FEATURE DOCUMENT
TRUNKING ARRANGEMENTS
NO. 3 ELECTRONIC SWITCHING SYSTEM

1. GENERAL

1.001 This addendum supplements Section 233-190-024, Issue 1. Place this pink sheet ahead of Page 1 of the section.

1.002 This addendum is issued for the following reasons.

(a) To correct a frequency value in Table B.

(b) To add information concerning the filtering of hits on outgoing trunks as provided by the 3E3 generic program.

(c) To add High and Wet Trunk Audit information as provided by the 3E3 generic program.

(d) To add improved terminating fraud prevention information as provided by the 3E3 generic program.

2. CHANGES TO SECTION

2.001 On Page 11, Table B, the horizontal frequency column under item STP, change 700 to 900.

2.002 On Page 13, after paragraph 2.23, add the following headings and paragraphs.

Filtering Hits on Outgoing Trunks

2.23.1 When an outgoing trunk appears to go off-hook from the facility side of the trunk, the present response is to put the trunk into the High and Wet (HAW) state. These hits have created problems for the operative offices in the following circumstances:

(a) When the T-carrier fails creating massive off-hooks frequently followed with subsequent on-hooks and off-hooks (bouncing). For the incoming trunks, these off-hooks are treated as normal originations and are disposed of as normal partial dial time-outs, permanent signal time-outs, or abandons. The outgoing trunk off-hooks create a large number of HAW messages which congest the maintenance TTY.

(b) Customer quick abandons on no-outpulsing calls at the time of operator answer may cause HAW messages to occur when the operator plugs into the jack and again when the operator removes the plug after realizing that the customer has gone back on-hook.

2.23.2 Both of these problems are handled differently in offices with the 3E3 generic program. When a hit occurs, a 10-second timer is initialized and a directed scan is performed on the trunk. If the trunk goes on-hook within the 10-second period, the trunk is restored to service. A time-out causes the trunk to go through HAW treatment.

High and Wet Trunk Audit

2.23.3 Trunks that require HAW treatment in offices with the 3E3 generic are monitored by a HAW Trunk Audit which searches for trunks that exist in the HAW state and that have gone on-hook without being cleared from the HAW state. An output from the HAW Trunk Audit is generated only when a trunk is encountered in an invalid HAW state. The result will be the generation of an audit recovery message which follows the same format as a Busy Trunk Audit recovery message. Restoration of a HAW trunk results in a restore trunk from HAW output message.

2.003 On Page 20, after paragraph 2.62, add the following heading and paragraphs.

TERMINATING FRAUD PREVENTION

2.63 "Black Box" fraud exists when the called party on either an intraoffice or incoming call attempts to circumvent the charging apparatus by judiciously applying off-hooks followed by on-hooks to the line. The "Black Box" presents a high impedance which causes the system to detect an on-hook but still allows the conversation to proceed if a transmission path is maintained through the switching network. The following paragraphs describe terminating fraud prevention as provided in the 3E3 generic and its interaction with minimum charge duration timing.

2.64 After a call that involves charging is answered, 2-second delay timing is initiated. For AMA, the answer entry is made immediately upon answer, but to guard against false answer on lines with carrier, AMA calls also require delay timing. An on-hook from either the called or calling party during the delay timing interval is reported to AMA. This report indicates an on-hook during the delay interval. The call will not be charged until completion of the 2-second delay. Also, both message rate charging and local coin overtime charging are not performed until after the completion of the 2-second delay.

2.65 If during the 2-second time delay the called party goes on-hook, the 2-second timing is aborted and 10-second disconnect timing is initiated. On incoming calls, the incoming trunk is set to return on-hook to the calling office and to open the transmission path for terminating fraud protection. To guard against receiving false answers, an outgoing call is not disconnected until the calling party goes on-hook. If a 10-second time-out occurs on an incoming or intraoffice call, the call is disconnected. If the calling party goes on-hook at any time, the call is disconnected. If the called party goes back off-hook during the 10-second disconnect timing, the 2-second timing starts again. For terminating fraud protection, another called party on-hook on an incoming or intraoffice call will cause the call to be disconnected.

2.66 The 2-second delay interval on an outgoing call is referred to as the Minimum Charge Duration (MCD) interval. On incoming calls, it is referred to as the Terminating Fraud Protection (TFP) interval. On intraoffice calls, it is both a MCD and a TFP interval.

2.67 Once the 2-second delay is completed, the call is charged and then made stable. If the called party now goes on-hook, 10-second disconnect timing is started. On incoming calls, the incoming trunk is set to return on-hook to the calling office and to open the transmission path for terminating fraud protection. A subsequent called party off-hook before time-out will cause the transmission path to be restored.

2.68 In the SO-2 Issue 4A generic, the TFP interval was 2.5 seconds. For the 3E3 generic, this interval was changed to 2 seconds which is the same as the MCD interval. This eliminates the possibility of false billing that could occur if the terminating interval was greater than the MCD. A situation that might cause false billing is the case where the called party jiggles the switchhook on answer with the subsequent hit falling between the MCD interval and the TFP interval. This would be a chargeable call at the originating office, but the connection would be taken down in the terminating office.