**CRTC INTERCONNECTION STEERING COMMITTEE**

**CONTRIBUTION FORM:**

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**Task Title: Inclusion of unused numbers from previously assigned CO Codes in pool**

**Related to Task(s) ID:**

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**Subject: Draft report for TIF 119**

**Content:**

1. **Suggested content for “Additional considerations for inclusion of unused numbers from previously assigned CO Codes” (currently section 3).**
2. **Suggested content for “Timing of implementation (currently section 4).**
3. **Suggested framework for certain “Implementations options” (currently sections 5.1-5.4).**
4. **Suggested content for “Considerations for smaller carriers” (currently section 5.6)**

# Additional considerations for inclusion of unused numbers from previously assigned CO Codes

A fundamental difference between applying TBP to new codes and applying it to in-service codes is who must make suitable modifications to their number inventory systems.

If applying TBP only to new codes, a carrier will not need to implement the required changes until it plans on ordering additional numbers. If the carrier has enough available numbers within its assigned code for the foreseeable future, then it can delay these expenditures. It would be in a carrier’s interest to ensure that the necessary changes will be made in a timely manner, but should the carrier’s modifications be delayed, only that carrier will suffer in that it will be unable to obtain blocks and its business plans may be interrupted. However, no other carriers would be affected by this delay.

In contrast, applying TBP to in-service codes requires all code holders (large or small) to implement the necessary changes so that other carriers can obtain blocks from their codes. This makes the availability of TBP dependent on the actions of all carriers. Should any carrier not be ready, TBP could be delayed wherever that carrier serves, resulting in the issuance of entire codes instead of blocks, possibly diluting the expected improvement in numbering efficiency. (The dilution would depend on whether other carriers had blocks available for assignment in the same exchanges.)

Application of TBP to in-service codes at a later date would favour certainty with respect to TBP implementation dates. However, a later deadline would come at the expense of delaying the improvement of numbering efficiency. The effect of this delay is discussed further below.

If TBP is implemented in a scheduled roll-out first targeting NPA complexes nearing exhaust, not all carriers would face the same deadline to ready their systems for TBP for new or for in-service codes. It would present an opportunity to manage the risk of delay and avoid unnecessarily early implementation dates for regional carriers.

# Timing of implementation

One important aspect of the timing of implementation of TBP for in-service codes is the extent to which a delay will dampen efforts to improve numbering efficiency. The following discusses the effect on numbering efficiency **if application of TBP to in-service codes is delayed.**

*[Comments: The following is being submitted to stimulate team discussion.]*

* Large exchanges:
	+ Larger carriers get can fill whole codes in large exchanges so the unavailability of blocks from in-service codes would make no difference to consumption by larger carriers.
	+ The first carrier that requires a block would have to order a full code instead, but this new code would have blocks available immediately. Therefore, subsequent orders in the large exchange would be filled with blocks from this new code. SInce growth in the large exchange will consume these available blocks quickly, this new code will be used efficiently.
	+ When TBP is applied to in-service codes, more blocks will become available. Growth in the large exchange will consume these available blocks quickly. Once they are assigned, numbering efficiency will be the same as if they were made available at the same time as blocks in new codes.
	+ Conclusion: No lasting effect to numbering efficiency in large exchanges.
* Small exchanges:
	+ There are many more small exchanges than large exchanges.
	+ Absolute growth in demand for numbers is much lower in small exchanges than large exchanges.
	+ In-service codes in small exchanges are more likely to have available blocks.
	+ If the first carrier that requires a block in the exchange precedes the availability of blocks from in-service exchanges, it would have to order a full code instead, but this new code would have blocks available immediately. Subsequent orders in the small exchange would be filled with blocks from this new code.
	+ When TBP is applied to in-service codes, more blocks will become available.
	+ Slow growth means that it will take a long time to consume the available blocks in the new code and the in-service code. Until the time that they are both used fully, numbering efficiency will be sub-optimal.
	+ The degree to which this sub-optimal efficiency matters depends on how long a delay there is between TBP on new codes and TBP on in-service codes. If the delay is short, the chance of carriers needing numbers before blocks are available from in-service codes is low. There would be no reduction in numbering efficiency if blocks are available from in-service codes before carriers requested new numbers in that exchange.
	+ The degree to which this sub-optimal efficiency matters also depends on whether the exchange is an NPA complex that would be nearing exhaust even if TBP is made available on new codes. If it is, the unavailability of blocks from in-service codes would advance the exhaust date.

Conclusion?

# Implementation options

# Level of Contamination

1. Define contamination
2. Explain why contamination levels are an issue to TBP on in-service codes
3. Identify considerations for choosing a level of contamination
4. Analyse the considerations
5. Conclusion on contamination level for TBP on in-service codes

# Cleanup of previously assigned codes

1. Define cleanup
2. Explain how cleanup activities are an issue to TBP on in-service codes
3. Identify considerations for requiring cleanup
4. Analyse the considerations
5. Conclusion on whether cleanup needs to be done, who must cleanup, and whether it must be done prior to TBP on in-service codes

# Return of number blocks

1. Define return of number blocks
2. Explain how return of number blocks are an issue to TBP for in-service codes
3. Identify considerations for requiring return of number blocks
4. Analyse the considerations
5. Conclusion on whether return of number blocks needs to be done, who must return unused blocks, and whether it must be done prior to TBP on in-service codes

# Hindrances to reuse of telephone numbers

1. Define each hindrance to reuse of telephone numbers
2. Quantify the effect of this hindrance on numbering efficiency.
3. Identify whether this hindrance has an effect on when TBP on in-service codes should be implemented
4. Identify potential solutions for this hindrance and the considerations for each.
5. Analyse the considerations
6. Conclusion on if/how/when to address this hindrance.
7. Repeat for next hindrance.

# (No comment on this section in this contribution)

# Considerations for smaller carriers

As discussed in section 3, a fundamental difference between applying TBP to new codes and applying it to in-service codes is who must make suitable modifications to their number inventory systems.

Small carriers are more likely to have enough numbers available in their in-service codes that they will not need to order additional numbers in the short term. Small carriers are less likely to have resources available to implement the necessary changes for TBP. Accordingly, implementing TBP on in-service codes only when necessary (i.e., when doing so would materially delay exhaust in an NPA complex) would favour small carriers.

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