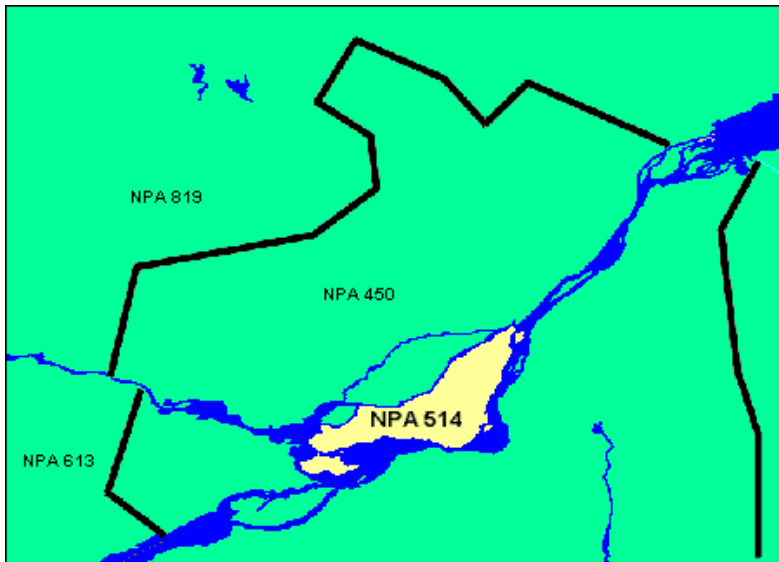


# Planning Document NPA 514 Numbering Relief



**CNA**

Science Applications International  
Corporation (SAIC Canada)

28 August 2000

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# Planning Document NPA 514 Numbering Relief

## 1. EXECUTIVE SUMMARY

This Final Planning Document identifies possible solutions for providing relief to the NPA 514 geographic area. Based on the May 31, 2000 NPA 514 Relief Planning Central Office Code Utilization Survey (R-COCUS), the existing 800 Central Office (CO) Codes, of which 765 are assignable, are forecast to exhaust in June 2004.

The following alternatives were evaluated:

- A. Split the NPA into two geographic areas (three options):
  - (i) Core Split (A-i): The area served by the Belmont, Ontario and Papineau Montreal Exchange Central Offices (north-central downtown core) would be grouped in the new NPA and the area served by the remainder of the Montreal Exchange Central Offices and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve would retain NPA 514.
  - (ii) Core Split (A-ii): The area served by the Atwater, Belmont and Ontario Montreal Exchange Central Offices (south-central downtown core) would be grouped in the new NPA and the area served by the remainder of the Montreal Exchange Central Offices and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve would retain NPA 514.
  - (iii) East West Split (A-iii): The area served by the 10 Central Offices in the east section of the Montreal Exchange would be grouped in the new NPA, and the area served by the remaining 9 Central Offices of the Montreal Exchange and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve, within the west section, would retain NPA 514.
- B. Introduce a new NPA using the Distributed Overlay Option.

The following is a comparison of the alternatives evaluated:

Description	Alternatives			
	Core Split (A-i)	Core Split (A-ii)	East / West Split (A-iii)	Distributed Overlay B
Exhaust – NPA 514	2015	2012	2010	2004
Exhaust – 1 <sup>st</sup> New NPA	2011	2012	2018	2012
Number Changes Required	1.5 M	1.5 M	1.8 M	Nil
Dialling Impact	7/10D	7/10D	7/10D	10D
Permissive Dialling	Required	Required	Required	Required

This Planning Document is being issued in accordance with Canadian Steering Committee on Numbering approved NPA Relief Planning and Notification Guidelines (INC 97-0404-016, dated January 27, 1999) to facilitate the selection of a consensus NPA 514 code relief method and a relief date.

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

At the meeting of August 28, 2000, the NPA 514 Relief Planning Working Group reviewed the IPD and recommended that the distributed overlay method be recommended to the CISC and the CRTC. The Working Group also recommended that it should be implemented in accordance with the revised schedule

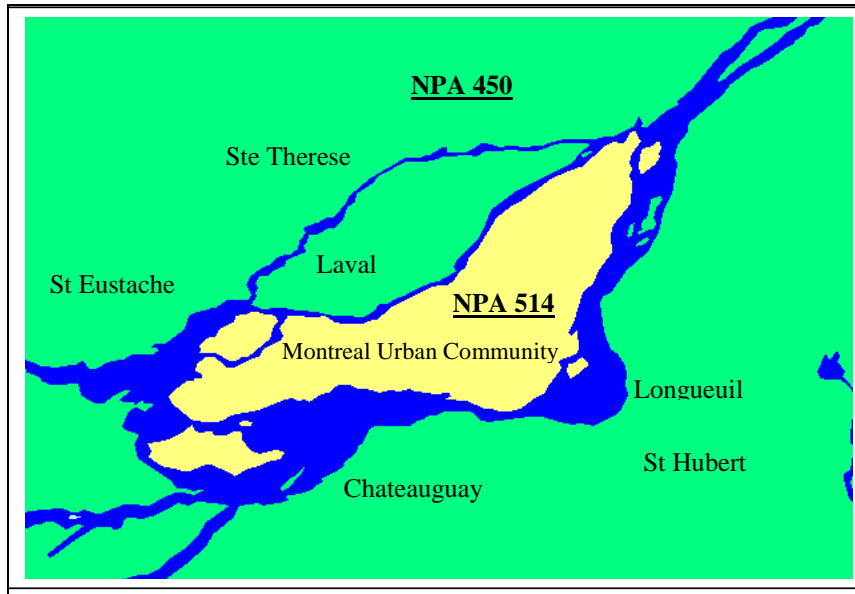
contained herein. The Working Group also reviewed the concentrated overlay concept and concluded that it was not the appropriate solution due to the lack of a distinguishable boundary to users in the Montreal exchange.

## 2. INTRODUCTION

In January 1999, relief to NPA 514 was provided by geographically splitting the area. The Montreal Urban Community retained NPA 514 and the remainder of the territory was assigned NPA 450. Coincident with the split, 10-digit dialling became mandatory for local calls between NPA 514 and NPA 450, however within each NPA, 7-digit dialling remained intact for local calling.

After the NPA split, 398 working CO Codes remained in NPA 514 and 402 CO Codes became available for the future numbering growth of the Island of Montreal, the new NPA 514 territory. Since then, 92 new CO Codes have been assigned for landline growth and for the rapidly growing cellular and local competition expansion.

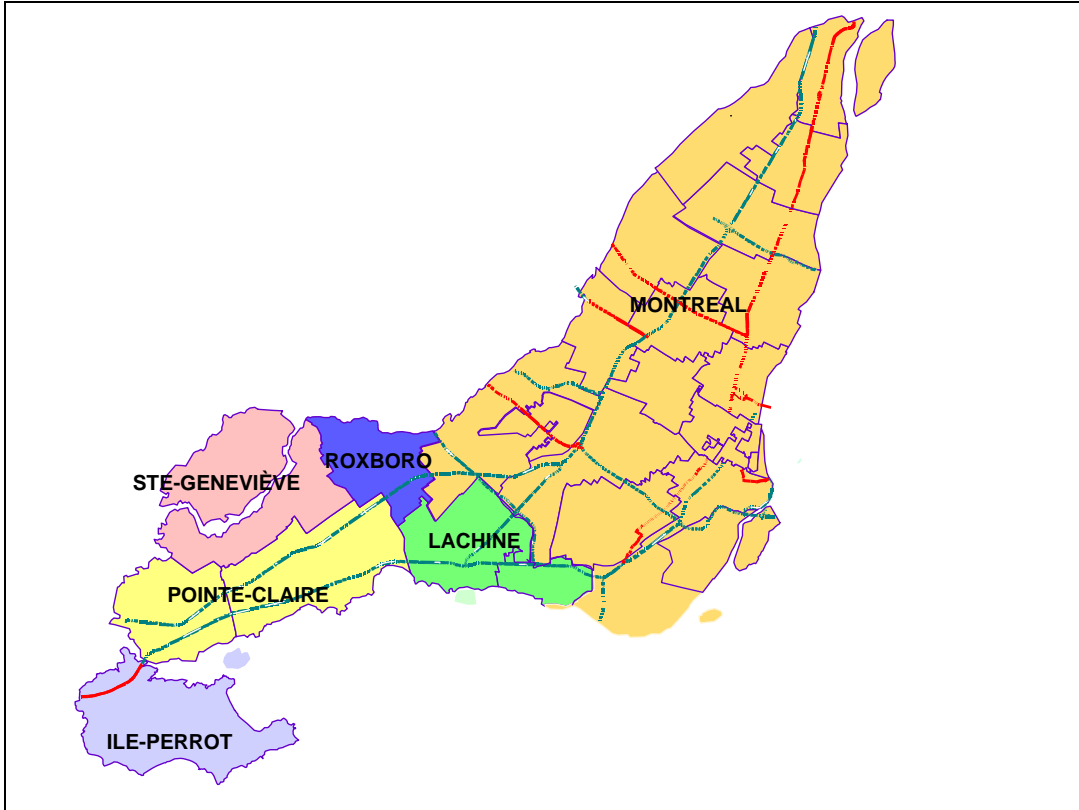
It is very important to closely monitor the expansion plans of all existing and emerging service providers to ensure that relief is provided far enough in advance that no shortage of assignable CO Codes occurs and that a jeopardy condition does not arise.



**Figure 1 NPA 514 Jan 1999 Relief Geographic Split**

NPA 514 consists of six exchange areas as follows:

- Ile Perot
- Lachine
- Montreal
- Pointe Claire
- Roxboro
- Ste. Genevieve

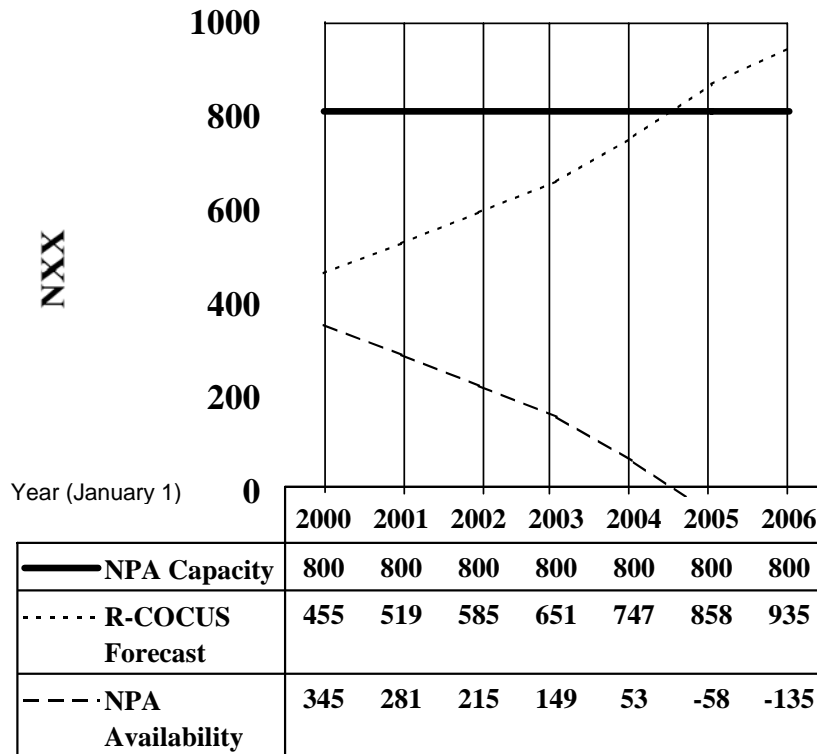


**Figure 2 NPA 514 Exchange Areas**

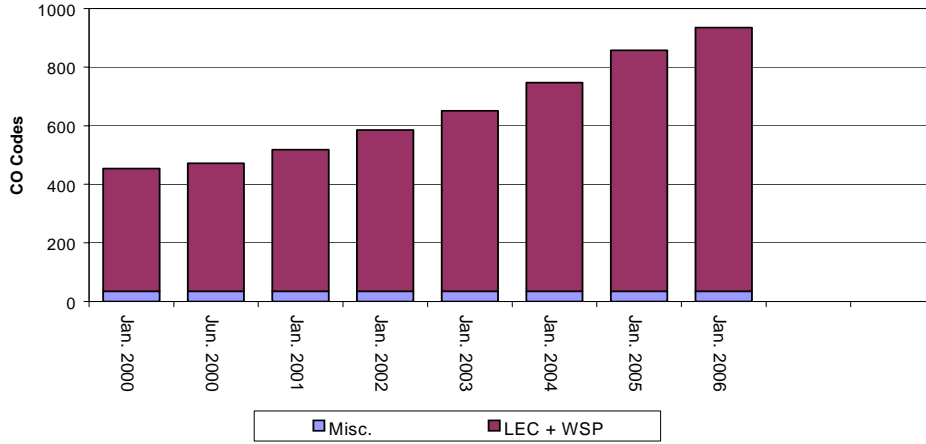
### 3. CENTRAL OFFICE CODE EXHAUST

All CO Codes in NPA 514 are expected to exhaust in June 2004. This determination is based on the results of the May 31, 2000 R-COCUS. This finding is consistent with the results of the 2000 General COCUS, which indicated that NPA 514 was likely to exhaust in Q2 2004.

The year over year change in the forecasts due to new business strategies, Telecom Decision CRTC 94-19, which allows for local competition, and the granting of Personal Communications Services (PCS) licenses for the introduction of PCS service in 1996 have all contributed to the earlier than expected requirement for relief of NPA 514. The following graphs represent the rate of CO Code utilization in NPA 514 based on results from the May 31, 2000 R-COCUS.



**Figure 3 NPA 514 CO Code Exhaust 31 May 2000 COCUS**



**Figure 4 NPA 514 May 31, 2000 R-COCUS**

Figures 3 and 4 highlight the need to have relief in place well in advance of reaching 765 assigned CO Codes, to allow for forecast volatility and to accommodate a 7 to 10 digit dialling transition period and the interception of misdialled numbers.

## 4. CODE RELIEF METHODS

Once the necessity for NPA code relief was established, all code relief methods were considered, but only the following alternatives were examined in detail.

- A. Geographic Split (Three options);
- B. Distributed Overlay.

### 4.1. *Geographic Split – General Description*

#### 4.1.1. *Definition*

By this method, the exhausting NPA is split into two or more geographic areas, leaving the existing NPA code to serve an area with the highest consumer density (to minimise number changes), and assigning a new NPA code(s) to the remaining area. This method traditionally divides areas by jurisdictional, natural or physical boundaries between the old and the new NPA.

NPA splits have occurred with enough frequency so that technical aspects have been addressed and established implementation procedures are generally understood. Public education and acceptance of the process has been made easier because of the numerous NPA splits that have occurred throughout North America. This method generally provides long-term relief for an area.

#### 4.1.2. *General Attributes*

- Old method of NPA relief is familiar to the public and has well established implementation procedures.
- Ten-digit dialling required for local calls between different NPAs.
- Number changes required in new NPA boundaries.
- Reprogramming or replacement of equipment (switches, PBXs, cellular phones, etc.).
- Existing customers inconvenienced.
- More economic burden (businesses, public costs, stationery, etc.).
- Not as expensive to display in telephone directory.
- Requires a permissive dialling period.
- Possible boundary disputes.

### 4.2. *Distributed Overlay – General Description*

#### 4.2.1. *Definition*

A distributed overlay occurs when more than one NPA code serves the same geographic area. Opening up a new NPA code provides code relief when the existing NPA is exhausted. Numbers from the new NPA are assigned for new growth on a carrier neutral basis, i.e., first come first served. This method will necessitate 10-digit dialling of local calls within and between the old and new NPAs coincident with NXX codes being implemented in the new NPA (universal 10-digit dialling for all local calls eliminates customer confusion). The distributed overlay strategy is considered in situations when growth in telephone numbers is expected to be more or less evenly distributed throughout the existing NPA.

#### 4.2.2. *General Attributes*

- New method of NPA relief, little general public understanding.
- Requires universal 10-digit dialling within the NPA.
- No number changes are required for existing customers.
- Least disruptive to end-users.
- Less economic burden for existing business.
- Same location, two NPAs in residence/business.
- Increased directory costs.

#### 4.3. *NPA 514 Geographic Split Options*

Three geographic splits were assessed, namely: Core Split (2 options) and East-West Split. There are no municipal, physical or natural boundaries that can be used as reference points to split the NPA.

##### 4.3.1. *Core Split (A-i)*

The area served by the Belmont, Ontario and Papineau Montreal Exchange Central Offices (north-central downtown core) would be grouped in the new NPA and the area served by the remainder of the Montreal Exchange Central Offices and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve would retain NPA 514. This option would result in approximately 1.5 million number changes. Relief to the new NPA and NPA 514 is expected to last until year 2011 and 2015 respectively.

##### 4.3.2. *Core Split (A-ii)*

The area served by the Atwater, Belmont and Ontario Montreal Exchange Central Offices (south-central downtown core) would be grouped in the new NPA and the area served by the remainder of the Montreal Exchange Central Offices and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve would retain NPA 514. This option would result in approximately 1.5 million number changes. Relief to both the new NPA and NPA 514 is expected to last until year 2012.

##### 4.3.3. *East West Split (A-iii)*

The area served by the 10 Central Offices in the east section of the Montreal Exchange would be grouped in the new NPA, and the area served by the remaining 9 Central Offices of the Montreal Exchange and Ile Perot, Lachine, Pointe-Claire, Roxboro and Ste-Genevieve, within the west section, would retain NPA 514. This option would result in approximately 1.8 million number changes. Relief to the new NPA and NPA 514 is expected to last until year 2010 and 2018 respectively.

In each of the above split options a permissive dialling period of at least six to twelve months is recommended.

#### 4.4. *NPA 514 Distributed Overlay Option*

This alternative would result in the new NPA being introduced 12 months prior to the exhaust of NPA 514. In addition, universal 10-digit local dialling would be required. It is recommended that a 7- to 10-digit dialling transition period be introduced prior to assigning the first NXX in the new NPA. Relief to the new NPA is expected to last until the year 2012.

The main advantage of this alternative is that number changes are not required.

## 5. DIALLING CHANGES FOR LOCAL CALLS

In addition to the dialling patterns that exist for local calls between NPA 514 and NPA 450, the following tables reflect the dialling arrangement for each alternative for Local calls only.

The Toll call dialling arrangement is not impacted due to the NPA relief.

<b>Geographic Split</b>	<b>Today</b>	<b>After Relief</b>
Landline to Wireless within NPA	7-digits	7-digits
Landline to Wireless between NPAs	10-digits	10-digits
Landline to Landline within NPA	7-digits	7-digits
Landline to Landline between NPAs	10-digits	10-digits
Wireless to Wireless within NPA	7-digits	7-digits
Wireless to Wireless between NPAs	10-digits	10-digits

<b>Distributed Overlay</b>	<b>Today</b>	<b>After Relief</b>
Landline to Wireless within NPA	7-digits	10-digits
Landline to Wireless between NPAs	10-digits	10-digits
Landline to Landline within NPA	7-digits	10-digits
Landline to Landline between NPAs	10-digits	10-digits
Wireless to Wireless within NPA	7-digits	10-digits
Wireless to Wireless between NPAs	10-digits	10-digits

## 6. RECOMMENDATION

At the meeting of August 28, 2000, the NPA 514 Relief Planning Working Group reviewed the IPD and recommended that the distributed overlay method be recommended to the CISC and the CRTC. The Working Group also recommended that it should be implemented in accordance with the revised schedule contained herein. The Working Group also reviewed the concentrated overlay concept and concluded that it was not the appropriate solution due to the lack of a distinguishable boundary to users in the Montreal exchange.

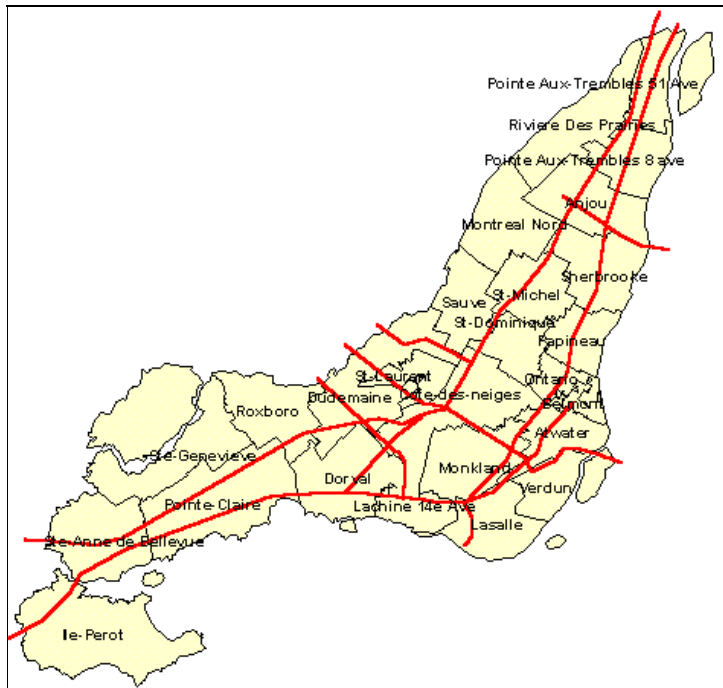
**7. PROPOSED SCHEDULE**

<b>NPA 514 Overlay Proposed Time Line*</b>						
<b>No.</b>	<b>Task or Event</b>	<b>Time (mths)</b>	<b>Cum. Time</b>	<b>Start date</b>	<b>End date (est.)</b>	<b>Dependency</b>
1	CNA identifies NPA Exhaust and creates and issues a media release		0			
2	CNA notifies CRTC, CSCN, NANP-A & CISC of NPA exhaust & requests the CISC to establish NPA Relief Planning Working Group (RPWG) and sets date for NPA Relief Planning meeting.	0	0			1
3	CISC creates Ad Hoc NPA RPWG. CNA conducts NPA R-COCUS.	0	0			2
4	CNA prepares and distributes IPD to CISC Ad Hoc NPA RPWG.	0	0			3
5	CISC NPA RPWG reviews IPD and provides comments to the CNA	0	0			4
6	CNA modifies IPD per comments received and reissues to NPA RPWG	0	0			5
7	NPA RPWG participants review revised IPD prior to meeting	0	0			6
8	CNA Chairs NPA RPWG meeting to finalize IPD	0	0	28-Aug-00	28-Aug-00	7
9	CNA revises and forwards IPD to the CISC and CRTC	½	½	29- Aug-00	12-Sep-00	8
10	CISC review of IPD and forwarding to CRTC for Approval	½	1	13-Sept-00	27-Sept-00	9
11	CRTC develops and issues Public Notice and solicits Interested Parties	1	2	28-Sept-00	27-Oct-00	10
12	Interested Parties Comment & Reply	¾	5¼	27-Oct-00	21-Feb-01	11
13	CRTC issues Decision & directs Ad Hoc NPA RPWG to develop and execute NPA Relief Implementation Plan (RIP)	4	9¼	22-Feb-01	21-Jun-01	12
14	CNA requests and obtains assignment of Relief NPA(s) from the NANP-A	½	10¼	22-Jun-01	09-Jul-01	13
15	CNA announces Meeting of RPWG to Develop Consensus RIP, Planning Letter and JCP	0	10¼	09-Jul-01	09-Jul-01	13 + 14
16	RPWG Develops Consensus RIP, Planning Letter & JCP (A Series of Meetings/Conference Calls Might Be Required)	3	13¼	10-Jul-01	09-Oct-01	15
17	CNA Forwards Consensus RIP and JCP to CISC	¼	13½	10-Oct-01	16-Oct-01	16
18	CISC reviews and forwards RIP and JCP to the CRTC for approval	½	14	17-Oct-01	30-Oct-01	17
19	CRTC Approves RIP and JCP (a public process may be initiated)	1	15	31-Oct-01	30-Nov-01	18
20	CNA submits Planning Letter to the NANP-A	½	15½	03-Dec-01	14-Dec-01	16
21	CNA Issues Media Release and informs NANP-A, Telcordia TRA, LNP Consortium, Affected Parties and Interested Parties	¼	15¾	17-Dec-01	21-Dec-01	19 + 20
22	Task Forces, Service Providers and Users Execute the RIP. Includes 6 months 7- to 10- digit Dialling Transition Period and 4 months mandatory network announcement period.	18	33	03-Dec-01	03-Jan-03	19
23	Relief Date	0	33	03-Jun-03	03-Jun-03	19
24	CNA Submits Completion Reports to CISC one month after Relief is implemented	1	34	03-Jun-03	03-Jul-03	23
25	Exhaust Date	12	45		03-Jun-04	1

\* The proposed schedule is based on the implementation of a distributed overlay. In the event another relief option is chosen, the schedule would need to be adjusted to reflect the implementation requirements of that option. In the event that a new COCUS or actual demand indicates that the exhaust date will change significantly, the CNA may convene a meeting of the NPA Relief Planning Working Group to review the issue and make a recommendation to the CISC and CRTC.



**Figure 5 NPA 514 Wire Centres and Montreal Urban Community Municipal Boundaries**



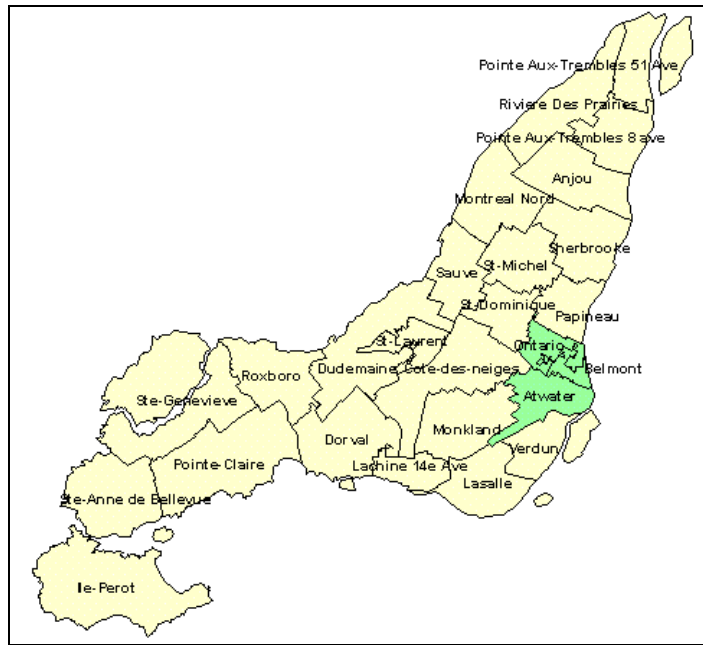
**Figure 6 NPA 514 Wire Centres and Major Roads**



**Figure 7 Montreal Urban Community Municipal Boundaries**



**Figure 8 NPA 514 Core Split Option A – i**



**Figure 9 NPA 514 Core Split Option A – ii**



**Figure 10 NPA 514 East-West Split Option A – iii**



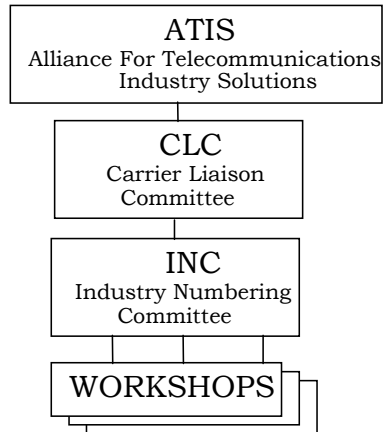
**Figure 11 NPA 514 Overlay**



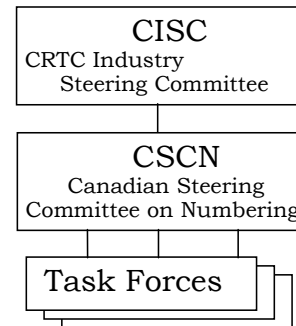
[Appendix 1 Canadian Geographic NPAs](#)

## Industry Fora

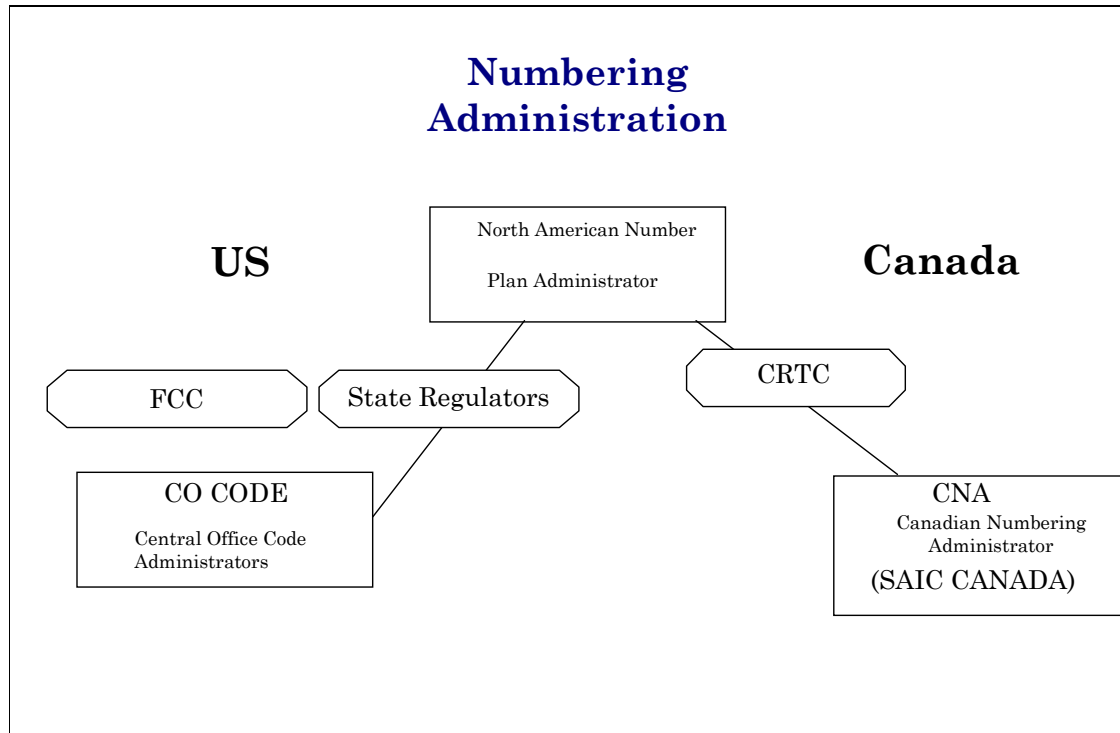
### NANP



### CANADIAN



### [Appendix 2 Industry Fora](#)



Appendix 3 Numbering Administration

The *NPA Code Relief Planning & Notification Guidelines* may be obtained from the CNA website at [http://www.cnac.ca/numres/npa\\_relief/97040416.doc](http://www.cnac.ca/numres/npa_relief/97040416.doc). **Double-click on the object below to open and view this document.**



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## **NPA CODE RELIEF PLANNING & NOTIFICATION GUIDELINES**

These guidelines are reissued in connection with the resolution  
of INC Issue 105

**[Appendix 4 NPA Code Relief Planning & Notification Guidelines](#)**

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