

SWITCHING SYSTEMS MANAGEMENT

NO. 2 ELECTRONIC SWITCHING SYSTEM

OPERATIONAL FEATURES

TOLL NETWORK PROTECTION

1. GENERAL

1.01 This section describes the application of toll network protection (TNP) in the No. 2 Electronic Switching System (ESS) central offices.

1.02 When this section is reissued, this paragraph will contain the reason for reissue.

2. IMPLEMENTATION OF TNP

2.01 TNP provides a means by which lines considered essential to national defense and public welfare may be assured access to the toll network under emergency conditions. This is accomplished by denying toll service to all of the lines not considered toll essential. TNP does not affect calls already established and calls to unprotected facilities. The only calls affected are those calls from nonessential lines which require the use of facilities designated as protected by the telephone company.

2.02 Any outgoing trunk group may be designated as a protected facility by the appropriate entry in the trunk group data table. A line may be assigned toll essential status by the appropriate entry in the directory number translation information (Translation Guide 2H, Division 4, Section 1a).

2.03 When TNP is instituted, only lines designated as toll essential can complete calls which require the protected trunk groups. All other lines attempting to complete calls to these protected trunk groups receive overflow tone.

2.04 A teletypewriter (TTY) message is provided to initiate TNP from either the maintenance or traffic TTYS. A TOLL NET lamp (amber) is provided on the maintenance center control and

display panel to give visual indication that TNP has been initiated.

2.05 The system administers TNP unconditionally; that is, all customers not designated toll-essential are denied access to specified trunk groups independent of actual load conditions. Although TNP is initiated, intraoffice and interoffice calls (other than to protected groups) continue normally. TNP is a means of giving better service to toll essential lines. Institution of TNP must be carefully considered so that toll service will not be denied to any line until absolutely necessary.

2.06 It is not possible to prescribe exact conditions under which TNP should be applied. In general, the decision to use TNP should be based on those factors which affect the toll network. Whether an overload or other circumstance warrants TNP is a matter of judgment to be guided by local practices. Variations in equipment arrangements will cause similar offices to respond differently to identical external influences. Each situation will require the balanced consideration of such items as cause (if known), time of day, and relationship to busy period. In many cases, the condition will be a unique occurrence so that there is no previous experience to serve as a guide.

2.07 The consequences of the initiation of TNP must be carefully considered. It is important to remember that when TNP is operated, service to one group of customers may be improved but necessarily degraded for others. The objective is to use this control *only* when essential lines must be guaranteed service to the detriment of others. The TNP feature has no load control capability beyond simply denying nonessential lines access to the trunk groups while assuring complete access to TNP essential lines.

This material is prepared for Bell System purposes and is for the use of Bell System employees only. Its distribution is in no sense a publication. Neither the material nor any portion thereof is to be reproduced in any form by others without the written permission of the American Telephone and Telegraph Company.

SECTION 10d(2)

3. TNP ACTIVATION PROCEDURE

3.01 To activate TNP, type in the following TTY input message on the maintenance or traffic TTY:

M SY:TNP:ON!

System should respond with NG or MR SY TNP ACTIVE message.

3.02 If TTY response is NG, repeat 3.01 making sure that the input message is correctly typed.

3.03 If TTY response is MR SY TNP ACTIVE the TOLL NET lamp (amber) on the maintenance center control and display panel will light.

4. TNP DEACTIVATION PROCEDURE

4.01 In order for nonessential lines to gain access to toll protected trunks, type in the following TTY input message on the maintenance or traffic TTY:

M SY:TNP:OFF!

System should respond with NG or MR SY TNP NORMAL message.

4.02 If TTY response is NG, repeat 4.01 making sure that the input message is correctly typed.

4.03 If TTY response is MR SY TNP NORMAL, the TOLL NET lamp (amber) on the maintenance center control and display panel will extinguish.

5. SYSTEM INITIALIZATION

5.01 The status of the TNP program is controlled by means of TTY input messages; if there should be a system initialization which erases call store information, the status of the traffic controls will be "forgotten." Therefore, the state of the TNP programs must be reinstated using the audits which are run during the emergency action. Procedures for system initialization are given in Bell System Practice 232-113-301.

6. RECORDS AND REPORTS

6.01 The required reports of the use of TNP should be entered on the proper forms and referred to other departments in accordance with local instructions. These reports should include such information as date, time, reason, and duration.

6.02 Directory numbers which are assigned toll essential status are recorded on the Directory Number Record—Form ESS-2100-R. Toll essential lines are also indicated on the Abbreviated Class Record—Form ESS-2502-R. Trunk groups which are designated for TNP are recorded on the Trunk Feature—Form ESS-2204.