APPLICATION GUIDE FOR THE PREPARATION OF DETAILED DIAL CENTRAL OFFICE EQUIPMENT REQUIREMENTS

Purpose: This addendum is to:

1. Eliminate the use of 15-watt solid state ringing machines where single frequency ringing is specified and specify ringing test equipment where tuned ringers are used on single frequency systems.

2. Include a list of the frequencies in the desired sequence of application when more than one is required on the reference tone generator (milliwatt tone).

3. Give current information on pulse correction for inband signaling (E type).

4. Introduce remote testing equipment.

5. Add note to increase ring cycle length when four frequency ringing is used.

Deletions: Strike out paragraphs numbered 2.211 and 2.466.

Additions:

2.165 Item 8.013 in Part III, REA Form 558c of the Central Office Equipment Contract should be revised to read as follows: 8.013 Solid State Multifrequency (If specified use same frequency and watts specified in Item 8.021.) Item 8.014 should be added as follows: 8.014 Solid State Frequency 20 cps (25 watts, 50 watts - cross out one).

2.211 In all instances when multifrequency ringing is used and where tuned ringers are used in single frequency ringing systems, it is necessary to have a means of checking the exact frequency and the output voltage on each frequency. When a telephone company has only one central office, a panel-mounted set of frequency meters and voltmeters is desirable. In cases where a telephone company operates several offices, it is desirable to have portable meters which can be carried about by the maintenance man.

2.466 It is desirable to provide a transmission test circuit to permit testing of electronic equipment on trunks and subscriber lines without any assistance in the local dial office. This is especially true where the circuits include equipment such as carrier, mobile radio, microwave, voice frequency repeaters, and subscriber carrier. A detailed description of this "loop around" test circuit and the milliwatt tone is contained in Paragraph 3.05 of Part I, REA Form 558a. If this test circuit is desired, check Item 19.061. The frequency or frequencies desired should be shown in Item 19.0611. Where more than one frequency is specified they are to be listed in the exact sequence they are to appear during the test. The order is normally specified by the connecting company. In situations where connecting companies are not involved and borrowers desire to install the equipment for their own use it is recommended that several test frequencies be provided. Three separate frequencies such as 300, 1000, and 3000 Hz should be requested as a minimum. If more frequencies are available on the equipment being purchased, they are desirable for use when testing loaded cables on trunks or subscriber loops. The output power of each frequency transmitted shall be as specified in Paragraph 3.051 of Part I of REA Form 558a.

2.506 Some recent models of inband signaling units provide transmit pulse correction within the unit. If the units that are being supplied under the requirements of Item 9 of Paragraph 25 of REA Form 558c are guaranteed to have transmit pulse correction this note should be included. "Omit pulse correction provided for in Paragraph 1.087 of Part I, 558a, of the Central Office Equipment Contract."

2.507 When more than one central office is involved in a network and there are voice frequency paths between the tributary offices and the administrative center of the network an alternate method of remote line testing in the tributary offices is available. These tests are made over existing circuits (voice frequency, carrier, microwave, etc.) and require no special equipment except at the sending and receiving end. They can share facilities with subscribers and have unique access to all test facilities. This is known as remote testing and should be described under Item 23. It provides about the same test facilities for the remote offices as the wire chief's test circuits provide in the local office, including d.c. tests for grounds, leakage on tip and ring, loop resistance, foreign potentials (a.c. and d.c.), and capacitance from tip and ring to ground and between wires. Test commands and test data are transmitted as tones in the voice band over any available trunk connection. A test distributor must be provided in each office where this equipment is used; therefore, Item 12 of REA Form 558a, Part III must be completed.

2.072 Item 3.02 in Part III, REA Form 558c of the Central Office Equipment Contract should be revised to read as follows:

3.02 The number of paystation lines having a loop resistance (excluding the paystation instrument) in excess of 1000 ohms for semi-postpay and 1200 ohms for local prepay or prepay shall be indicated below:

Type of paystation service: _____

Quantity	Loop Resistance (Outside Plant Only)
_____	_____
_____	_____
_____	_____

2.505 Insert the following notes in Item 23.0 of REA Form 558c:

(a) Provide a feature on the wire chief's test set whereby tests for exchange battery, including elevated voltages, can be made.

(b) Provide a jack field for all interoffice trunks of the voice frequency type. Each trunk shall have an appearance, properly designated, for line, drop, monitor and dial legs when practicable plus any other jacks as requested by purchaser. (Where trunks are derived by carrier or point-to-point radio systems, jack fields are provided in accordance with the provisions of REA Specification PE-60, "Trunk Carrier Multiplex Equipment.")

2.53033 DX and loop dial signaling systems should be provided for voice frequency trunks wherever practicable in lieu of CX or SX signaling systems. The latter two signaling systems are much more susceptible to power line fundamental frequency induction with subsequent generation of voice frequency noise. CX and SX signaling should only be provided in situations where compatibility with the distant end of the trunk makes their use necessary.