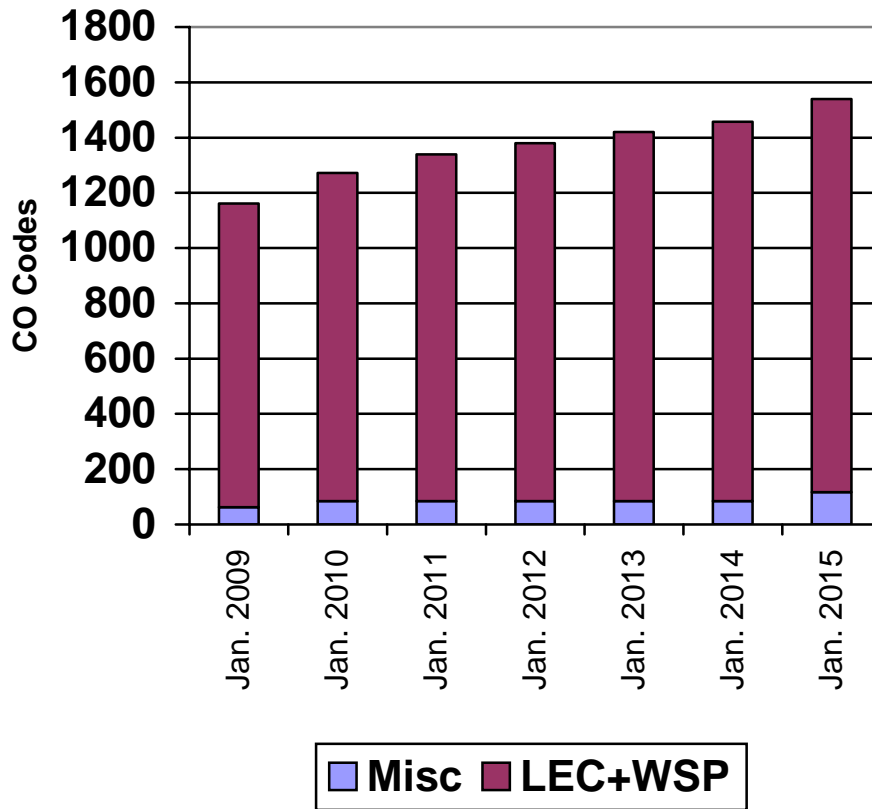


Figure 6 - NPA 289/905 Miscellaneous and LEC+WSP CO Codes after release of Telecom Notice of Consultation CRTC 2009-310

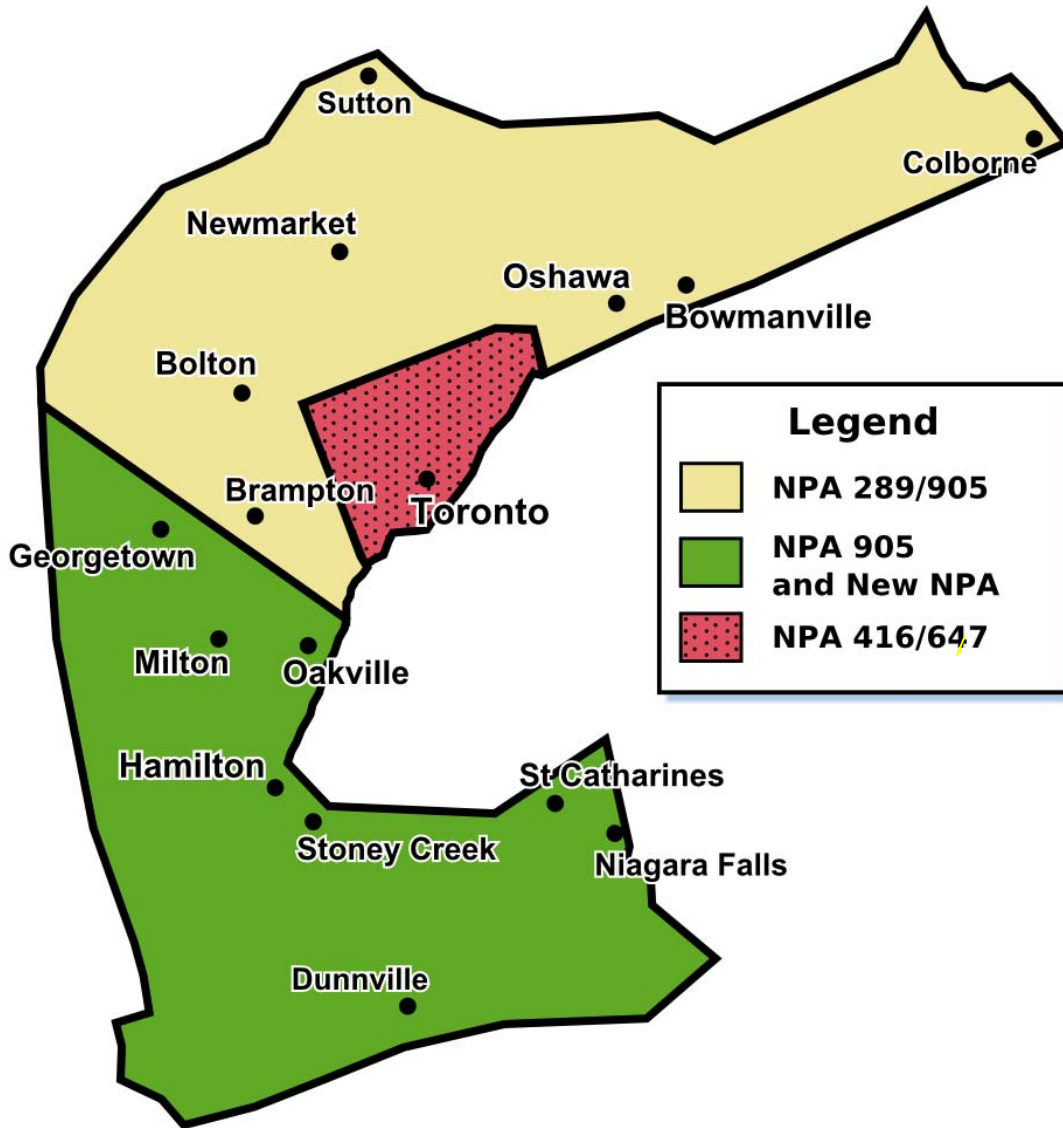


Figure 7 - Plan 1a: Split - East West Split of NPA 289, East retains NPAs 289

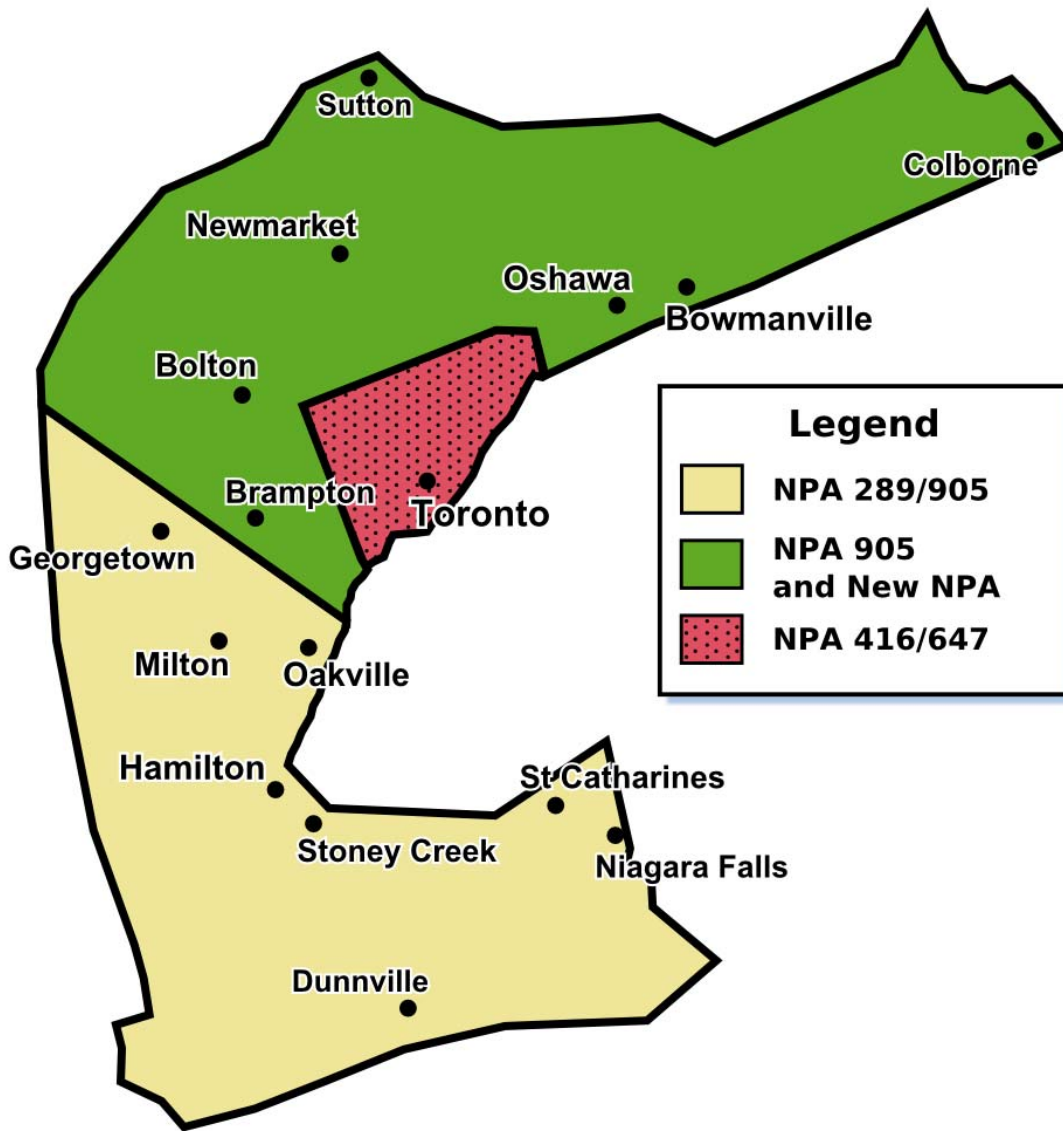


Figure 8 - Plan 1b: Split - East West Split of NPA 289, West retains NPAs 289

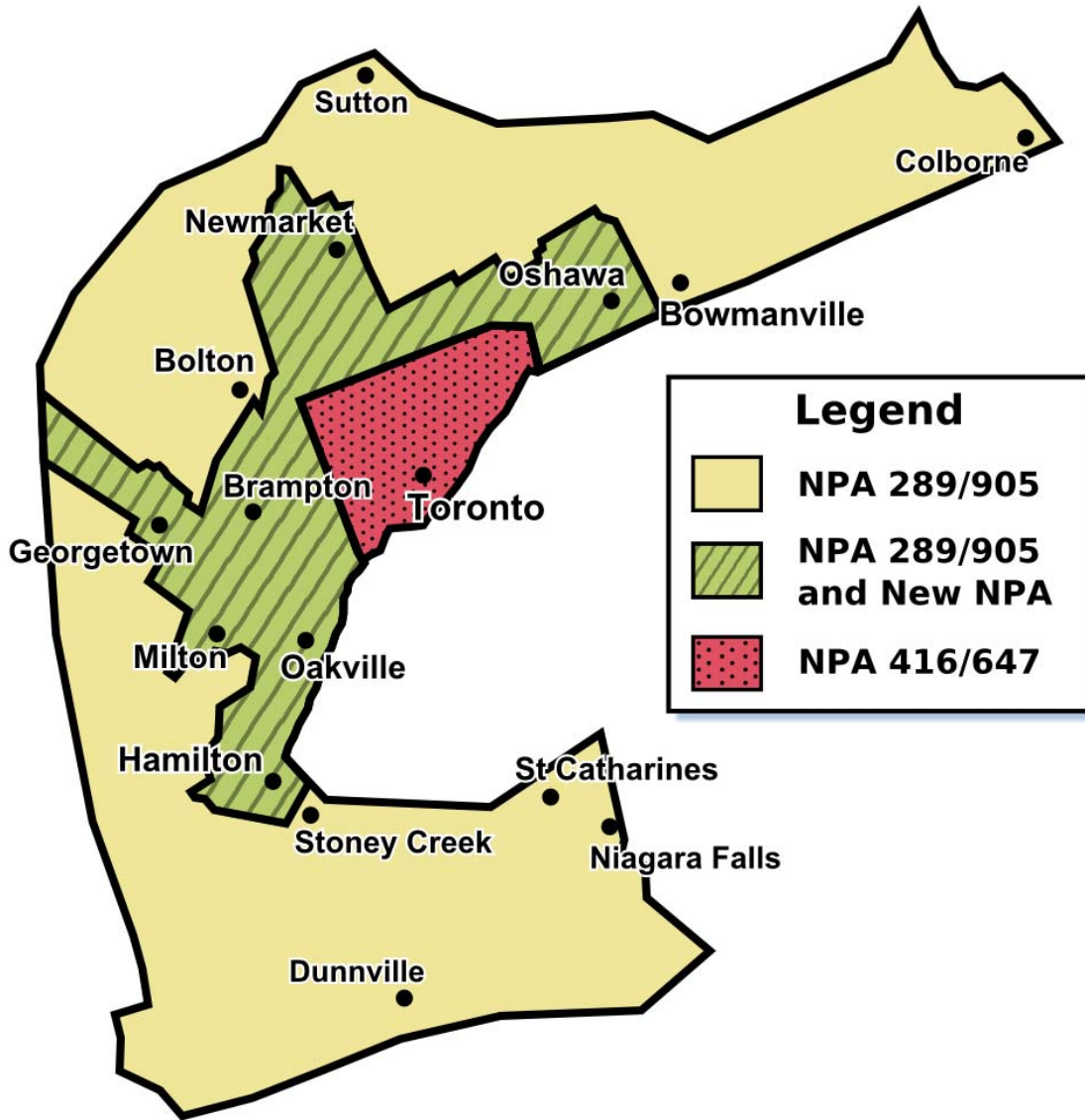


Figure 9 - Plan 2a: Single Concentrated Overlay on Centre Area

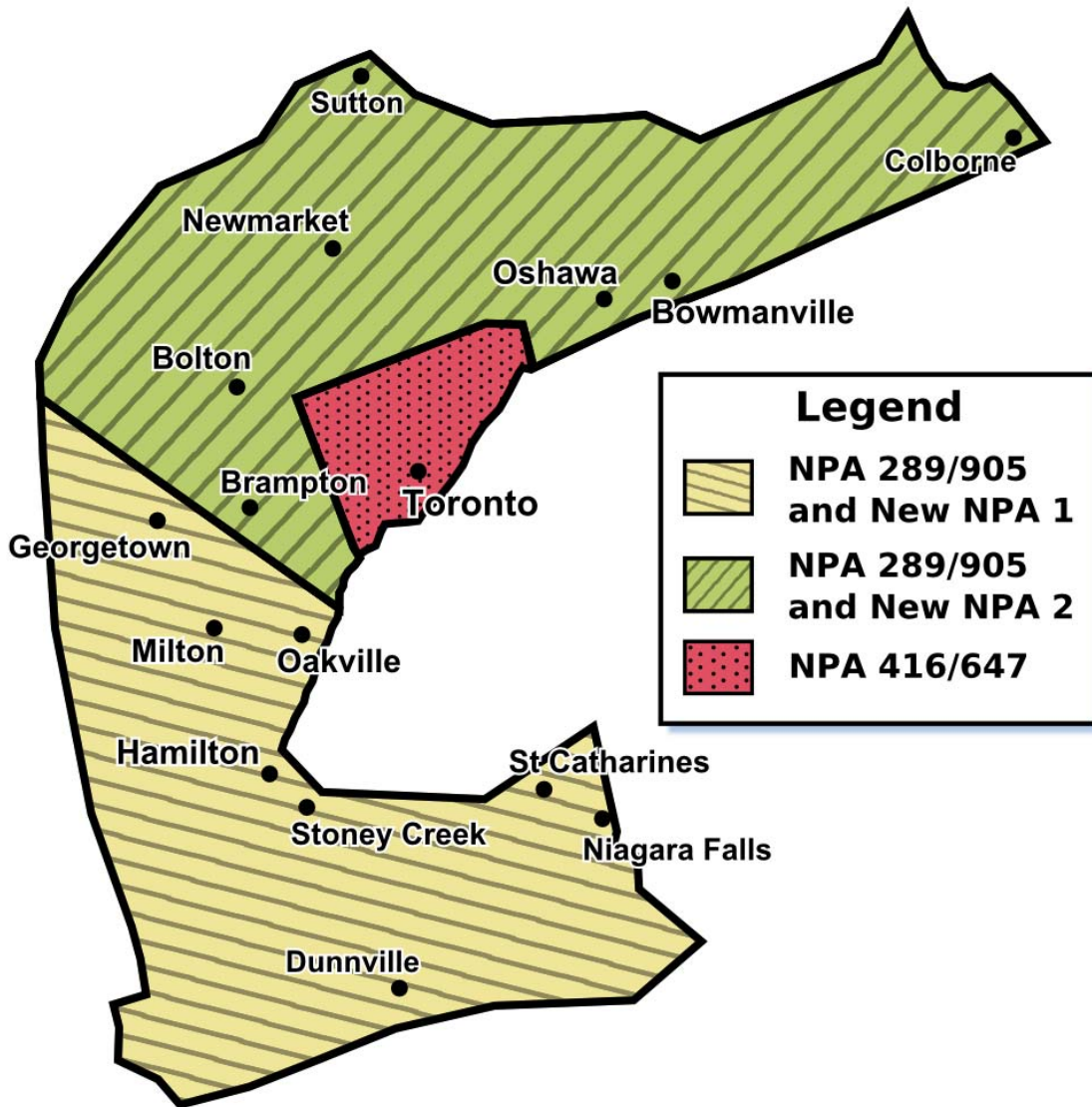


Figure 10 - Plan 2b: Dual Concentrated Overlay on East and West Areas

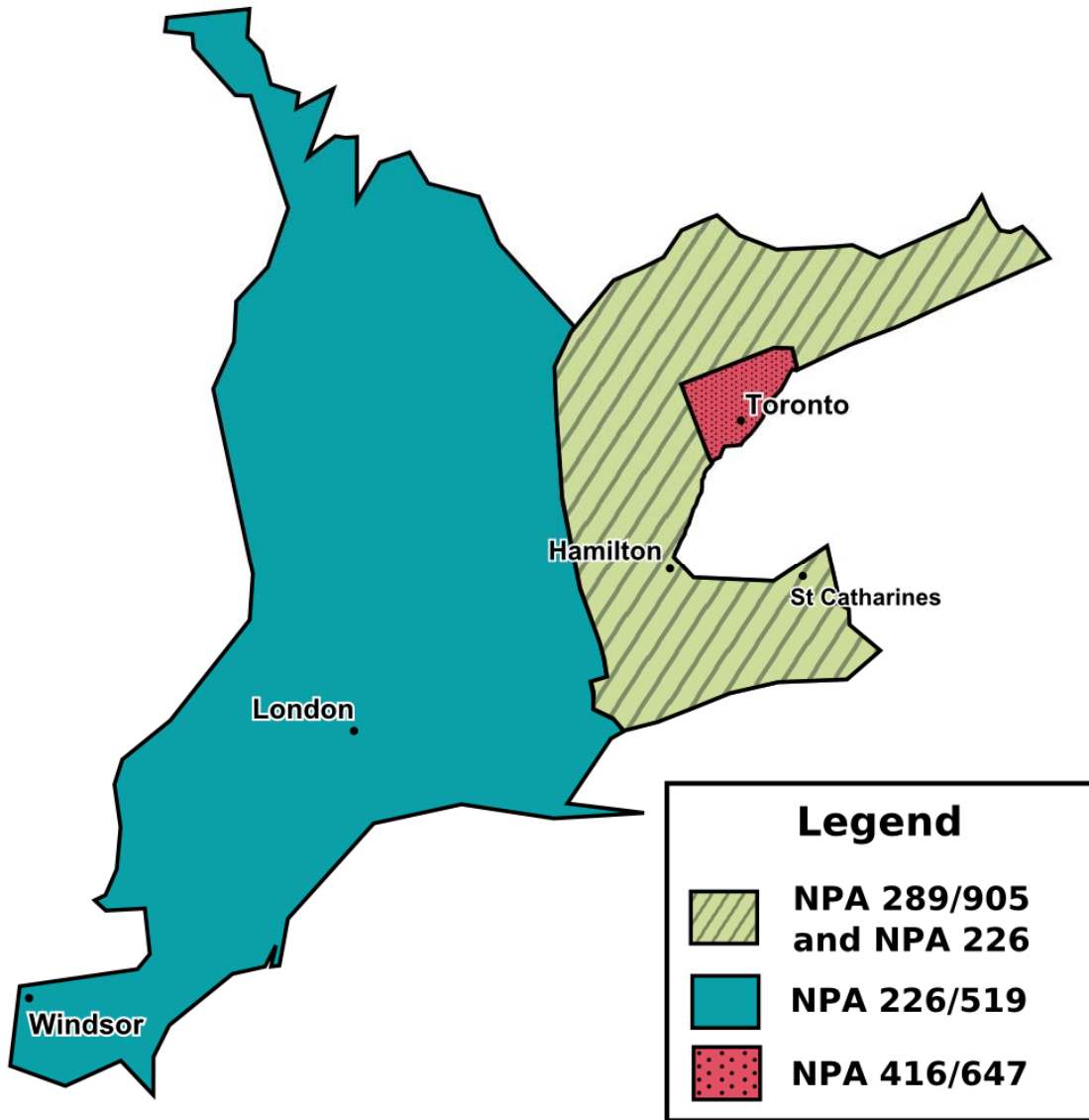


Figure 11 - Plan 3a: NPA 226 Boundary Extension Overlay

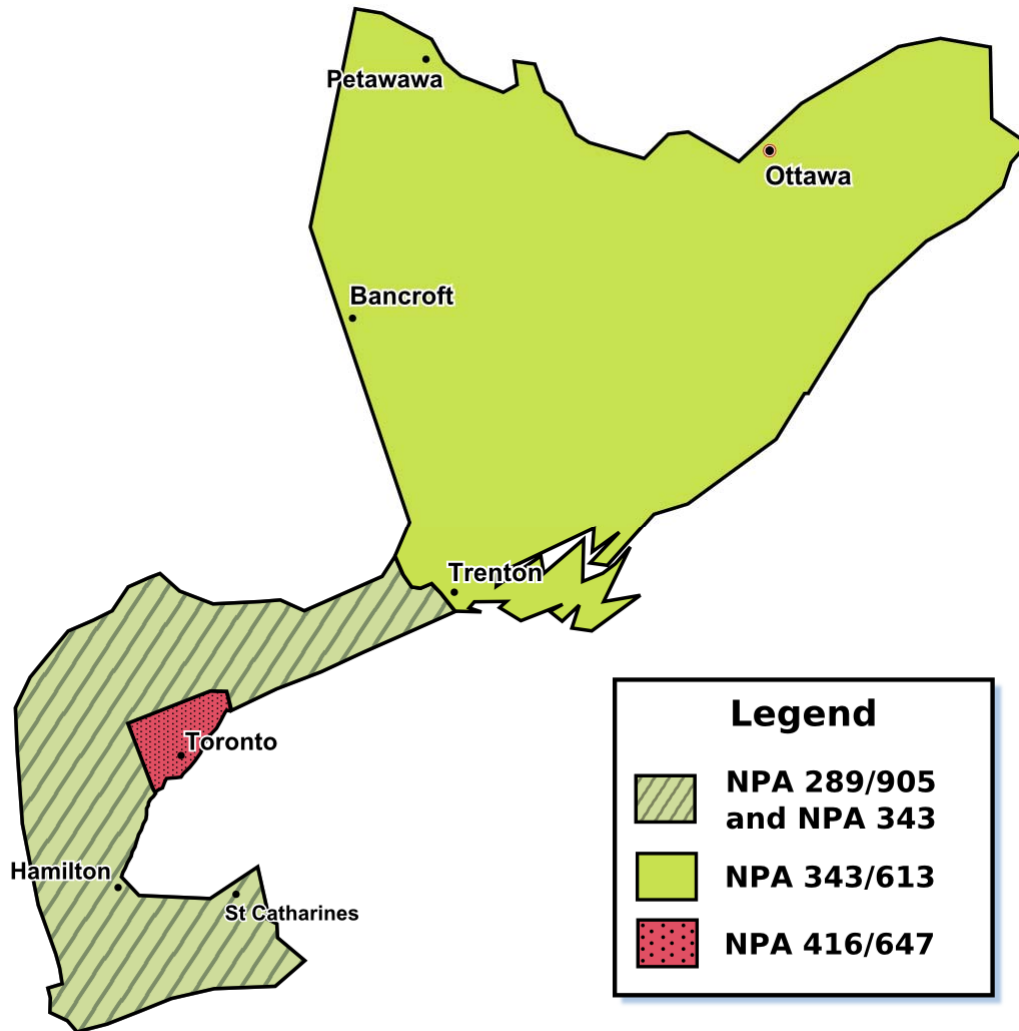


Figure 12 - Plan 3b: NPA 343 Boundary Extension Overlay

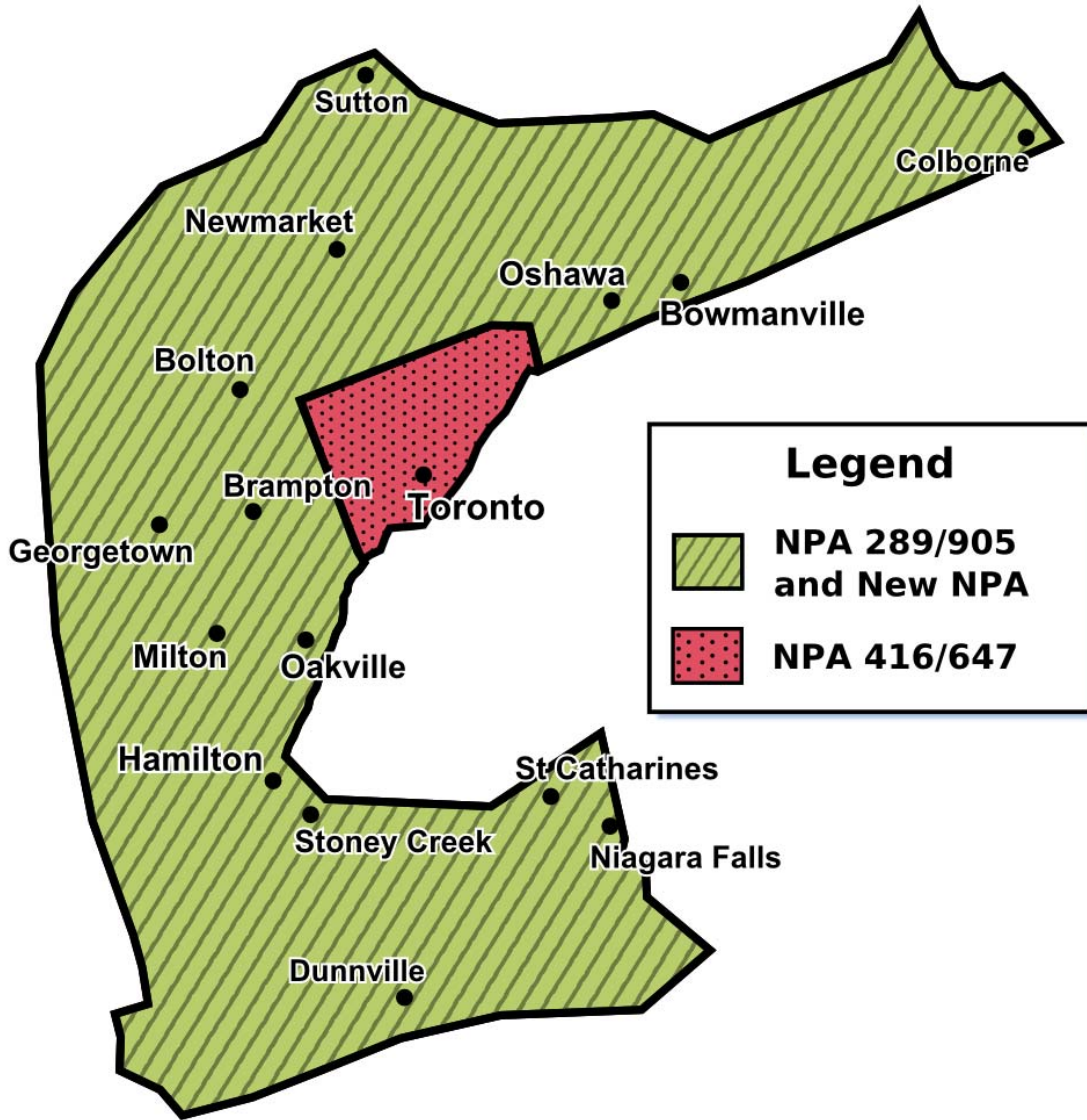


Figure 13 - Plan 4a: Distributed Overlay of New NPA on NPA 289/905

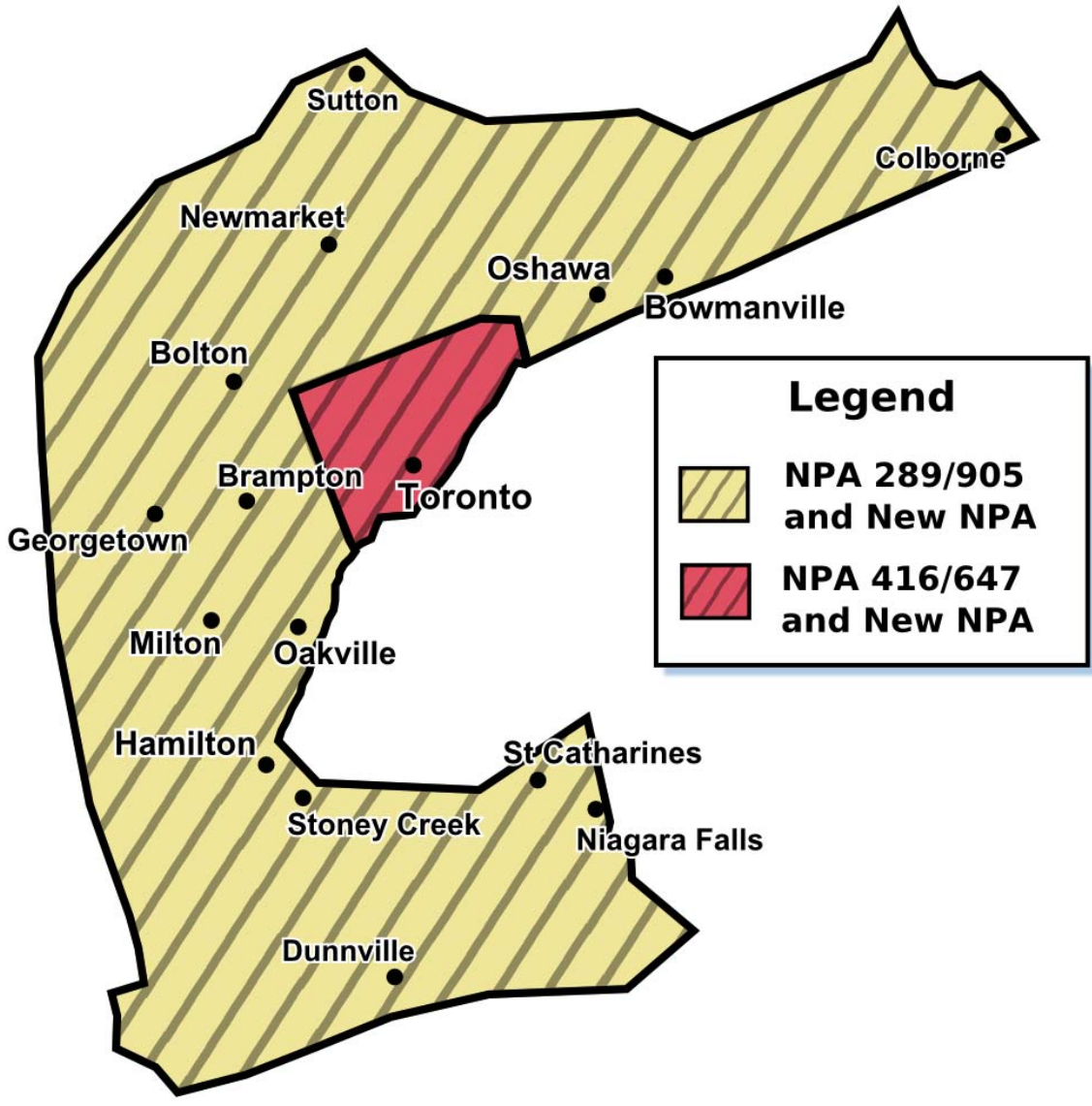


Figure 14 - Plan 4b: Distributed Overlay of New NPA on Multiple NPA areas 289/905 and 416/647

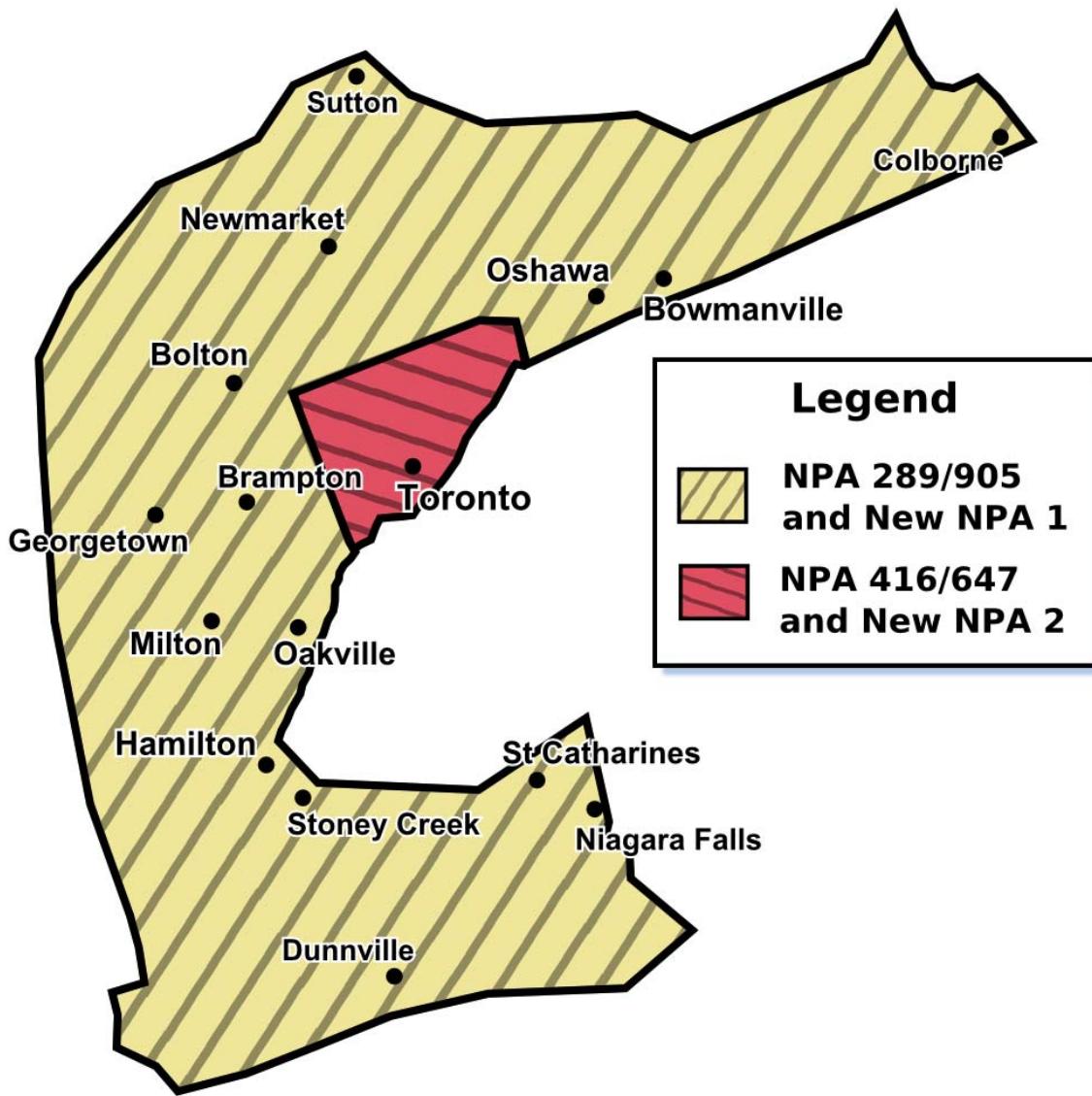


Figure 15 - Plan 4c: Distributed Overlays of separate New NPAs on NPAs 289/905 and 416/647 at the same time

Extract from TELUS Contribution Assessing Geographic Split Options for the Relief of NPAs 289/905

Introduction

This Annex provides a qualitative analysis of 34 different geographic split options for the relief of NPA 289/905. The split options 2 b) and 2 c) in this Annex are described in more detail in Section 5 of the Planning Document as Relief Options, Plans 1b and 1a respectively.

The geographic split options that were identified are as follows:

1. NPA 905 split into 2 areas and 1 new NPA introduced (4 options)
2. NPA 289 split into 2 areas and 1 new NPA introduced (4 options)
3. NPAs 289 & 905 each split into 2 areas with same boundary for NPAs 289 and 905, and 2 new NPAs introduced (4 options)
4. NPAs 289 & 905 each split into 2 areas with same boundary for NPAs 289 and 905, and 1 new NPA introduced (4 options)
5. NPAs 289 & 905 split into 3 areas with same boundaries for NPAs 289 and 905, and 2 new NPAs introduced (6 options)
6. NPAs 289 & 905 split into 3 areas with different boundaries and 1 new NPA introduced (12 options)

Figures showing the geographic outlines of the splits and a table showing the NPAs for each split area after relief are provided after the descriptions section .

Note that all the geographic split options would require significant quantities of existing telephone numbers to be changed to a new NPA. Some options also require that some of the telephone numbers requiring an NPA change would also need a change of CO Code, as summarized in the table below.

CO Code changes become necessary an area that retains none of the two existing NPAs, i.e., is changing to a new NPA, in situations where the same CO codes is assigned in both existing NPAs 289/905 in the area currently or prior to relief . Since NPA289/905 is approaching exhaust, a majority of the CO Codes are assigned in both existing NPAs, therefore up to approximately 50% of telephone numbers could require a new CO Code in a new NPA in an area where neither of the existing NPAs is retained.

Options	Qty of new NPAs	Telephone number NPA changes (say 40- 60% of TNs per NPA)	Telephone numbers take CO Code changes as well as NPA change	Quantity & type of NPA areas after relief		Area where 7-d dialling could work for local calls within each NPA
				Areas with single NPA	Areas with overlay NPAs	
1. a), b), c) d)	1	905 to New	None	0	2	None
2. a), b), c) d)	1	289 to New	None	0	2	None
3. a), b), c) d)	2	289 to New 1, 905 to New 2	None	0	2	None
4. a), b), c) d)	1	289 & 905 to New	Yes	1	1	approx 50%

Options	Qty of new NPAs	Telephone number NPA changes (say 40- 60% of TNs per NPA)	Telephone numbers take CO Code changes as well as NPA change	Quantity & type of NPA areas after relief		Area where 7-d dialling could work for local calls within each NPA
				Areas with single NPA	Areas with overlay NPAs	
5. a), b), c), d), e), f)	2	some 289 & 905 to New 1, and some to New 2	Yes	2	1	approx 66%
6. a), b), c), d), e), f), g), h), i), j)	1	some 289 to 905, & some 289 to New; some 905 to 289, & some 905 to New	Yes – more	3	0	100%

Description of options

1. NPA 905 split into 2 areas and 1 new NPA introduced

- a) NPA 905 divided by a more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The NE area retains NPA 905, and NPA 905 numbers in the SW area change to a new NPA . NPA 289 numbers are not changed in either area.

Result: The NE area remains as an overlay of NPAs 905 and 289, and the SW area becomes an overlay of the new NPA and NPA 289. All local dialling must remain as mandatory 10 digits.

- b) NPA 905 divided by a more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The SW area retains NPA 905, and NPA 905 numbers in the NE area change to a new NPA . NPA 289 numbers are not changed in either area.

Result: The NE area becomes an overlay of the new NPA and NPA 289, and the SW area remains as an overlay of NPAs 905 and 289. All local dialling must remain as mandatory 10 digits.

- c) NPA 905 divided by a more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The closer area retains NPA 905, and NPA 905 numbers in the further-away area change to a new NPA . NPA 289 numbers are not changed in either area.

Result: The closer area remains as an overlay of NPAs 905 and 289, and the further-away area becomes an overlay of the new NPA and NPA 289. All local dialling must remain as mandatory 10 digits.

- d) NPA 905 divided by a more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The further-away area retains NPA 905, and NPA 905 numbers in the closer area change to a new NPA . NPA 289 numbers are not changed in either area.

Result: The closer area becomes an overlay of the new NPA and NPA 289, and the further-away area remains as an overlay of NPAs 905 and 289. All local dialling must remain as mandatory 10 digits.

2. NPA 289 split into 2 areas and 1 new NPA introduced

- a) NPA 289 divided by a more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The NE area retains NPA 289, and NPA 289 numbers in the SW area change to a new NPA . NPA 905 numbers are not changed in either area.

Result: The NE area remains as an overlay of NPAs 905 and 289, and the SW area becomes an overlay of the new NPA and NPA 905. All local dialling must remain as mandatory 10 digits.

- b) NPA 289 divided by a more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The SW area retains NPA 289, and NPA 289 numbers in the NE area change to a new NPA . NPA 905 numbers are not changed in either area.

Result: The NE area becomes an overlay of the new NPA and NPA 905, and the SW area remains as an overlay of NPAs 905 and 289. All local dialling must remain as mandatory 10 digits.

- c) NPA 289 divided by a more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The closer area retains NPA 289, and NPA 289 numbers in the further-away area change to a new NPA . NPA 289 numbers are not changed in either area.

Result: The closer area remains as an overlay of NPAs 905 and 289, and the further-away area becomes an overlay of the new NPA and NPA 905. All local dialling must remain as mandatory 10 digits.

- d) NPA 289 divided by a more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The further-away area retains NPA 289, and NPA 289 numbers in the closer area change to a new NPA . NPA 905 numbers are not changed in either area.

Result: The further-away area remains as an overlay of NPAs 905 and 289, and the closer area becomes an overlay of the new NPA and NPA 905. All local dialling must remain as mandatory 10 digits.

3. NPAs 289 & 905 each split into 2 areas with same boundary for NPAs 289 and 905, and 2 new NPAs introduced

- a) NPAs 289 & 905 both divided by a single more-or-less straight boundary into two areas , one north-east of Toronto and the south-west of Toronto. The NE area retains NPAs 289 & 905, and NPA 289 and 905 numbers in the SW area change to new NPAs NPA1 and NPA2 respectively .

Result: The NE area remains as an overlay of NPAs 905 and 289, and the SW area becomes an overlay of 2 new NPAs. All local dialling must remain as mandatory 10 digits.

- b) NPAs 289 & 905 both divided by a single more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The SW area retains NPAs

289 & 905, and NPA 289 and 905 numbers in the NE area change to new NPAs NPA1 and NPA2 respectively.

Result: The SW area remains as an overlay of NPAs 905 and 289, and the ne area becomes an overlay of 2 new NPAs. All local dialling must remain as mandatory 10 digits.
Result: The SW area remains as an overlay of NPAs 905 and 289, and the NE area becomes a single new NPA area with no overlay which, in theory, could have 7-digit local dialling within it.

- c) NPAs 289 & 905 both divided by a single more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The closer area retains NPAs 289 & 905, and NPA 289 and 905 numbers in the further-away area change to new NPAs NPA1 and NPA2 respectively.

Result: The closer area remains as an overlay of NPAs 905 and 289, and the further-away area becomes an overlay of 2 new NPAs. All local dialling must remain as mandatory 10 digits.

- d) NPAs 289 & 905 both divided by a single more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The further-away area retains NPAs 289 & 905, and NPA 289 and 905 numbers in the closer area change to new NPAs NPA1 and NPA2 respectively.

Result: The further-away area remains as an overlay of NPAs 905 and 289, and the closest area becomes an overlay of 2 new NPAs. All local dialling must remain as mandatory 10 digits..

4. NPA 289/905 area is split into 2 areas, one retaining NPAs 289 and 905, and the other changing to a new NPA

- a) NPAs 289 & 905 both divided by a single more-or-less straight boundary into two areas , one north-east of Toronto and the south-west of Toronto. The NE area retains NPAs 289 & 905, and all numbers in SW area change to a new NPA (with CO Code changes where necessary) .

Result: The NE area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the SW area becomes a single new NPA area which could have 7-digit dialling on local calls entirely within the NPA.

- b) NPAs 289 & 905 both divided by a single more-or-less straight boundary into two areas, one north-east of Toronto and the other south-west of Toronto. The SW area retains NPAs 289 & 905, and all numbers in the NE area change to a new NPA (with CO Code changes where necessary).

Result: The SW area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the NE area becomes a single new NPA area with no overlay which could have 7-digit dialling on local calls entirely within the NPA.

- c) NPAs 289 & 905 both divided by a single more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The closer area retains NPAs 289 & 905, and all numbers in the further-away area change to a new NPA (with CO Code changes where necessary).

Result: The closer area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the further-away area becomes a single

new NPA area with no overlay which could have 7-digit dialling on local calls entirely within the NPA.

- d) NPAs 289 & 905 both divided by a single more-or-less semicircular boundary into two areas, one area closer to Toronto and the other further away from Toronto. The further-away area retains NPAs 289 & 905, and all numbers in closer area change to a new NPA (with CO Code changes where necessary).

Result: The further-away area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the closest area becomes a single new NPA area with no overlay which could have 7-digit dialling on local calls entirely within the NPA.

- 5. The NPA 289/905 area is split into 3 areas, one retaining NPAs 289 and 905, and the others each changing to a separate NPA, i.e. 2 new NPAs introduced

- a) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NE area retains NPAs 289 & 905, all numbers in the NW area change to new NPA1 (with CO Code changes where necessary), and all numbers in the SW area change to new NPA2 (with CO Code changes where necessary).

Result: The NE area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the NW and SW areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

- b) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NW area retains NPAs 289 & 905, all numbers in the NE area change to a new NPA1 (with CO Code changes where necessary), and NPAs all numbers in the SW area change to a new NPA2 (with CO Code changes where necessary).

Result: The NW area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the NE and SW areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

- c) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto; SW area retains NPAs 289 & 905, all numbers in the NE area change to a new NPA1 (with CO Code changes where necessary), and all numbers in NW area change to a new NPA2 (with CO Code changes where necessary).

Result: The SW area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the NW and NE areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

- d) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The closest area retains NPAs 289 & 905, all numbers in middle area change to a new NPA1 (with CO Code changes where necessary), and all numbers in furthest area change to a new NPA2 (with CO Code changes where necessary).

Result: The closest area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the middle and furthest areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

- e) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The middle area retains NPAs 289 & 905, all numbers in closest area change to a new NPA1 (with CO Code changes where necessary), and all numbers in furthest area change to a new NPA2 (with CO Code changes where necessary).

Result: The middle area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the closest and furthest areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

- f) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The furthest area retains NPAs 289 & 905, all numbers in the closest area change to a new NPA1 (with CO Code changes where necessary), and all numbers in the middle area change to a new NPA2 (with CO Code changes where necessary).

Result: The furthest area remains as an overlay of NPAs 905 and 289 requiring local dialling to remain as mandatory 10 digits, and the closest and middle areas become single new NPA areas with no overlay which could have 7-digit local dialling within each of them.

6. The NPA 289/905 area is split into 3 areas, one retaining NPA 289, one retaining NPA 905 and one changing to a new NPA

In the unlikely event that any of the following options could be implemented, this would have the effect of turning the clock back by eliminating all overlays within the area, and 7-digit dialling on local calling within each NPA could be allowed.

- a) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NE area retains NPAs 905, and all NPA 289 numbers in the NE area change to NPA 905 (with CO Code changes where necessary); the NW area retains NPA 289, and all NPA 905 numbers in the NW area change to NPA 289 (with CO Code changes where necessary); and all numbers in the SW area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- b) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NE area retains NPA 289, and all NPA 905 numbers in the NE area change to NPA 289 (with CO Code changes where necessary); the NW area retains NPA 905, and all NPA 289 numbers in the NW area change to NPA 905 (with CO Code changes where necessary); and all numbers in the SW area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- c) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NE area retains NPA 905, and all NPA 289 numbers in the NE area change to NPA 905 (with CO Code changes where necessary); the SW area retains NPA 289, and all NPA 905 numbers in the SW area change to NPA 289 (with CO Code changes where necessary); and all numbers in the NW area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- d) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NE area retains NPAs 289 and all NPA 905 numbers in the NE area change to NPA 289 (with CO Code changes where necessary); the SW area retains NPA 905, all NPA 289 numbers in the SW area change to NPA 905 (with CO Code changes where necessary); and all numbers in the NW area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- e) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto. The NW area retains NPA 905 and all NPA 289 numbers in the NW area change to NPA 905 (with CO Code changes where necessary); the SW area retains NPA 289, all NPA 905 numbers in the SW area change to NPA 289 (with CO Code changes where necessary); and all numbers in the NE area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- f) NPAs 289 & 905 both divided by a two more-or-less straight boundaries into three areas, one north-east of Toronto, one north-west of Toronto, and the other south-west of Toronto; NW area retains NPA 289 and all NPA 905 numbers in the NW area change to NPA 289 (with CO Code changes where necessary) SW area retains NPA 905, all NPA 289 numbers in the SW area change to NPA 905 (with CO Code changes where necessary) and all numbers in the NE area change to a new NPA.

Result: The NE, NW and SW areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- g) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The closest area retains NPAs 905, and all NPA 289 numbers in the closest area change to NPA 905 (with CO Code changes where necessary); the middle area retains NPA 289, and all NPA 905 numbers in the middle area change to NPA 289 (with CO Code changes where necessary); and all numbers in the furthest area change to a new NPA.

Result: The closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- h) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The closest area retains NPAs 289 and all NPA 905 numbers in the closest area change to NPA 289 (with CO Code changes where necessary); the middle area retains NPA 905, and all NPA 289 numbers in the middle area change to NPA 905 (with CO Code changes where necessary); and all numbers in the furthest area change to a new NPA.

Result: The closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- i) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The closest area retains NPAs 905, and all NPA 289 numbers in the closest area change to NPA 905 (with CO Code changes where necessary); the furthest

area retains NPA 289, and all NPA 905 numbers in the furthest area change to NPA 289 (with CO Code changes where necessary); and all numbers in the middle area change to a new NPA.

Result: The closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- j) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The closest area retains NPAs 289 and all NPA 905 numbers in the closest area change to NPA 289 (with CO Code changes where necessary); the furthest area retains NPA 905, and all NPA 289 numbers in the furthest area change to NPA 905 (with CO Code changes where necessary); and all numbers in middle area change to a new NPA.

Result: The closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- k) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The middle area retains NPA 905, and all NPA 289 numbers in the middle area change to NPA 905 (with CO Code changes where necessary); the furthest area retains NPA 289, and all NPA 905 numbers in the furthest area change to NPA 289 (with CO Code changes where necessary); and all numbers in the closest area change to a new NPA.

Result: the closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

- l) NPAs 289 & 905 both divided by two more-or-less semicircular boundaries into three areas (concentric partial rings), one area closest to Toronto, one furthest away, and the other in the middle. The middle area retains NPA 289, and all NPA 905 numbers in the middle area change to NPA 289 (with CO Code changes where necessary); the furthest area retains NPA 905, and all NPA 289 numbers in the furthest area change to NPA 905 (with CO Code changes where necessary); and all numbers in the closest area change to a new NPA.

Result: The closest, middle and furthest areas become single NPA areas with no overlay which, in theory, could have 7-digit local dialling within each of them.

NPA areas after relief with geographic splits

Split	Figure 1		Figure 2		Figure 3			Figure 4		
	NE	SW	Inner	Outer	NE	NW	SW	Inner	Middle	Outer
1 a)	289/ 905	289/ new								
1 b)	289/ new	289/ 905								
1 c)			289/ 905	289/ new						
1 d)			289/ new	289/ 905						
2 a)	289/ 905	905/ new								
2 b)	905/ new	289/ 905								
2 c)			289/ 905	905/ new						
2 d)			905/ new	289/ 905						
3 a)	289/ 905	new1/ new2								
3 b)	new1/ new2	289/ 905								
3 c)			289/ 905	new1/ new2						
3 d)			new1/ new2	289/ 905						
4 a)	289/ 905	new								
4 b)	new	289/ 905								
4 c)			289/ 905	new						
4 d)			new	289/ 905						
5 a)					289/ 905	new 1	new2			
5 b)					new 1	289/ 905	new2			
5 c)					new2	new 1	289/ 905			
5 d)								289/ 905	new 1	new2
5 e)								new 1	289/ 905	new2
5 f)								new2	new 1	289/ 905
6 a)					905	289	new			
6 b)					289	905	new			
6 c)					905	new	289			
6 d)					289	new	905			
6 e)					new	905	289			
6 f)					new	289	905			
6 g)								905	289	new
6 h)								289	905	new
6 i)								905	new	289
6 j)								289	new	905
6 k)								new	905	289
6 l)								new	289	905

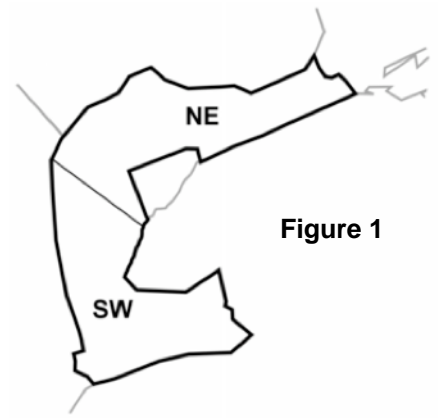


Figure 1

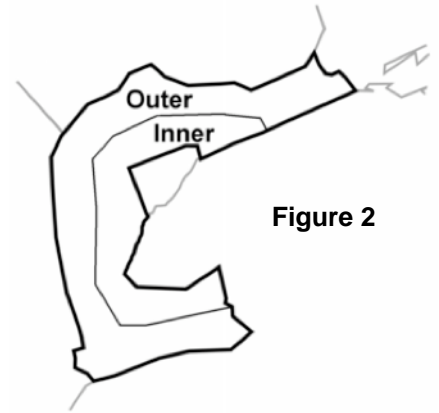


Figure 2

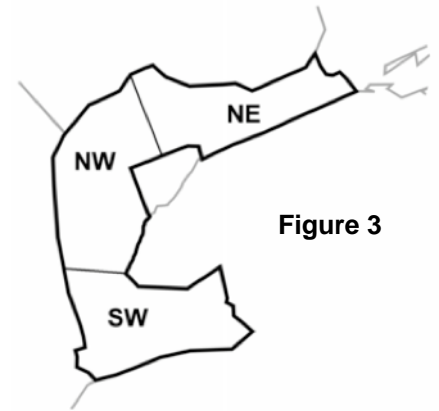


Figure 3

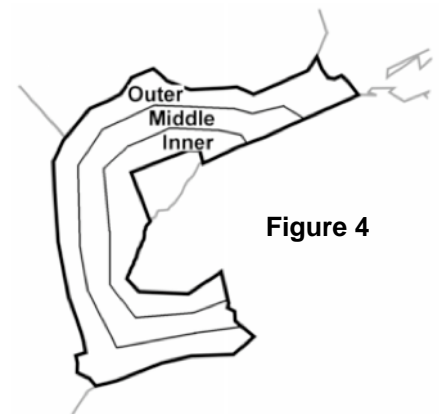


Figure 4

Table 1a – Exchange Areas currently in NPA 289/905, and NPAs for these Exchange Areas after each Relief Plan

Exchange Areas (currently in NPA 289/905)	1a		1b		2		3a		3b		4a		4b	
	New	289/905	New	289/905	New	289/905	226	289/905	343	289/905	New	289/905	New	289/905
Ajax-Pickering		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ancaster	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Aurora		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Beamsville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Beeton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Bethesda		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Binbrook	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstock		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Bolton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Bowmanville		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Bradford		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Brampton		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brooklin		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Burlington	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Caledon East		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Caledonia	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Campbellville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Castlemore		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Castleton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Cayuga	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Claremont		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Clarkson		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cobourg		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Colborne		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Cold Springs		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Cooksville		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dundas	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Dunnville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Fisherville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Fort Erie	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Freelton	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Garden Hill		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Georgetown	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gormley		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Grafton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Grimsby	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Hagersville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Hamilton	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hampton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Keswick		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
King City		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kleinburg		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Malton		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Maple		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Markham		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Milton	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Exchange Areas (currently in NPA 289/905)	1a		1b		2		3a		3b		4a		4b	
	New	289/ 905	New	289/ 905	New	289/ 905	226	289/ 905	343	289/ 905	New	289/ 905	New	289/ 905
Mount Albert		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Mount Hope	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Newcastle		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Newmarket		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newtonville		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Niagara Falls	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Niagara-on-the-Lake	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Nobleton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Oak Ridges		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oakville	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orono		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Oshawa		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Palgrave		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Pelham	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Colborne	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Credit		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Hope		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Perry		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Robinson	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Queensville		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Richmond Hill		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ridgeway	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Roseneath		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Schomberg		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Selkirk	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Snelgrove		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
South Pickering		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
St. Catharines-Thorold	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Stevensville	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Stoney Creek	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Stouffville		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Streetsville		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sutton		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Thornhill		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tottenham		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Unionville		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Uxbridge		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Victoria		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Vineland	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wainfleet	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Waterdown	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Welcome		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Welland	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wellandport	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
West Lincoln	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Whitby		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Winona	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Woodbridge		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 2 – Exchange Areas in NPAs 226/519, 343/613, and 416/647

a) NPAs 226/519: The following Exchange Areas, currently in NPA 226/519, would remain in NPA 226/519 in all relief plans. With option 3a, NPA 226 would be extended to also include all the NPA 289/905 Exchange Areas in Table 1a above.

Aberarder	Durham	Lions Head	Sauble Beach
Acton	Dutton	Listowel	Scotland
Ailsa Craig	Dyer Bay	London	Seaforth
Alvinston	Eastwood	Lucan	Sebringville
Amherstburg	Elmira	Lucknow	Shakespeare
Arkona	Elora	Lynden	Shedden
Arthur	Embro	Maidstone	Shelburne
Atwood	Emeryville	Markdale	Simcoe
Auburn	Erin	Mcgregor	Sombra
Aylmer	Essex	Meaford	Southampton
Ayr	Exeter	Melbourne	Sparta
Ayton	Fergus	Merlin	St Clements
Baden	Feversham	Mildmay	St George
Bayfield	Fingal	Milverton	St Jacobs
Beachville	Flesherton	Mitchell	St Marys
Belleriver	Forest	Monkton	St Thomas
Belmont	Galt	Mount Brydges	Stokes Bay
Blenheim	Glencoe	Mount Forest	Stoney Point
Blyth	Goderich	Mount Pleasant	Straffordville
Bothwell	Gorrie	Nairn	Stratford
Brantford	Grand Bend	Neustadt	Strathroy
Breslau	Grand Valley	New Dundee	Tara
Brigden	Granton	Newhamburg	Tavistock
Bright	Guelph	Norwich	Tecumseh
Brights Grove	Hanover	Ohsweken	Teeswater
Brownsville	Harrietsville	Oilsprings	Thamesford
Brussels	Harriston	Orangeville	Thamesville
Burford	Harrow	Otterville	Theford
Burgesslille	Hensall	Owen Sound	Thornbury
Caledon	Hepworth	Paisley	Thorndale
Cargill	Hespeler	Palmerston	Tilbury
Centralia	Hickson	Paris	Tillsonburg
Chatham	Highgate	Parkhill	Tiverton
Chatsworth	Hillsburgh	Pelee Island	Tobermory
Chesley	Holstein	Petrolia	Uniondale
Clifford	Ilderton	Plattsville	Walkerton
Clinton	Ingersoll	Pleasant Park	Wallaceburg
Comber	Innerkip	Port Dover	Wardsville
Corunna	Inwood	Port Elgin	Waterford
Cottam	Jarvis	Port Franks	Watford
Courtright	Kerwood	Port Lambton	Wellesley
Crediton	Kincardine	Port Rowan	West Lorne
Dashwood	Kingsville	Port Stanley	Wheatley
Delhi	Kintore	Preston	Warton
Dorchester	Kirkton	Princeton	Windsor
Drayton	Kitchener Waterloo	Pt Burwell	Wingham
Dresden	La Salle	Ridgetown	Woodslee
Drumbo	Lambeth	Ripley	Woodstock
Dublin	Langton	Rockwood	Wyoming
Dundalk	Leamington	Rodney	Zurich
Dungannon	Linwood	Sarnia	

b) NPA 343/613: The following exchange areas, currently in NPA 343/613, would remain in NPA 343/613 in all relief plans. With option 3b, NPA 343 would be extended to also include all the NPA 289/905 exchange areas listed in Table 1a.

Adolphustown	Denbigh	Manotick	Renfrew
Alexandria	Deseronto	Marmora	Richmond
Alfred	Douglas	Martintown	Rockland
Almonte	Eganville	Maxville	Rolphton
Arden	Elgin	Maynooth	Russell
Arnprior	Embrun	McDonalds	Seeleys Bay
Athens	Enterprise	Corners	Selby
Avonmore	Finch	Merrickville	Sharbot Lake
Bancroft	Foymount	Metcalfe	Smiths Falls
Barry's Bay	Frankford	Moose Creek	South Mountain
Bath	Gananoque	Morrisburg	Spencerville
Beachburg	Gilmour	Napanee	St-Regis (QC)
Belleville	Glen Robertson	Navan	St. Eugene
Bloomfield	Gloucester	Newburgh	St. Isidore
Bourget	Golden Lake	North Augusta	Stirling
Brighton	Harrowsmith	North Gower	Sydenham
Brockville	Hawkesbury	Northbrook	Tamworth
Calabogie	Ingleside	Odessa	Thurlow
Cardiff	Inverary	Orleans	Toledo
Cardinal	Iroquois	Osgoode	Trenton
Carleton Place	Jockvale	Ottawa-Hull	Tweed
Carp	Kanata-Stittsville	Pakenham	Vankleek Hill
Casselman	Kemptville	Palmer Rapids	Verona
Chalk River	Killaloe	Parham	Wellington
Chesterville	Kingston	Pembroke	Westmeath
Clarence Creek	L'Orignal	Pembroke	Westport
Cobden	Lanark	Independent	Whitney
Coe Hill	Lancaster	Perth	Williamsburg
Constance Bay	Lansdowne	Petawawa	Winchester
Cornwall	Long Sault	Picton	Wolfe Island
Crysler	Maberly	Plantagenet	Wooler
Cumberland	Madoc	Plevna	Yarker
Deep River	Maitland	Portland	
Delta	Mallorytown	Prescott	

c) NPA 416/647: The Toronto exchange area that currently comprises NPA 416/647 would remain in NPA 416/647 in all relief plans. With option 4b, Toronto would also be included in the new NPA assigned to relieve NPA 289/905

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NPA 289/905 RELIEF IMPLEMENTATION PLAN (RIP)

7 December 2009

Date of RPC Consensus: 3 December 2009

TITLE: NPA 289/905 Relief Implementation Plan (RIP)

DISTRIBUTION: CRTC

ISSUED BY: NPA 289/905 Relief Planning Committee (RPC)

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NPA 289/905 Relief Implementation Plan (RIP)

1. INTRODUCTION

This Relief Implementation Plan (RIP) was developed in accordance with the Canadian NPA Relief Planning Guidelines. This RIP is a set of activities and deliverables established by the Relief Planning Committee (RPC) that are required to provide relief to the exhausting NPA. The objective of the NPA Relief Planning Process is to ensure an adequate supply of CO Codes and telephone numbers is always available to the Canadian telecommunications industry and users.

Purpose of RIP

The purpose of this RIP is to establish a framework and timeframe for implementing relief for NPA 289/905. This RIP addresses the implementation of new NPA Code 365 as a distributed overlay to the NPA 289/905 region.

This RIP contains a Relief Implementation Schedule (see Section 4), Consumer Awareness Program (CAP) (see Attachment 1) and Network Implementation Plan (NIP) (see Attachment 2).

This RIP addresses the activities, deliverables, and events impacting more than one individual TSP. It does not cover activities internal to each TSP. Attachment 3, Individual Telecommunications Service Provider Responsibilities, provides a list of activities that each TSP will need to address in its own network, systems and business operations.

In addition, this RIP does not cover issues for which there is already an established process for coordination between TSPs to establish service (e.g., interconnection agreements between carriers).

In the event that circumstances change after the date when the Commission approves this RIP, the RPC may propose modifications to this RIP as necessary.

Telecom Notice of Public Consultation CRTC 2009-310

On 23 March 2009, the Canadian Numbering Administrator (CNA) advised the CRTC and the industry that NPA 289/905 had entered the relief planning window of 72 months according to the aggregate results from the 2009 General Numbering Resource Utilization Forecast (G-NRUF).

On 28 May 2009, the CRTC issued Telecom Notice of Consultation CRTC 2009-310 *Establishment of a CISC ad hoc committee for area code relief planning for area codes 289 and 905 in southern Ontario*, in which it established the CISC ad hoc Relief Planning Committee (RPC) for NPA 289/905.

Planning Document (PD)

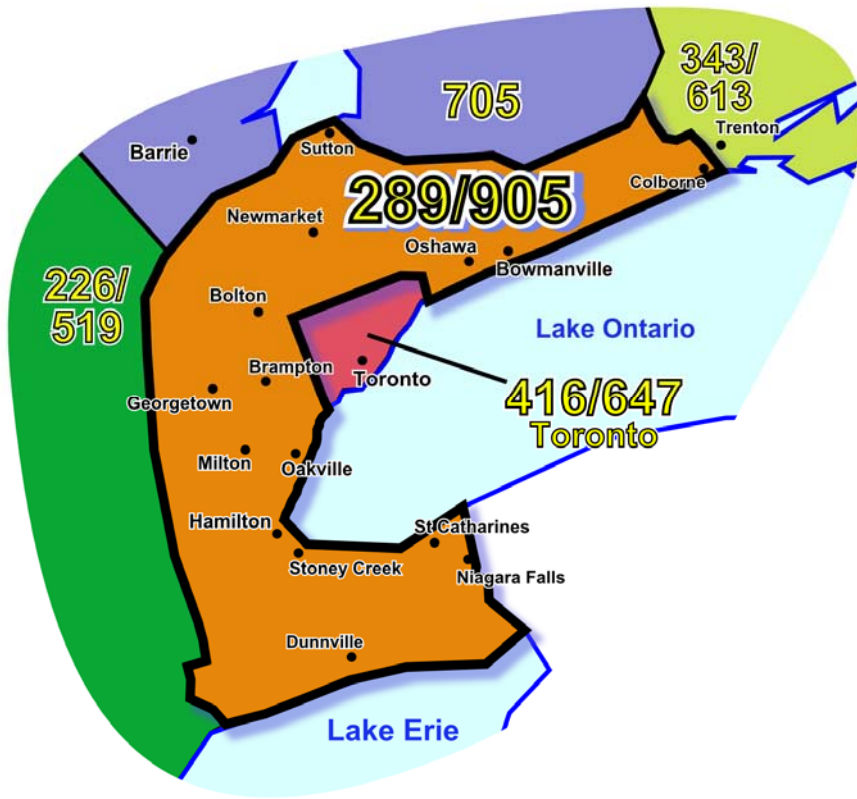
During October and November 2009, the RPC met to review the Initial Planning Document and to develop a Planning Document (PD) including a Relief Implementation Schedule. The RPC developed this RIP to implement relief for NPA 289/905 in accordance with the recommendations contained in the PD.

The Planning Document recommended relief as follows:

- a) The relief method should be a distributed overlay of a new NPA Code on NPA 289/905 (option 4a);
- b) NPA Code 365 should be used for the Relief NPA Code for NPA 289/905;
- c) NPA Code 742 should be reserved for subsequent relief in the 365/289/905 region as the 289/905 region has been forecast in the latest R-NRUF (June 2009) to exhaust twice in the next 26 years.
- d) The Relief Date should be 24 October 2015 in order to provide Carriers and customers with advance notification and sufficient lead-time to implement relief, which would be 12 months in advance of the current Projected Exhaust Date;
- e) The local dialling plan should remain as 10 digits for all local calls originating within the NPA 289/905 area and the new relief NPA Code;
- f) Per section 9, if a Jeopardy Condition is declared, it is recommended that the 7 CO Codes for initial code assignments for Carriers already providing service should be made available for general assignment prior to relief, and the 15 CO Codes for initial code assignments for new entrants should also become available prior to relief for initial code assignments for new entrants only.

Map of NPA 289/905

A map showing NPA 289/905 is on the following page. The 289/905 Numbering Plan Area (NPA) consists of 94 Exchange Areas serving southern Ontario, which includes the major communities of Ajax-Pickering, Brampton, Burlington, Hamilton, Markham, Milton, Mississauga, Oakville, Oshawa, Richmond Hill, St. Catharines, and Whitby.



Dial Plan Impacts

Currently 10-digit dialling is mandatory for local calls originating within area code 289/905, and for local calls to area code 289/905 from adjacent area codes 226/519, 343/613, 416/647 and 249/705.

Local dialling plans will not change when NPA 289/905 relief is implemented. Mandatory 10-digit dialling will continue to apply on local calls originating in the NPA 289/905 area and on local calls to the NPA 289/905 area from adjacent NPAs. Mandatory 10-digit dialling will apply to local calls to and from the new NPA that will be implemented in the NPA 289/905 area.

The ILEC Local Calling Areas (LCAs) for some Exchange Areas in NPA 289/905 include Exchange Areas in adjacent NPAs 226/519, 343/613, 416/647 and/or 249/705. See Annex C, Table 2 for a list of the 10-digit local calling that exists where LCAs cross NPA boundaries. As previously indicated, the dialling plan for local calls across NPA boundaries will not change due to NPA relief.

NPA relief will not affect the dialling plan for long-distance calls originating in NPA 289/905 or any other NPA. No local calling will become long-distance and no long-distance calling will become local as a result of NPA relief.

2. NPA RELIEF PLANNING PROCESS

NPA Relief Planning is conducted under the regulatory oversight of the Commission in accordance with the Canadian NPA Relief Planning Guidelines. Those Guidelines were developed by the Canadian Steering Committee on Numbering (CSCN), accepted by the CISC and approved by the Commission.

The Canadian NPA Relief Planning Guidelines and related information on relief planning may be obtained from the www.cnac.ca web site. The CISC operates under the CISC Administrative Guidelines that may be obtained from the Commission web site (see www.crtc.gc.ca).

For each NPA projected to exhaust within a 72 month time period, the Commission informs the public that an RPC, chaired by the CNA, will be formed as an Ad Hoc Working Group of the CISC to do relief planning for the exhausting NPA. Any interested party may participate in the relief planning process. All RPCs operate as open public forums. Any party wanting to participate in this process is encouraged to visit the above web sites to obtain information on the process and schedule of events and activities. Any questions regarding the relief planning process may be directed to the CNA as follows:

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Individual TSPs are responsible for their own activities to implement relief (see Attachment 3). Each TSP employs a variety of information and operation support systems for the operation, maintenance, control, and administration of its network and to serve its customers. Each TSP is responsible to make the necessary changes in its systems in order to operate in the new environment and specifically to process the full 10-digit telephone number of each subscriber. Each TSP is responsible to ensure its customers are informed and implement the changes necessary to support the relief activity. Also, each TSP is responsible to ensure its own suppliers of products and services (e.g., Operator Services) implement the changes necessary to support the relief activity. Accordingly, no activities have been identified for the coordination of these functions between different TSPs, except as otherwise provided for in this RIP (e.g., Consumer Awareness Program (CAP) and Network Implementation Plan (NIP)).

Individual TSPs and industry database owners/operators shall advise Commission staff of any concerns or problems as they arise with respect to modifying their systems and databases in time to implement relief in accordance with this RIP.

3. PROPOSED NPA RELIEF IMPLEMENTATION TASK FORCE(S)

The RPC developed this RIP. Implementation will be conducted with the assistance and input of two Task Forces that will be created by the RPC after a CRTC Decision is issued concerning the recommendations contained in the Planning Document:

- 1) Consumer Awareness Task Force (CATF), and
- 2) Network Implementation Task Force (NITF).

The CNA will send an e-mail to all current and prospective Code Holders in the affected NPA requesting those entities to provide a contact name to the Co-chairs of the two Task Forces (with a courtesy copy to Commission staff). Independent telephone companies may choose to represent themselves or to be represented by their associations.

Each Task Force will have at least one voluntary Co-chair. The Co-chairs of the CATF and NITF act as the single point of contact and spokespersons for their respective Task Forces. The Co-chairs maintain the list of participants on their Task Forces as confidential. All TSPs operating in the affected NPAs have a participant on each of the Task Forces.

The two Task Forces will develop and submit separate but coordinated plans for their respective activities:

- 1) Consumer Awareness Program (CAP), and
- 2) Network Implementation Plan (NIP).

Individual TSPs are expected to develop individual consumer awareness programs and network implementation plans within the parameters of the CAP and NIP contained in this RIP. The CATF and NITF will meet periodically to perform their industry level functions identified in this RIP. The RPC will provide oversight and coordination of the CATF and NITF in accordance with the RIP.

Consumer Awareness Task Force (CATF)

The purpose of the CATF is to develop a comprehensive and consistent consumer awareness program for relief activities in this NPA, and to forward it to the CISC by the due date in the Relief Implementation Schedule.

To develop and implement a CAP, the RPC will create a CATF. Each TSP operating in this NPA will be requested to provide the name of a representative to serve on the CATF. The CATF will be Co-chaired by volunteer participants of the CATF. The Co-chairs of the CATF compile, maintain and distribute the list of all representatives on the CATF to the CATF distribution list (i.e., contact name, title, telephone number, fax number, street address, e-mail address), including the CNA.

Purpose and Mandate

The responsibilities of the CATF include, but are not limited to:

- 1) Develop and agree on a CAP and schedule;
- 2) Develop and submit progress reports;
- 3) Identify and address CAP issues;
- 4) Act as single point of contact on CAP issues; and,
- 5) Identify any consumer concerns or issues regarding the implementation of relief and advise the RPC, the Commission or Commission staff as appropriate.

The role of the individual CATF representative of each TSP is to ensure that its TSP organization develops, submits and implements its individual consumer awareness program in accordance with the CAP and associated schedule. Each representative acts as the single point of contact with respect to implementation of the CAP and activities for its organization. Each TSP is responsible for developing, submitting and implementing its individual consumer awareness program in accordance with the industry level CAP.

All TSPs shall provide progress reports to the CATF for submission to the RPC in accordance with the Relief Implementation Schedule.

Individual TSPs should notify the CATF, or Commission staff, or the Commission, as appropriate, if there are any problems or concerns with respect to their individual consumer awareness program activities to implement relief in accordance with this RIP.

The recommended CAP is attached to this RIP (see Attachment 1).

Network Implementation Task Force (NITF)

The purpose of the NITF is to develop a Network Implementation Plan (NIP) to be submitted to the CISC. This complies with the Canadian NPA Relief Planning Guideline.

To develop and implement a NIP, the RPC will create a NITF. Each TSP operating in this NPA will be requested to provide the name of a representative to serve on the NITF. The NITF will be Co-chaired by volunteer participants of the NITF. The Co-chairs of the NITF compile, maintain and distribute the list of all representatives on the NITF to the NITF distribution list (i.e., contact name, title, telephone number, fax number, street address, e-mail address), including the CNA.

Purpose and Mandate

The role of the NITF is to identify and address network implementation issues that affect all carriers. The responsibilities of the NITF include, but are not limited to:

- 1) Develop and agree on a NIP and schedule;
- 2) Develop and submit progress reports;
- 3) Identify and address NIP issues;
- 4) Act as single point of contact on NIP issues;
- 5) Identify any network concerns or issues regarding the implementation of relief and advise the RPC, the Commission or Commission staff as appropriate; and,
- 6) Develop inter-network test plans, as necessary.

The role of the individual NITF representative of each TSP is to ensure that its TSP organization develops, submits and implements its individual network implementation plan in accordance with the NIP and associated schedule. Each representative acts as the single point of contact for implementation of the NIP and activities for its organization. Each TSP is responsible to develop, submit and implement its individual network implementation plan in accordance with the industry level NIP.

All TSPs shall provide progress reports to the NITF for submission to the RPC in accordance with the Relief Implementation Schedule.

Test Plans and Tests shall be arranged on a bilateral basis between interconnecting TSPs in accordance with bilateral agreements and the Relief Implementation Schedule.

Individual TSPs and industry database owners/operators (e.g., Canadian Local Number Portability Consortium) should notify the NITF, or Commission staff, or the Commission, as appropriate, if there are any problems or concerns with modifying their systems and databases in time to implement relief in accordance with this RIP.

The recommended NIP is attached to this RIP (see Attachment 2).

4. PROPOSED NPA RELIEF IMPLEMENTATION SCHEDULE

The following table identifies the major implementation activities, deliverables and associated dates based upon the tasks identified in the Canadian NPA Relief Planning Timeline as well as major events in both the CAP and NIP. All TSPs and telecommunications service users should plan their internal relief activities in accordance with the following Relief Implementation Schedule.

RELIEF IMPLEMENTATION SCHEDULE
NPA 289/905 Relief
(Implementation of Overlay NPA 365)

	ITEM	PRIME	START	END
1	CNA identifies NPA exhaust and notifies CRTC staff, CSCN, NANPA & CISC	CNA	23 Mar 2009	23 Mar 2009
2	CNA conducts first R-NRUF (June 2009 R-NRUF)	CNA	23 Mar2009	June 2009
3	CRTC issues Telecom Notice of Consultation regarding RPC Ad Hoc CISC and Interested Parties list	CRTC		28 May 2009
4	CNA develops and distributes IPD to RPC	CNA	23 Mar 2009	23 Sept 2009
5	CNA holds initial RPC meeting to review NPA 289/905 situation, relief planning process, IPD, create CATF and NITF, and commence development of Planning Document (PD), Planning Letter (PL) and Relief Implementation Plan (RIP)	CNA	26 Oct 2009	27 Oct 2009
6	CNA chairs subsequent RPC meetings & conference calls to finalize PD, PL & RIP	CNA RPC	28 Oct 2009	30 Nov 2009
7	CNA submits PD, PL & RIP to the CISC and CRTC for approval	CNA		30 Nov 2009
8	Special Types of Telecommunications Service Users (911 PSAPs, N11 call center operators, alarm companies, ISPs, paging companies, etc.) to identify any concerns regarding relief to CRTC	Special Users	28 May 2009	30 Nov 2009
9	CRTC issues Telecom Decision approving Relief Method, Relief Date and RIP	CRTC		28 Feb 2010
10	All Carriers to develop Consumer Awareness Plans to be filed with the CRTC (may be done collectively by the Telecommunications Alliance)		28 Feb 2010	24 Oct 2013
11	CNA prepares and issues media release (in coordination with Telecommunications Alliance)	CNA	28 Feb 2010	24 Oct 2013
12	CNA submits PL and RIP to NANPA	CNA	28 Feb 2010	24 Oct 2013
13	NANPA Posts Planning Letter (usually at least 12 months prior to Relief Date)	NANPA	24 Oct 2013	1 Nov 2013
14	Task Forces, Carriers and users implement relief	Task Forces TSPs Users	28 Feb 2010	24 Oct 2015
15	All Carriers implement consumer awareness activities	Carriers	24 Oct 2013	24 Oct 2015
16	All Carriers to notify all customers (including residence, business & special customers) of the new NPA	Carriers	24 Oct 2013	18 April 2014
17	Telcordia TRA database updates to add exchanges to NPA 365 (starts on the issue date of the PL and must be completed by 6 months prior to the relief date for the distributed overlay)	Telcordia TRA	1 Nov 2013	24 April 2015
18	All Telecommunications Service Users (including Special Users 911 PSAPs, alarm companies, ISPs, paging companies, etc.) to implement changes to their telecom equipment & systems to accommodate the new NPA		28 Feb 2010	24 Oct 2015
19	Payphone Providers Reprogram Payphones	Payphone Providers	28 Feb 2010	24 Oct 2015
20	TSPs and database owners/operators to modify systems and industry databases	Database Owners	28 Feb 2010	24 Oct 2015
21	Operator Services & Directory Assistance Readiness	Carriers	28 Feb 2010	24 Oct 2015
22	Directory Publisher Readiness for overlays (ability to identify the NPA in telephone numbers in the directory published after the Overlay NPA is activated)	Directory Publishers	28 Feb 2010	24 Oct 2015
23	9-1-1 PSAP Systems and Databases Readiness	PSAPS & TSPs	28 Feb 2010	24 Oct 2015
24	9-1-1 TSP Readiness	TSPs	28 Feb 2010	24 Oct 2015
25	ISCP & Service Order Systems Readiness	Carriers	28 Feb 2010	24 Oct 2015
26	Carriers to submit Progress Report #1 to NITF and CATF	Carriers	18 April 2014	2 May 2014
27	NITF and CATF develop & submit Progress Report #1 to RPC	NITF & CATF	2 May 2014	16 May 2014
28	RPC develops & submits Progress Report #1 to CISC/CRTC	RPC	16 May 2014	30 May 2014
29	Carriers to submit Progress Report #2 to NITF and CATF	Carriers	13 June 2015	27 June 2015

	ITEM	PRIME	START	END
30	NITF and CATF develop & submit Progress Report #2 to RPC	NITF & CATF	27 June 2015	11 July 2015
31	RPC develops & submits Progress Report #2 to CISC/CRTC	RPC	11 July 2015	25 July 2015
	Carriers apply for Test CO Codes in new NPA (no more than 6 months and no less than 66 days prior to the start date for testing (Section 7.16.4 Canadian RP GL)	TSPs	25 Jan 2015	19 May 2015
32				
	Develop Inter-Carrier Network Test Plans and prepare for testing (individual carriers to make arrangements in accordance with interconnection agreements)	NITF Carriers	25 Jan 2015	25 July 2015
33				
	All international and domestic Telecommunications Service Providers (TSPs) should ensure that the new NPA is activated throughout their networks by the start date for network testing.	TSPs		25 July 2015
34				
	Inter-Carrier Testing Period (subject to Inter-Carrier Network Test Plans –continues up to introduction of new NPA) (start about 3 months prior to relief date)	NITF Carriers	25 July 2015	24 Oct 2015
35				
	Relief Date (earliest date when CO Codes in new NPA may be activated)			24 Oct 2015
36				
	Carriers submit Final Report to CATF and NITF	Carriers	24 Oct 2015	7 Nov 2015
37				
	Submission of NITF and CATF Final Report to RPC	NITF & CATF	7 Nov 2015	21 Nov 2015
38				
	RPC submits Final Report to CISC/CRTC	RPC	21 Nov 2015	5 Dec 2015
39				
	Carriers disconnect Test Codes & Numbers, and submit Part 1 form to return or request Test Codes		24 Nov 2015	24 Dec 2015
40				

5. OTHER ISSUES

Payphone Service Providers

All Payphone Service Providers are required to comply with the requirements contained in this RIP and Commission Decisions.

It is the responsibility of each Payphone Service Provider to update any system associated with the operation of their payphones in order to accommodate relief.

It is recommended that Commission staff notify Payphone Service Providers of the implementation of relief for this NPA and the new overlay NPA Code.

Individual Payphone Service Providers should notify the Commission or Commission staff, as appropriate, if they have any problems or concerns.

Telecommunication Service Users

All users are required to comply with the requirements contained in this RIP and Commission Decisions.

Users of telecommunications services are required to make the necessary changes to their telecommunications systems and equipment to accommodate the new overlay NPA Code. Users include, but are not limited to, 9-1-1 Public Safety Answering Points (PSAPs), alarm companies, internet service providers, paging companies, owners of Customer Premises Equipment, unified messaging service companies, governments, apartment building owners, hydro meter readers and the general public.

Special types of Telecommunication Service Users (e.g., 911 PSAPS, N11 Service Providers (i.e., the entities that provides the services that are accessed via dialling the N11 Codes), alarm companies, internet service providers, paging companies, owners of Customer Premises Equipment requiring modification, unified messaging service companies, governments, apartment building owners, hydro meter readers) must take special measures to ensure that their services continue to function properly. All special types of Telecommunication Service Users are requested to co-ordinate their equipment and system modifications with their Carriers to implement the new overlay NPA Code.

Users of telecommunications services should notify their TSP and the Commission or Commission staff, as appropriate, if they have any problems or concerns with modifying their systems and databases in time to implement relief in accordance with this RIP. It is important that service users, in particular alarm service providers, make the required or necessary modifications to their systems, databases and terminal equipment.

9-1-1 PSAPS must make any required changes to their systems and databases to accommodate the new overlay NPA. Individual 9-1-1 PSAP system operators shall identify specific problems or concerns to the Commission or Commission staff, as appropriate. It is critically important that 9-1-1 PSAPs make the required or necessary modifications to their systems, databases and terminal equipment prior to the relief date.

Directories

All Directory Service Providers are required to comply with the requirements contained in this RIP and Commission Decisions.

As NPA 289 was overlaid on NPA 905 in 2001, all Directory Service Providers should have already made all necessary modifications to their systems to accept telephone numbers in the 10-digit format and directories should already identify the NPA Code associated with the telephone number so that customers can obtain the appropriate 10-digit number.

It is the responsibility of Directory Service Providers to make the necessary changes to their systems and directories to facilitate the introduction of the new overlay NPA code.

To facilitate the implementation of the new overlay NPA Code, directories must contain appropriate dialling instructions and information.

6. RECOMMENDATIONS

The RPC submits this RIP to the CISC and the CRTC for approval and recommends that relief be implemented in accordance with the enclosed Relief Implementation Schedule, Consumer Awareness Program (CAP) and Network Implementation Plan (NIP).

Attachments:

- 1) Consumer Awareness Program (CAP)
- 2) Network Implementation Plan (NIP)
- 3) Individual Telecommunications Service Provider Responsibilities

ATTACHMENT 1

Consumer Awareness Program (CAP)

Introduction

The RPC will establish a Consumer Awareness Task Force (CATF) to develop and implement this CAP.

This CAP identifies key milestones and establishes completion dates as agreed to by the RPC. It is the responsibility of all Telecommunications Service Providers (TSPs) operating or intending to operate in NPA 289/905 to file their individual consumer awareness plans with the Commission in accordance with the Relief Implementation Schedule. TSPs must implement those programs in accordance with this industry CAP and submit progress reports to the CATF and RPC for inclusion in the Progress and Final Reports to be filed with the Commission. The Relief Implementation Schedule contains start and end dates for industry consumer awareness activities (see the Relief Implementation Schedule included in this Relief Implementation Plan).

In order to implement the CAP, TSPs may act individually or collectively to accomplish their objectives. However, where TSPs act collectively (e.g., Telecommunications Alliance), such TSPs are individually responsible to report their progress to the CATF and RPC.

All TSPs are required to report any major relief plan concerns as they are identified, along with proposed solutions, and to address consumer concerns reported directly to the Commission.

The CAP shall incorporate the following:

- 1) Develop and agree on a CAP schedule
- 2) Co-ordinate and schedule progress reports with the NITF
- 3) Identify and address CAP issues
- 4) Communications objectives
- 5) Target audiences (e.g., government, media and various business and residence market segments)
- 6) Special types of telecommunications users (e.g., alarm, apartment owners, hydro readers)
- 7) NPA-specific communications messages (i.e., in the exhausting NPA as well as affected Exchange Areas in neighbouring NPAs, if any)
- 8) Communications tactics
- 9) Communications theme
- 10) Key messages

Communications Objectives

The Communications Objectives of this CAP are as follows:

- 1) Increase consumer and user awareness of the introduction of the new NPA Code 365 in the NPA 289/905 area.
- 2) Advise callers that the prefix 1 is not required for local 10-digit dialling to, from, within the new overlay NPA Code.
- 3) Provide open communication channels to address questions and concerns from residents and businesses regarding the implementation of the new NPA Code.
- 4) Continue to lay the foundation for seamless addition of new NPA Codes in the future.

Communications Tactics

TSPs should consider using the following tactics to accomplish their individual consumer awareness program activities. TSPs may opt to implement some or all of these tactics on their own or as part of an association with other TSPs. In the event that an association of TSPs is formed to coordinate consumer awareness activities, all TSPs operating in the affected NPAs are strongly encouraged to participate in the association activities.

Government Relations

TSPs should ensure that governmental authorities in the affected NPAs are informed of the relief plan (federal, provincial and municipal governments, government offices, and elected representatives).

Media Relations

To introduce and raise awareness of the new NPA Code, TSPs should conduct an ongoing media relations campaign targeting key media (including local newspapers, broadcast media, and community publications) in the exhausting NPA. TSPs should offer spokespersons for interviews that focus on how residents and businesses can prepare for the transition and to encourage them to start getting ready now.

TSPs should determine newsworthy announcements and issue press releases accordingly. The press release program will serve to update local media on the introduction of the new NPA Code.

When required, TSPs should issue a series of media alerts and public service announcements to local radio and broadcast stations to provide updated information on the new area code.

Each TSP shall provide the news media and general public with basic information about the new NPA Code and Commission decisions and regulations. Each TSP should identify its own spokesperson to speak on its behalf to the media. Individual TSPs may form alliances with other TSPs for media relations purposes and such an alliance may also have its own spokesperson.

The Canadian Numbering Administration (CNA), in its role as the Chair of the RPC, shall act as a spokesperson for the RPC.

Telecommunications Service Providers' Web Sites

TSPs should provide up-to-date information about the implementation of the new NPA Code on their Internet web sites.

Customer Bill Inserts & Messages

TSPs should print information on customer bills and/or distribute bill inserts to their customers advising them of the key dates for the implementation of the new NPA Code and associated changes required to customer equipment and systems.

Advertising Campaign

TSPs should implement their own individual media advertising as necessary and voluntarily participate in a media advertising campaign coordinated with other TSPs' activities to increase awareness amongst consumers in the affected NPAs. All media advertising campaigns, whether conducted individually or collectively, should meet the objective of providing clear and consistent messages to consumers and users as established in this CAP.

Targeted Customer Communications

TSPs should identify and communicate directly with their customers who will be required to make major changes to their telecommunications equipment and systems to accommodate the new NPA Code. Targeted communications identifying the changes required should be sent to those customers well in advance of the relief date in order to provide those customers with sufficient time to make the necessary changes. Such targeted customers may include 9-1-1 Public Safety Answering Points (PSAPs), alarm companies, Internet service providers, paging companies, unified messaging service companies, apartment building owners, and hydro meter readers.

Other Means of Customer Communications

TSPs should use other means (e.g., customer messaging, direct customer contacts, Interactive Voice Response, etc.), as required, to reach their customers and provide appropriate information about the implementation of the new NPA Code.

Communications Themes and Key Messages:

The proposed theme for the CAP should be:

“New area code 365 is being added to the 289/905 area.”

This theme should be reinforced with more detailed key messages in customer awareness activities:

- 1) To meet the growing demand for telecommunications services and numbers, new area code 365 will be introduced in the 289/905 geographic area in

October 2015. The new area code will co-exist within the same geographic region as area codes 289 and 905. There will be no change to customers' existing 289 and 905 telephone numbers. Telephone numbers beginning with the new area code may be assigned for use starting **24 October 2015**.

- 2) 10-digit dialing will continue to be used for local calls within the area served by area codes 289, 905 and 365. Prefix 1+ will not be required for local calls between area codes 289, 905 and 365; however long distance calls will continue to be dialed using 1+ 10-digits.
- 3) Local and long distance calling areas and prices will not change with the adoption of the new overlay NPA Code. Customers with telephone numbers in the new area code 365 will get the same calling areas and prices as customers in the same exchange areas with telephone numbers in area codes 289 and 905.
- 4) Emergency calls (911) and other N11 services will continue to be dialed using 3-digits.

Consumer Awareness Program Timeline

All TSPs who have or plan to have customers in the affected NPAs must implement their own consumer awareness program activities in accordance with this CAP and associated dates contained in the Relief Implementation Schedule.

It is the responsibility of each TSP to submit its individual consumer awareness program to the Commission and to provide progress reports to the CATF on its own consumer awareness program activities so that the CATF can submit its required Progress Reports. In the event that a TSP does not submit its individual progress report to the CATF, the CATF will note this discrepancy in its progress report.

ATTACHMENT 2

Network Implementation Plan (NIP)

Introduction

The Canadian NPA Relief Planning Guidelines require the RPC to create a Network Implementation Task Force (NITF) with a mandate to develop a Network Implementation Plan (NIP) for implementing relief and to submit such NIP to the CISC.

Accordingly, the RPC will establish a Network Implementation Task Force (NITF) to develop and implement this NIP.

This NIP addresses the introduction of new NPA code 365 in the NPA 289/905 area.

The NIP identifies key milestones and establishes completion dates as agreed to by the RPC. It is the responsibility of all Telecommunications Service Providers (TSPs) operating or intending to operate in the area served by NPA Codes 289 and 905 to file their individual network implementation plans with the Commission in accordance with the Relief Implementation Schedule. TSPs must implement those programs in accordance with this industry NIP and submit progress reports to the NITF and RPC for inclusion in the Progress and Final Reports to be filed by the RPC with the Commission.

All TSPs are required to report any major relief plan concerns as they are identified, along with proposed solutions, and to address consumer concerns reported directly to the Commission.

The NIP should incorporate the following:

- 1) Develop and agree on a NIP schedule
- 2) Co-ordinate and schedule progress reports with the CATF
- 3) Identify and address NIP issues
- 4) Network implementation objectives
- 5) Co-ordinate equipment modifications with special types of telecommunications users (e.g., alarm companies, apartment building owners, hydro meter readers)
- 6) NPA-specific Network changes
- 7) Intercarrier network and technical interfaces (e.g., test plan and test numbers, 9-1-1 impacts if any)

Network Implementation Objectives

The objective of this NIP is to ensure that all necessary network and interconnections are modified to implement the overlay NPA Code 365 in the NPA 289/905 area.

All Carriers are required to implement the necessary network changes to implement relief.

TSP Coordination with Special Types of Telecommunications Users

All TSPs are requested to co-ordinate their network and service modifications with special types of telecommunications users (e.g., 9-1-1 Public Safety Answering Points

(PSAPs), alarm companies, internet service providers, paging companies, owners of Customer Premises Equipment, unified messaging service companies, governments, apartment building owners, hydro meter readers). This is necessary in order to ensure a smooth and timely introduction of the new overlay NPA Code.

Test Codes, Numbers & Plans

All TSPs are required to modify their networks, systems, databases, and operator services and directory assistance databases, to accommodate the new NPA Code as per the Relief Implementation Schedule.

Test plans, if required, should be arranged on a bilateral basis between interconnecting TSPs in accordance with bilateral agreements.

In preparation for the start of inter-carrier testing, all TSPs are expected to complete modifications to their networks, systems, databases, and Operator Services and Directory Assistance databases, as necessary and per the Relief Implementation Schedule to facilitate intercarrier testing.

Test numbers in the new NPA Code will permit all carriers and other entities to test their equipment and ensure that the proper network changes have been made to route calls to each carrier operating in the new NPA Code. The test numbers shall permit TSPs and users to test their equipment both with and without having to incur toll charges.

Each Carrier may establish two test numbers in a test CO Code (NXX) for the new NPA to facilitate testing of network and billing system functionality. Routing of calls to the new NPA can be verified by dialling the new NPA-NXX-8378 (TEST) numbers which shall not provide answer supervision and therefore shall not result in a billed call to the "calling" party. Billing of calls to the new NPA can be verified by dialling the new NPA-NXX-2455 (BILL) numbers which shall provide answer supervision and therefore shall result in a billed call to the "originating" network.

The following Carriers have agreed to provide test numbers in the new NPA as follows:

- Bell Canada

Other Carriers may request and receive test CO Codes and numbers for publication in the Test Plan, in accordance with the timeframe contained in the Relief Implementation Schedule.

The test numbers must be activated in all networks by the date in the Relief Implementation Schedule and remain active until at least one month after the Relief Date.

The test CO Codes used for the test numbers must be returned to the CNA in accordance with the Relief Implementation Schedule. The CNA shall initiate CO Code reclamation in accordance with the Canadian Central Office (NXX) Code Assignment Guideline for all CO Codes allocated for testing purposes in the event that such CO Codes are not returned by the above carriers to the CNA in accordance with the Relief Implementation Schedule.

The standard network announcement for the test number must be as follows:

“You have successfully completed a call to the 365 Area Code Test Number at [CARRIER NAME] in Ontario, Canada.”

In accordance with the Canadian Central Office Code (NXX) Assignment Guideline, TSPs may request other test CO Codes in the new NPA for test purposes within their own networks during the relief implementation timeframe.

Date for CO Code Activation in the New NPA (Relief Date)

The Effective Date for the introduction of the new NPA is **24 October 2015**, which is the earliest date that a CO Code from the new NPA can be activated in the PSTN. This date is the Relief Date.

9-1-1 Service

The introduction of the new Overlay NPA Code will not have any impact on the dialling of the 9-1-1 number nor the routing of emergency calls to the appropriate Public Service Answering Point (PSAP).

However, the introduction of the new NPA may have an impact on 9-1-1 service, trunking and systems.

TSPs who intend to provide service using CO Codes in the new NPA or to port numbers into their switch from the new NPA, shall establish 9-1-1 trunking and associated interconnection arrangements as per existing interconnection agreements. TSPs that provide 9-1-1 networking services to any PSAP shall establish 9-1-1 trunking and associated interconnection arrangements as per existing interconnection agreements. These arrangements shall be made prior to the Relief Date upon request of TSPs, and provided that these arrangements are in accordance with the timelines, terms and conditions set out in existing interconnection agreements.

The existing procedure for implementing new TSP trunk groups for 9-1-1 traffic should be used, such as testing with other TSPs' 9-1-1 Control Centers. All TSP related changes that impact 9-1-1 must be completed in accordance with the Relief Implementation Schedule.

Other N-1-1 Services

Calls to other N-1-1 numbers will continue to be dialed using only 3 digits. Carriers should review routing to other N-1-1 numbers including 211, 311, 411, 511, 611, 711 and 811 as necessary to ensure that calls will be properly routed.

Payphone Service Providers

It is the responsibility of each Payphone Service Provider to update any system associated with the operation of their payphones in order to accommodate the new NPA Code.

The RPC recommended that Commission staff notify Payphone Service Providers of the implementation of relief for this NPA, and the new overlay NPA Code.

International Gateway Service Providers

International Gateway Service Providers are responsible to implement changes to their network in order to accommodate the new NPA.

The RPC recommended that Commission staff notify Canadian International Gateway Service Providers of the implementation of the new NPA.

Intra Carrier Network and Customer Interface

All TSPs must make and test the necessary internal system, network and customer interface changes as per the Relief Implementation Schedule in order to accommodate the new NPA.

All TSPs are required to implement the necessary network changes to route traffic to/from the new NPA. Switch translations must be updated and modified in all TSPs' networks in order to process calls to/from the new NPA Code.

By the start of the inter-carrier testing period, 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. In the event that Carriers have network equipment limitations that cannot accommodate 10-digit signalling, alternative arrangements may be negotiated with interconnecting carriers to route calls using only 7-digit signalling, where feasible.

Each TSP is responsible for determining the impact of the new NPA Code on its network, systems and operations including the products and services it provides to its own customers. Each TSP is responsible for making all necessary modifications to ensure service will be maintained during and after the relief implementation period for its own customers. Furthermore, TSPs shall notify all of their customers of the introduction of the new NPA Code in accordance with the Consumer Awareness Program (CAP) (see Attachment 1 to the Relief Implementation Plan).

Network Implementation Plan Timeline & Progress Reports

All TSPs who have or plan to have customers in the affected NPAs must implement their own network implementation plan activities in accordance with this NIP and associated dates contained in the Relief Implementation Schedule.

It is the responsibility of each TSP to provide progress reports to the NITF on its own network implementation plan activities so that the NITF can submit its required Progress Reports to the RPC. In the event that a TSP does not submit its individual progress report to the NITF, the NITF will note this discrepancy in its Progress Report. If a TSP does not submit its Progress Report to the NITF, it must submit it directly to the CRTC.

Dial Plan Changes

As mandatory 10-digit local dialling was implemented throughout NPA 289/905 during 2006, and is in place in neighbouring NPAs, relief of NPA 289/905 will have no impacts on the local dial plans in NPA 289/905 and neighbouring NPAs.

The dial plans for calls originating in NPA 289/905 and the new overlay NPA will remain as follows:

NPA	Local Dial Plan		Toll Dial Plan	
	Current	Future	Current	Future
289/905/365	10 digits	10 digits	1 + 10 digits	1 + 10 digits

Currently 10-digit dialling is mandatory for local calls originating in adjacent area codes and terminating in the area served by area codes 289 and 905. Mandatory 10-digit local dialling will continue to apply for all local calls originating in adjacent area codes and terminating in the area served by area codes 289 and 905 when the new overlay area code is added to the area served by area codes 289 and 905.

ATTACHMENT 3

Individual Telecommunications Service Provider Responsibilities

Each Telecommunications Service Provider (TSP) is responsible to make the necessary changes in their information and operation support systems as well as for the operation, maintenance, control, and administration of its network and to serve its customers. Accordingly, no activities have been identified in the Relief Implementation Plan (RIP) for the coordination of these functions between different TSPs. Such "internal" systems include, but are not limited to, the following functions:

- Operations Support
- Products & Services
- Marketing & Sales
- Carrier Services
- Network Planning & Provisioning
- Network Operations
- Service Assurance
- Billing
- Financial Systems
- Customer Care & Customer Services (e.g., Business Offices)
- Operator Services
- Directories
- Direct Marketing Centers
- Quality Control
- Service Provisioning & Activation
- Repair Services
- Human Resources/Logistics
- Corporate Information Databases
- Customer Provided Equipment Reprogramming, Upgrades and Testing