TRUNK NETWORK DESIGN—ORGANIZATION AND DESCRIPTION

TRUNK ENGINEERING

NETWORK OPERATIONS METHODS

1. GENERAL

1.01 This section face sheet is issued to assign its 9-digit number to Traffic Facilities Practices

Division G, Section 3-a(1), August 1976.

This is part of the conversion of all Traffic Facilities Practices (TFPs) to the 9-digit Bell System Practices (BSPs) series as described in GL-77-05-262 and GL-77-11-200.

1.02 When this section is reissued, all references to TFP numbers will be changed to the appropriate 9-digit BSP numbers.

1.03 Recommendations for changes, additions, or deletions to this section should be forwarded on Form E-3973 as specified in Section 000-010-015.

1.04 TFP to BSP cross-reference information can be found in GL-77-11-200 and in Section 780-400-005.

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TRUNK FACILITIES

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ORGANIZATION AND DESCRIPTION OF SECTION 3

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ORGANIZATION AND DESCRIPTION OF SECTION 3

1. GENERAL

1.01 Section 3 provides a description of the network configurations in use in the message network and the logic and procedures for configuring trunk networks and trunk groups.

1.02 This section is reissued as part of a comprehensive revision of Division G of the Traffic Facilities Practices and replaces material previously covered in this section.

2. SECTION DESCRIPTIONS

2.01 Section 3-a is divided into two parts: Section 3-a(1) and Section 3-a(2).

(a) Section 3-a(1): ***Organization and Description of Section 3***—This section outlines the subjects covered in Section 3. Brief descriptions of the individual sections are included to assist in the use of this section and as an aid in the location of specific topics. A form is provided for the submission of comments on Section 3.

(b) Section 3-a(2): ***General***—This section contains a general discussion of the evolution of the message network and some of the concepts, philosophies, and considerations underlying network design objectives and methods.

2.02 Section 3-b: ***Message Network Configurations***—In this section, the configurations used in the nonmetropolitan, metropolitan, and the 5-level North American Network are described in depth. Sectoring and the combining of various networks are also discussed.

2.03 Section 3-c: ***Allocation of Loads between Direct and Switched Routes***—The methods recommended for attaining a service/cost effective network for various situations are discussed in detail in this section. The factors affecting load allocation and the overall objectives of these procedures are also covered. Considerations underlying minimum trunk-group size and the provision of expedient, final, and only-route trunk groups in trunk networks are reviewed with the inclusion of specific recommendations.

2.04 Section 3-d: Vacant

2.05 Section 3-e, First Route and Alternate Route Selection, is divided into five parts.

(a) Section 3-e(1): ***First Route and Alternate Route Selection—Concepts and Principles***—This section discusses the concepts and principles underlying a routing discipline for the routing of traffic in hierarchical networks. This discipline has been developed to assist with first-route and alternate-route selection functions of trunk network design.

(b) Section 3-e(2): ***First Route and Alternate Route Selection—Rules***—This section describes the rules to be observed when routing traffic in hierarchical networks of two or more levels.

(c) Section 3-e(3): ***First Route and Alternate Route Selection—Load Accumulation—Candidate Trunk Group Identification***—This section describes the procedures to be followed in the network design process of accumulating point-to-point loads for the purpose of identifying the trunk groups that are likely to be supported by this traffic. These procedures identify the trunk groups that should be considered in the network sizing process, and the first routed loads which are offered to these trunk groups.

(d) Section 3-e(4): ***First Route and Alternate Route Selection—Network Route Selection Mode***—This section describes the procedures to be followed in determining the route a call should follow when trunk groups and homing arrangements are known.

(e) Section 3-e(5): ***First Route and Alternate Route Selection—Other Considerations***—This section describes special considerations that may affect the application of the routing procedures as discussed in Sections 3-e(1) through 3-e(4). The topics covered include significant routing

implications of Foreign Area Translation, including cross-NPA-boundary homing.

2.06 Section 3-f: ***Trunk Group Structural Arrangements***—This section presents considerations relative to the way trunks are grouped between pairs of switching systems in the message network. The application of 2-way and directionally divided trunk groups is included. Recommendations for the provision of parallel protective high-usage trunk groups and restrictive high-usage trunk groups for service protection purposes are covered here. Also covered in this subsection is the concept of modular engineering of trunk groups and recommended rules for the application of modular engineering to trunk group sizing.

2.07 Section 3-g: ***Switching System Features and Capabilities Pertaining to Trunking***—This section examines, by type of switching system, those features which are of particular concern to the trunk engineer. Features such as pulsing, route advancing, billing, trunk hunting, and translations are among those included. Reference is also made to corresponding sections of Division D.

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Re: Comments pertaining to the Traffic Facilities Practices, Division G,

Section _____, Page _____, Dated _____, Paragraph _____, Figure_____.

Comments or Suggestions:

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