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Title NANP-Corrective Considerations for Elimination of Blocked Network Calls from Certain Customer Premises Equipment.		Project Number(s) 422402
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To Recipients of North American Numbering Plan (NANP) Information.		
Entitled Companies Unrestricted		
From W. M. Blalock, Assistant Vice President - Operations Applications		

**Abstract**

This IL provides information to aid in the elimination of blocked calls in customer premises equipment (CPE) that may be caused by toll restriction or least cost routing equipment not recognizing newly established network area codes or exchange codes.

(Includes safety liability disclaimer (if applicable), ordering information, originator's signature information)

The purpose of this letter is to distribute a document that provides information to aid telephone companies, vendors, maintenance providers, and owners in the elimination of blocked network calls originating from customer premises equipment (CPE).

Blocked network calls typically result from failure to modify CPE to recognize newly established area codes and/or exchange codes. The CPE most commonly affected by this problem contains either a toll restriction or least cost routing feature.

Toll restriction and least cost routing features may be integrated into the design of a premises switching system such as a PBX, key telephone system, or a multifunction system, although not all premises switching systems contain these features in their design. Toll restriction and least cost routing features may also be provided by separate peripheral equipment associated with premises switching systems that do not contain these features.

The attached document describes the characteristics of the problems encountered, including considerations for reducing the quantity of blocked network calls. Also provided is information to aid in reducing the impact that the introduction of new area codes, exchange codes, and dialing procedure changes have on CPE.

Letter Number IL -91/06-044	Type Information	Date 06/27/91	Page 2
Title NANP-Corrective Considerations for Elimination of Blocked Network Calls from Certain Customer Premises Equipment.			Project Number(s) 422402

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Atts.

**ELIMINATION OF "BLOCKED NETWORK CALLS" FROM CPE**

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## **SYNOPSIS**

This document identifies a nationwide problem which prevents calls originated from the customer's premises equipment from reaching the network. This condition is referred to as "Blocked Network Calls." It generally appears that the "Blocked Network Calls" are related to customers and/or customer's suppliers/vendors (Customers) failing to make required modifications to certain Premises Switching Systems or other peripheral equipment that may be associated with these systems. The required modifications are either software upgrades in programmable types of equipment or hardwired connections contained in older electromechanical equipment designs. The modifications within the premises equipment are required to recognize newly established network area codes and exchange codes as they become effective nationwide. This document describes the characteristics of the problems being encountered and includes considerations to aid telephone companies, vendors, maintenance providers, and owners in the elimination of "Blocked Network Calls" from customer premises equipment (CPE).

## **OVERVIEW OF THE "BLOCKED CALLS" SERVICE PROBLEM**

"Blocked Network Calls" to the network are the result of the customer premises equipment not being upgraded in a timely manner to recognize newly established network area codes and exchange codes.

The customer premises equipment most commonly affected by this problem contain either a "Toll Restriction" feature or the "Least Cost Routing" feature.

The Toll Restriction and the Least Cost Routing features may be integrated into the design of a premises switching system such as a PBX, key telephone system, or a multifunction system. Not all premises switching systems contain these features in their design. Toll Restriction and/or Least Cost Routing features may also be provided with separate peripheral equipment and associated with the customer's premises switching systems that do not contain these features.

Customer premises switching systems and peripheral equipment, registered under Part 68 of the FCC's Rules, can be identified by equipment codes contained within the fourteen character registration number. The two character equipment codes, e.g. PF for PBX, TR for separate peripheral Toll Restriction equipment, are found in character positions 12 & 13.

## **NUMBERING PLAN AREA (NPA) AND CENTRAL OFFICE CODE (COC) ACTIVITIES WITHIN THE NETWORK**

Numbering Plan Area (NPA) and Central Office Code (COC) activities within the North American Numbering Plan (NANP) occur on a continuing basis. These activities involve both intraLATA and interLATA codes and reflect new codes, and deletions and modifications of existing codes.

Belcore's Traffic Routing Administration organization currently issues a Local Exchange Routing Guide (LERG) to reflect the aforementioned activities as well as a restatement of all valid codes already assigned and in effect within the network. This information is released in "tape" form on a monthly basis and in "paper" form on a quarterly basis. Such information is usually obtained by Interexchange Carriers (ICs), Cellular Carriers, Paging Services and Mobile Radio carriers. These parties, as well as telephone companies, utilize this source of information to upgrade their respective portions of the network to properly process intraLATA and interLATA calls within the NANP area.

facsimile machine). In another finding, the customer was able to reach a previously "Blocked Network Calls" called party using an outside service not associated with the premises switching system. The attempt allowed the call to be completed (non-blocked). The customers concluded that the initial "Blocked Call" problems were due to a network problem.

- "Called Parties" have also reported the inability of "Calling Parties" to reach their newly established or assigned telephone numbers. These particular cases have also been reported to multiple work groups within the telephone companies responsible for the "Calling Party's" service and the "Called Party's" service.
- Formal and informal complaints regarding the "Blocked Network Calls" service/operational problem have been directed to the FCC Staff and various State Commissions.

#### **POSSIBILITY OF SIMILAR "BLOCKED NETWORK CALLS" SERVICE/OPERATIONAL PROBLEMS WITH OTHER CUSTOMER PREMISES EQUIPMENT**

From a review of the "Blocked Network Calls" problems, there is also a possibility that two other categories of customer premises equipment may be similarly affected, assuming new, deleted and modified area codes and exchange codes are not properly updated. The first category of equipment is the customer-owned coin telephone sets. This type of equipment contains all circuitry required to control the dialing of local and/or long distance calls, within the instrument itself, and is commonly provided by CPE coin set suppliers. However, some individual customers do own their own CPE coin Sets. These CPE coin sets must be able to recognize "all" area codes and exchange codes dialed by the coin set user. This recognition allows individual calls to be established onto the network and the appropriate costs computed.

The CPE coin set suppliers are generally required to dial into the equipment manufacturer's data base to obtain the necessary area code and exchange code additions, deletions and modification updates. Some suppliers are not aware that this updating effort is needed on an ongoing basis.

The second category of customer premises equipment similarly affected is alarm equipment installed by alarm companies. This equipment commonly contains a repertory dialer feature which is pre-programmed to dial outward to one or more pre-set telephone numbers when the alarm equipment is activated. These pre-programmed numbers may be to local exchange (intraLATA) and/or to interLATA numbers. The problem being encountered with this equipment is that the pre-programmed telephone numbers may not be corrected as a result of deletions and/or modifications of the area code or exchange codes.

The CPE coin set suppliers and alarm companies should also be made aware of the need and importance of recognizing modifications made in area and exchange codes.

#### **FCC PART 68 RULE CONSIDERATIONS**

The responsibility for repair and maintenance of registered customer premises equipment is found under Section 68.216 of the FCC's Part 68 Rules:

"Repair of registered terminal equipment and registered protective circuitry shall be accomplished only by the manufacturer or assembler thereof or by their authorized agent; however, routine repairs may be performed by a user, in accordance with the instruction manual if the applicant (equipment manufacturer) certified that such routine repairs will not result in noncompliance with the rules and regulations in Subpart D of this part."

**BENEFITS OF THE NPA/NXX ACTIVITY GUIDE (NNAG) MATERIALS FOR CUSTOMERS AND THE CUSTOMER'S SUPPLIERS/VENDORS**

Belcore's "NPA/NXX Activity Guide" (NNAG) materials have been developed on the basis of meeting multiple needs of customers and their equipment suppliers.

**Examples:**

- The NNAG will contain only those Area Codes and Exchange Codes in the North American Numbering Plan (NANP) which are planned to be added, deleted and modified.
- Data to be included will reflect upcoming network code changes.
- Action codes such as, "E" for established, "M" for modified and "D" for deletions are included.
- Serving central offices, rate centers and V-H coordinates are also included. The V-H coordinates facilitate billing detail for the Least Cost Routing equipment/feature.