

DATA ITEM DESCRIPTION			Form Approved OMB No. 0704-0188 Exp. Date: Jun 30, 1986	
1. TITLE <b>TELECOMMUNICATIONS SYSTEM ENGINEERING HANDBOOK</b>		2. IDENTIFICATION NUMBER  DI-GDRQ-80148		
3. DESCRIPTION/PURPOSE 3.1 The handbook will be used for advanced engineering planning at locations where the telecommunications systems will be installed. It shall include general information on the provisioning requirements, construction, power and environmental requirements for varying sizes and families of the telecommunications systems.				
4. APPROVAL DATE (YYMMDD) 860407	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)  F/AFCC-TSPMO	6a. DTIC REQUIRED	6b. GIDEP REQUIRED	
7. APPLICATION/INTERRELATIONSHIP 7.1 This data item description contains the format and content preparation instructions for the data product generated by the specific and discrete task requirement for this data included in the contract.				
8. APPROVAL LIMITATION		9a. APPLICABLE FORMS	9b. AMSC NUMBER  F3811	
10. PREPARATION INSTRUCTIONS 10.1 <u>Contract</u> . This data item is generated by the contract which contains a specific and discrete work task to develop this data product.  10.2 <u>General</u> . The Telecommunications System Engineering Handbook shall outline general provisioning practices and allied support requirements for the varying sizes and families of the telecommunications systems. Provisioning and allied support criteria shall be included for all of the different possible sizes of each family of system, with emphasis on the major modular expansion increments within each family. This information shall be provided in sufficient detail to enable a government engineer to accurately project the equipment to be provided for different sizes of systems and plan for the facility required to house all equipment furnished under the contract.  10.3 <u>Contents</u> . The handbook shall contain the following allied support information for each system family, over the complete range of sizes specified in the Equipment Performance Specification (EPS):  a. Floor space requirements for the switching equipment, distribution frame, maintenance, battery and power room and all miscellaneous contractor furnished equipment.  b. Floor loading for switching equipment, main or intermediate distribution frame, and battery and power room and all miscellaneous contractor furnished equipment.  c. Main or intermediate distribution frame sizing.  d. AC and DC circuit breaker sizes and quantities.  e. Environmental requirements, including temperature, ventilation and air cleanliness.  f. AC outlet requirements.				

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## 10. PREPARATION INSTRUCTIONS (Continued)

- g. -48 VDC power drain.
- h. Equipment clearance requirements for entry into facility.
- i. Minimum and recommended ceiling heights for all equipment.
- j. Ceiling strength requirements and loading for overhead cable racks and seismic protection equipment.

10.4 Outboard Equipment. The handbook shall contain the information requested in paragraph 10.3 for the following equipment specified in the EPS:

- a. Remote switching terminals (RST) in the major modular expansion increments up to maximum line size specified in the EPS.
- b. T-span equipment for 8 to 80 spans in major modular rack increments.
- c. Seismic protection equipment for each seismic zone.
- d. Fiber optics transmission equipment for 48 to 1920 channels in increments of 48.
- e. Channel bank equipment for 48 to 1920 channels in increments of 48 or 96 channels, whichever is more appropriate.
- f. Digital echo canceller equipment for 48 to 960 trunks in increments of 48.
- g. Circuit Test and Measurement System.

10.5 Floor Plans. The handbook shall provide standard examples of floor plan layouts for the system. The floor plan layouts shall be attached behind each applicable section, i.e., the remote switching terminal (RST) layouts shall be attached to the section providing information on the RST.

10.6 Provisioning. The handbook shall provide detailed information on how the system is provisioned for each range of sizes and families. The information shall include any algorithms or formulas used to determine common processor size, memory capacity, Multi-frequency (MF) and Dual Tone Multi-frequency (DTMF) senders/receivers and other common service circuits. The handbook shall include methods for determining the size of time switch networks, line base units, trunk base units, input/output ports and terminals, conferencing equipment and distribution frames. The handbook shall include information on how to provision outboard equipment and test equipment.