COE Construction Demarcation Activities

Contents

1 . General

1.1 Purpose

This practice identifies and defines:

- Installation activities and content for consistency with various installation forces.
- Turnover demarcation points for the installation activities.
- Turnkey requirements and operation.
- Ready-for-service and in-service.

1.2 Filing Instructions and Supersedures

Discard all previous issues and associated addenda of this practice and file this issue numerically in your GTE Telephone Operations practices set.

This practice supersedes and cancels:

- All policies, procedures, general instructions, letters, and memoranda which address this subject.
- Any document which provides information contrary to the information contained in this practice.

1.3 Reason for Reissuing

This practice has been renamed and reissued to incorporate multiple changes in the content. Read this entire practice to ensure your familiarity with the new information.

This practice further defines:

- Installation activities.
- Demarcation/turnover points.
- Ready-for-service.

NOTE: Please **note that this practice has been renamed to reflect more precisely the changes In the content.**

1.4 Responsibility

This practice was published by the GTE Telephone Operations Administrative Services Department. For more information about this practice, contact the GTE Telephone Operations Headquarters COE Construction Department.

1.5 Disclaimer

This practice was prepared solely for the use of GTE Telephone Operations. It must be used only by its employees, customers, and end users when installing, operating, maintaining, and repairing GTE Telephone Operations' equipment, facilities, and services. Any other use of this practice is forbidden. The information contained in this practice may not be applicable in all circumstances and is subject to change without notice. By using this practice the user agrees that GTE Telephone Operations will have no liability (to the extent permitted by applicable law) for any consequential, incidental, special, or punitive damages that may result.

2. Overview

2.1 Introduction

Defining and identifying installation activities, turnover, and demarcation points:

- Eliminates much of the confusion contractors experience in accurately bidding and understanding GTE's installation work requirements.
- Provides:
  - Consistency with contractors in quoting and in subsequent work efforts.
  - Consistency among GTE Region workforces relative to contractor versus Central Off ice Equipment Construction (COEC) work activities.
  - Linkage to the engineering modeling concepts.
- facilitates competitive benchmarking studies.

2.2 Definitions

The following chart provides definitions for the acronyms and terms used in this practice.

Acronym or Term	definition
5ESS	AT&T #5 Electronic Switching System
AC	Alternating Current
BDFB	Battery Distribution Fuse Board
CAP	Change Application Procedure
CDF	Combined Distribution Frame
CI	Customer Information
CO	Central Office
COE	Central Off ice Equipment
COEC	Central Office Equipment Construction; if not prefixed by GTE, is used as a generic term and applies to any work force contracted by GTE for COE work (vendor, contractor, or GTE).
COMER	Central Office Mechanized Equipment Record
DC	Direct Current
Demarcation	Followed by an alpha character is a pre-defined group of installation activities and a separation point between groups of activities (e.g., Al, A2, B, C; see Section 3.2).
DERR	Data Equipment Relay Rack
DID	Direct Inward Dialing

(continued)

2.2 Definitions, continued

Acronym or Term	Definition
DLC	Digital Loop Carrier
DMS	Northern Telecom line of switches
DMTM	Data Management Transmission Module
DSX	Digital Signal Cross Connect
ECLIPS	Engineering Central Office Location Inventory Property System
FED	Final Engineering Detail
HDSL	High-Bit-Rate Subscriber Line
HF	High Frequency
HID	Hardware Identification
HMDF	Horizontal (side of) Main Distributing Frame
I&M	Installation and Maintenance
IAP	Installation Assessment Program
In-service	Equipment is considered in-service when lines and/or trunks are functioning in the network. Equipment is ready to assign service and/or function as part of the network (e.g., alarms, monitoring, power equipment, and transmission equipment).
JIM	Job Information Memorandum
LIDF	Line Intermediate Distribution Frame
LVT	Line Verification Test
MARK	Mechanized Assignment Record Keeping
MDF	Main Distribution Frame
MOP	Method Of Procedure
NNX	Switching Center Exchange Code
NOC	Network Operations Center
ODD	Office Dependent Database

(continued)

2.2 Definitions, continued

Acronym or Term	Definition
OEM	Other Equipment Manufacturer
OSP	Outside Plant
PALF	Power and Alarm Frame
PDF	Power Distribution Frame
PDUF	Power Distribution Unit Frame
PPI	Power Plant Instrumentation
PWC	Printed Wiring Card
Ready-for-Service	The successful and final completion date for the project. All pm-in-service installation and test activities have been completed before enabling the equipment to go in-service (i.e., completion of Demarcation Category C of activities). If multiple turnovers were required, they must all be completed, with board-to-board, facilities, end-to-end, features, billing tests, successfully completed.
ROTL	Remote Office Test Line
SES	Service Express System
SPG	Singte Point Ground
Test Ready	Means that the switching or transmission system is ready to allow the start of GTE pre-in-service (acceptance) testing to be performed in conjunction with the installation and testing activities. Specific requirements for this are the final: • Generic software load is in the system. • Engineering, ODD is in the system.
TLS	Traffic Load Simulator

(continued)

2.2 Definitions, continued

Acronym or Term	Definition
Turnkey	Should only be used when the entire project is bid/installed by one installation group (e.g., Contractor zzz does Demarcation Categories Al, A2, B, and C). The job functions must be performed so that no labor involvement by GTE COEC is necessary. With this scenario, one turnover for Demarcation Categories Al, A2, and B activities is appropriate. In addition, a separate turnover/acceptance is required for the pm-in-service, and ready-for-service activities (e.g., Demarcation Category C). Demarcation Category C activities always require a separate turnover verification notification by COEC to Network Reliability/Customer Operations. This is the final verification before placing the equipment into service. GTE COEC (not the contractor) has the responsibility for placing the equipment in service.
Turnover	Means that all installation and testing activities by the switch manufacturer/contractor/ GTE/COEC are completed and the system is ready to allow final testing (pre-in-service activities) for in-service by GTE COEC. However, multiple turnovers can exist based on the installation completion of a group or set of activities (e.g., demarcation categories). Turnover includes the physical, functional, and operational test verification of equipment installed with appropriate forms signoff in a demarcation category. Various turnover or demarcation points can exist on a project/work order depending on whether or not different installation groups are involved on the same project. Each different installation group, with different sets of activities, can have different turnover/demarcation points (e.g., Contractor yyy does Demarcation Categories A, A2; Contractor zzz does Demarcation Category B; GTE does Demarcation Category C). If one installation group is responsible for multiple sets of activities, less Demarcation Category C, one turnover would be likely (e.g., Contractor zzz does Demarcation Categories A, Al, and B)-

2.3 References

Refer to the GTE COEC "HQ.COEI.NEWS" electronic bulletin board for the latest:

- CH-110 Handbook Index of GTE Telephone Operations Practices.
- OEM Index which lists other manufacturer installation practices.
- COEC Alerts.

Refer to the electronic bulletin board "COECGTEP" for COEC:

- Draft GTE Telephone Operations Practices.
- COECxxx prefixed forms (see Section 2.4).

NOTE: Contractors who do not have access to GTE electronic bulletin boards will need to get this information from their GTE counterpart, normally at the preconstruction meeting.

The following chart provides sources of supplementary information relating to this practice. The documents could be required for performing certain tasks.

See...	For Information **About...**
004-200-001	Quality Assurance Operational Review – COE Construction
006-243-070	Modular Distributing Frame Engineering Applications
006-243-071	Modular Distributing Frame Configurations for GTD-5 Systems
006-243-072	Modular Distributing Frame Configurations for DMS Systems
006-243-073	Modular Distributing Frame Configuration for 5ESS Systems
007-003-001	Project Management Procedures
007-015-002	Network Provisioning Operations Center Procedures
007-015-010	Contractor Administration Procedures for Engineering, Construction, Installation, or Maintenance of Telephone Plant
007-220-001	COE Bar Code Methods and Procedures
117-200-002	Hazard Communication Program
EP 200~OOO-008*	Standard Alarms INAS Remote Discrete Sense Points

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2.3 References, continued

See...	For Information About...
200-401-400	Safety Precautions – Central Office
200-001-004	Equipment Rooms Housekeeping
200-002-010	Acceptance Test General Plan
200-002-700	COE Construction – Equipment Check/ Verification and-Generic Feature and Functional -Acceptance Test Forms
200-002-725	Acceptance Testing – DS-1 Span
200-002-730	Acceptance Test Plan Carrier Multiplex Equipment
200-002-7 31	Acceptance Test Plan Radio Microwave Equipment
205-000-000	Equipment Alarms Overview
205-000-001	Alarms for Electromechanical Switching Equipment
205-000-002	Alarms for Electronic Switching Equipment
205-000-003	Alarms for Toll Switching Equipment
205-000-004	Alarms for Carrier and Radio Facilities
205-000-005	Alarms for Switching Equipment Support Systems
205-000-006	Alarms for Peripheral Equipment Port Systems
205-000-500	Power Equipment Power Connections CO Inspection and Tightening Procedures
205-001-501	Equipment Frames Preliminary Test and Power-Up Procedures
205-001-502	Central Office Power Evaluation (COPE)
205-002-501	Isolated Ground Faults – Detection and Troubleshooting -Switching and Transmission Systems
205-005-200	Batteries – Central Office and Remote – Installation and Maintenance

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2.3 References, continued

See...	For Information About...
205-100-200	Battery Charger Installation
205-705-201	Power Plant Bus Bar – Installation
205-705-202	Duct DC Bus – Description and installation
220-000-002	SPC Daily Journal
220-000-200	Equipment Removal Guidelines – COE
220-001-001	Central Office Equipment Installation Activity Procedures
220-001-002	High Risk Activity Notice
220-001-003	Prefielding – COE Construction
220-001-004	COE Work Order Implementation Procedures
220-001-010	Electrical Tools and Test Equipment in Electronic/ Digital Equipment Areas
220-014-007	Quiescent Test Load Simulator (TLS)) Test Criteria – GTD-5 EAX
220-220-002	Printed Wiring Card Repair and Return and inventory Control Procedure
237-050-201	Erection Methods CO Laying Out the Floor
237-050-204	Erection Methods CO Bay and Frame Uprights
237-050-205	Sylvania Modular Distributing Frame – Installation Guidelines
237-050-206	Erection Methods – AGCS Central Off ice Cable Runway
237-050-207	Erection Methods – Central Off ice Cable Grid
237-050-209	Erection Methods-CO Shelf Cable Brackets and Auxiliary Terminal Block Supports
237-050-211	Erection Methods Central Office Equipment Shelves
237-050-212	Erection Methods CO Equipment Shelves-Using Unit and Shelf Hoist GTC-3015

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2.3 References, continued

See...	For Information About...
237-050-213	Erection Methods CO Equipped Relay Racks
243-120-200	Cook Electric Protectors – Description and Installation
244-200-100	Numbering and Lettering of Switch Equipment
244-251-200	Numbering and Lettering Power and Lighting
244-261-l 00	Numbering and Lettering Transmission Equipment
256-050-203	Cabling Methods-Installation Planning and Safeguards
256-050-204	Cabling Methods – Running and Securing Switchboard Cable
256-050-205	Cabling Methods – Butting, Stripping, and Fanning Switchboard Cabtes
256-050-206	Cabling Methods- Running and Securing Power Cable
256-050-207	Terminating Power Cables Using Compression Connectors and Lugs
256-050-208	Cabling Methods Switchboard Cables – (Wrap and Solder Methods)
256-050-209	Cable Buzzing Methods
256-600-201	Cabling Methods – Forming and Dressing Miscellaneous Wire
331-220-510	Transmission Testing – 1004 Hz and Gain-Slope AML Tests – Direct Tandem-Connection/ Intertandem Trunks
392-342-500	Fiber Optics Acceptance Test Procedures
742-200-070	Sealing Cable Openings and Penetrations – Fire Protection Measures
788-405-075	Order and Application of Central Office Equipment Lighting Fixtures
795-l 55-074	Bus Bar Overhead Aluminum – Engineering Applications

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2.3 References, continued

See...	For Information About...
795-I 55-075	**Bus** Bar Standard Bolting Arrangements – Engineering Considerations
795-205-077	Power Systems Monitor/Controller (PSMC) – AT&T ECS-6U – Engineering and Installation
795-805-071	Central Office Grounding Systems – Engineering Applications
795-805-072	AC Service Grounding Engineering Applications
795-805-073	Transmission Equipment-Central Off ice Grounding
795-805-074	Inspecting Central Office Grounding and Electrical Protection
795-805-075	Remote Electronic Serving Area Grounding Systems – Engineering Considerations
795-805-076	Northern Teiecom DMS Switching Systems Grounding – Engineering Applications
795-805-077	Stromberg-Carlson DC0 Switching System Grounding Engineering Applications
795-805-078	Engineering Guidelines for Grounding AT&T Switching Equipment in GTE Facilities
835-000-071	T1 PCM Repeatered Line -Transmission Considerations for Engineering
938-360-012	Power Pedestal – Description and Application
938-624-000	Optical Fiber Cable General Outside Plant Design Considerations
CH-110 (Handbook)**	Central Office Installation

* Engineering Procedures (EPs) are published by the Headquarters Engineering Department and are available through the Region Engineering Contacts.

** Information on how to order this handbook is provided on electronic bulletin board HQ.COEI.NEWS.

2.4 Forms

me following forms are referenced in this practice:

- Inspection - CO Grounding and Electrical Protection, Form 90001528 (GTE Telephone Operations Practice 795-805-074).
- Patch Log, Form 90001792 (GTE Telephone Operations Practice 220-000-002).
- SVR Log, Form 90001793 (GTE Telephone Operations Practice 220-000-002).
- SPC Daily Activity Log, Form 90001794 (GTE Telephone Operations Practice 220-000-002).
- Storage Battery/Charger Record, Form 90002546 (GTE Telephone Operations Practice 205-005-200).
- Checklist Prefielding COE Construction, Form 90002762 (GTE Telephone Operations Practice 220-001-003).
- Spare Inventory Control Record, Form 90003098 (GTE Telephone Operations Practice 220-220-002).
- ERO Repair and Return Log, Form 90003099 (GTE Telephone Operations Practice 220-220-002).

Order these forms through normal supply channels (see Section 2.3).

2.4 Forms, continued

The following forms are also referenced in this practice:

- Emergency Contact List, COECA01 (GTE Telephone Operations Practice 220-001-004).
- Pre Construction Meeting Notes/Checklist, COECA02 (GTE Telephone Operations Practice 220-001-004).
- Planning Worksheet/Method of Procedure, COECA03 (GTE Telephone Operations Practice 220-001-004).
- Work Order Status Summary, COECA04 (GTE Telephone Operations Practice 220-001-004).
- Demarcation Activities Checklist and Notes, COECA05 (Exhibit 1).
- Work Completion Summary, COECV01 A (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Superstructure, COECV02A (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Cables and Wire, COECV02B (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Power Installation, COECV02C (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Safety and Housekeeping, COECV02D (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Equipment Erecting, COECV02E (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification -Administration, COECV02F (GTE Telephone Operations Practice 200-002-700).
- Equipment Check and Verification – Grounding, Isolation, and Protection, COECV02G (GTE Telephone Operations Practice 200-002-700).
- Acceptance Test – Basic System and Billing, COECV03A (GTE Telephone Operations Practice 200-002-700).
- Acceptance Test – Line Test Verification, COECV03B (GTE Telephone Operations Practice 200-002-700).
- Acceptance Test -Trunk System, COECV03C (GTE Telephone Operations Practice 200-002-700).
- Acceptance Test -Trunk/Span Testing, COECV03D (GTE Telephone Operations Practice 200-002-700).

Order these forms via any of the following methods:

- Contact the Regional Network Construction Support Center.
- Access telemail bulletin board COEC.GTEP.
- Send an e-mail to COEI.Quality requesting a diskette containing the forms in ASCII or WordPerfect format.

2.4
Forms, continued

Other forms referenced in GTE Telephone Operations Practices can be obtained through:

- The Network Construction Support Centers.
- The normal supply channels.
- The printshop (PS suffixed forms) that serves your **Region.**
- Reproducing exhibits of forms (PS suffixed forms) if not available elsewhere.

NOTE: For other product line specific forms, refer to the appropriate acceptance practices listed **In GTE Telephone Operations Practice 200-002-xxx and 200-400-xxx series of practices.**

3. COE Installation Process

3.1
General

GTE COEC is responsible for:

- Turning over to Network Reliability/Customer Operations, a totally complete and functionally tested, ready-for-service project.

  AND

- Placing the work order/project in-service in the network.

GTE COEC must carefully assess their resources in determining to what demarcation points they or contractors **will do work.** A heavy **emphasis should be placed on GTE** COEC for work in the Demarcation Category C.

3.2 Demarcation/ Turnover Activities Identification

The specific demarcation/turnover activities are shown and categorized in the checklist shown in the Demarcation Activities Checklist, COECA)5, Exhibit 1. This checklist includes the activities for Demarcation Categories (A through C) described here and in the following paragraphs:

- Demarcation Category Al includes the basic switch/transmission installation activities using me vendor/manufacturer installation standards and GTE installation-specific standards defined here or in the checklist when submitted for a quote. The intent is to include the installation activities that are in sync with the standard engineering model configuration specified in the work order. A one-lot price is required for this category.
- Demarcation Category A2 includes the installation of standard, vendor-provided, optional equipment for the Demarcation Category Al basic system as determined by Engineering in the work order. This includes:
  - Items that will not always be provided with the basic package of equipment because:
    - Equipment reuse possibilities might exist on conversion orders (such as MDF batteries, and rectifiers).
    - Provisioning of extra power equipment/capacity for transmission and/or future applications.
    - Spare card frames, racks, and cards provisioning.
  - Additional quantities of the same equipment supplied by the vendor in Demarcation Category Al.
  - Installation "adders" for items that can increase installation time for the basic installation such as:
    - Multifloor installations.
    - Multiple cable holes.
    - Excessively long cables.
    - False ceilings.

    NOTE: Items in this category are normally discussed at the job site walk-through before bid completion. Refer to GTE Telephone Operations Practice 220-001-004. One lot price is required for this customized category.
- **The** Demarcation Category B includes OEM equipment installation and test activities for equipment not furnished in Demarcation Categories Al and A2 (refer to Exhibit 1).
- Special Needs Requirements items are listed as they occasionally exist. Each of these items require a separate price and normally result in separate orders/quotes. Items in this category are also discussed in detail at the job site walk-through before bid completion.
- Demarcation Category C includes those installation activities that are considered pm-in-service, ready-for-service, and cutover activities. Included in this customized category are post-cutover review and assessment activities. Refer to Exhibit 1 for the activities in Demarcation Category C.

The Demarcation Activities Checklist, COECAOS, is completed by COE Construction and/or the Contract Administrator by denoting "C" or "G" (contractor or GTE) for the activities requested to be quoted.

Should additional activities be required, which can be associated with Categories A2 through C including the Special Needs Category, write in as necessary.

3.2 Demarcation/ Turnover Activities Identification, continued

The checklist is sent to the contractor(s) for bid solicitation. GTE suggests that the contractor clarify and/or write in information, if required, and return me checklist with the bid. The objective is to ensure a complete understanding of work to be performed by all parties.

3.3 Invitation to Competitive Bid/ Quote Using Demarcation Categories

When an invitation to bid/quote is sent to contractor(s) for new switches, conversions, growth projects, and major additions, all demarcation categories are open for the contractor to quote. The contractor quoting must be totally familiar with the contents of this practice, and closely related GTE Telephone Operations Practice 220401404. The GTE COEC internal process is described in GTE Telephone Operations Practice 007-015-010, which is not available to contractors.

If the contractor requested to quote is the manufacturer, and should additional questions be required for quoting that could not be answered by their engineers from previously furnished engineering information (CI/FEDS) they should contact the invitation to bid/quote requestor.

When invitation to bid/quotes are intended to go to non-manufacturer contractors, the demarcation checklists in Exhibit 1 might have to be submitted with additional site-specific requirements/notes. If the contractors require additional information, they should first call the bid/quote requestor.

GTE COEC determines the demarcation categories to be awarded after assessing the quote results with existing and current resources. GTE COEC identifies the extent of the installation activities (e.g., Demarcation points A through C) to be performed from work order start to in-service, on any given project.

The contractor(s) must use the items outlined in this document to formulate the total bid/quote requirements.

GTE will not be held liable for additional time and expense requirements without prior notification and approval via:

- The JIM process.

  OR

- Written documentation.

On demarcation categories work that is contracted, GTE COEC's responsibilities are:

- Supporting meetings and administrative type assistance.
- Making available required company electronic bulletins, alerts, and other information not normally available to contractors.
- Placing equipment in service after all acceptance is complete.

Any variance from the referenced practices and procedures will be accepted only with prior concurrence by GTE COEC personnel.

When a turnkey project (Demarcation Categories A-C) is contracted, the job functions must be performed so that no labor involvement by the COEC Department is necessary. All turnkey projects require a physical walk-through of the site at completion of installation, as part of the acceptance process.

4. Contractor Requirements

4.1 General

The contractor(s) or suppliers of labor services must:

- *Execute* a General Agreement for Engineering, Construction, Installation, and/or Maintenance of Telephone Plant with GTE.
- Be in complete compliance with the GTE contractor process.

4.2 Installation Coordination and Followup Activities

Coordination and followup activities are defined on a site-specific basis. The contractor must coordinate all activities through the GTE Network Construction Support Center or designated representative of COEC. **When** requested by the contractor, this representative conducts a pre-bid walk-through to familiarize the contractor with GTE's requirements. The information in this section also applies to the GTE COEC workforce. Refer to GTE Telephone Operations Practice 220-001-004.

Coordination and followup activities include, but are not limited to the contractor:

- Developing a detailed work plan/MOP that outlines all installation and test activities to be performed before the start of installation. A list of all the documents required to install and test the switch/transmission system must also be provided at this time.
- Developing a cutover plan and obtaining the concurrence of all associated functional groups (refer to GTE Telephone Operations Practice 220-001-004). If any manufacturer-specific/speciality tools or test gear are required, they must be specified in advance of installation, and whether the equipment is available on a lease or loan basis. The charges for this equipment must be specified.
- Identifying before the start of installation any special handling *or* environmental requirements necessary for the proper functioning of the equipment.
- Identifying and providing all standard tools and calibrated test equipment required for installation and test.
- Presenting a schedule that outlines time frames for turnover and verification testing. The contractor must perform all required tests and present completed check and verification test forms to GTE COEC for review.
- Providing the COEC supervisor and project coordinator with a weekly progress report and attend project coordination meetings, if required, by the Network Construction Support Center (refer to GTE Telephone Operations Practice 220-001-004).
- When applicable, familiarizing the GTE COEC and/or Network Reliability/ Customer Operation workforces with the equipment configuration and operating environment of the system.

  NOTE: This **activity must not delay the scheduled in-service date.**
- **The** contractor provides a 30- to 60 day - support period after in-service, in which on-premises technical assistance is supplied, if requested.

5. Activities Description – Start to Turnkey

5.1 General

In addition to the information provided in this section, refer to the activities and requirements in GTE Telephone Operations Practice 220-001-004 as they might apply to all projects.

5.2 Documentation and Equipment Handling/ Securing

The receiving, inventory, and storing of documentation and equipment on site is the responsibility of the installation group awarded the work.

Bind and/or file all:

- Prints.
- Records.
- Forms.
- Schedules.
- Other related documentation.

Ensure that the proper generic and office dependent database/software is available.

If equipment is stored in the CO, boxes must be covered with a waterproof, fire-retardant covering. Boxes should be opened in a manner as not to impose a dust or static hazard to working equipment. Empty boxes and garbage should be removed daily. Surplus equipment removal, packaging, and disposal is also the responsibility of installation when quoted. Refer to GTE Telephone Operations Practices 200-001-000 and 200-001-004.

5.3 Floor Preparation

Floor preparation consists of, but is not limited to:

- Marking the floors for proper equipment location as engineered.
- Drilling holes and installing anchors.
- Verifying that the floor is sufficiently level to properly align the equipment. Refer to GTE Telephone Operations Practice 200-001-010.

5.4 Equipment Room(s) Superstructure Installation

The superstructure installation includes, but is not limited to:

- Ordering all required GTE-specific minor material when required, through the SES.
- Installing all cable rack and superstructure as engineering including requirements for:
  - Fiber.
  - Carrier.
  - DSX racks.
  - Batteries.
  - Rectifiers.
  - Ground bars.
  - Main power unit to BDFB and PDUFs.
- Installing all required cable racking to the DSX as engineered.
- Performing cable hole closure responsibilities (refer to GTE Telephone Operations Practice 742-200-070).
- Obtaining prior approval for all changes from Engineering.

5.4 Equipment Room(s) Superstructure Installation, continued

The superstructure quote/installation price is included in the Demarcation Category AI except that the earthquake bracing related installation quote/price will be included in the Demarcation A2 activities/price. Refer to GTE Telephone Operations Practices 237-050-204, 237-050-206, and 237-050-207.

5.5 Power-Related Equipment Installation

Power and grounding installation includes, but is not limited to:

- Ordering all required GTE-specific minor material when required, through the SES.
- Installing as engineered:
  - Intraoffice ground cables as engineered including those to/from master and floor ground bars (refer to GTE Telephone Operations Practices 795-805-071 and 795-805-074).
  - Bus bar and duct when required (refer to GTE Telephone Operations Practices 205-705-201, 205-705-202, 795-155-074, and 795-155-075).
  - Bay/aisle equipment room(s) lighting (refer to GTE Telephone Operations Practice 788-405-075).
  - Equipment-related emergency lighting and receptacles.
  - Isolated and nonisolated receptacles.
  - Batteries, battery racks, and associated equipment (refer to GTE Telephone Operations Practice 205-005-200).
  - Chargers/rectifier equipment, cables, and associated equipment. This includes being responsible for the AC cabling to the rectifiers (refer to GTE Telephone Operations Practice 205-l 00-200).
  - Power boards, distribution panels, controller, and cabling. Running, securing, and terminating all power cables. These cables might require running back to the source of power such as the BDFB or PDUF.
  - Cabling alarms to the distributing frame and ensuring their functionality.
  - Setting alarm thresholds in accordance with GTE Telephone Operations Practice 205-005-200, and notifying the NOC in advance of testing.
  - Labeling fuses, cables, and equipment (refer to GTE Telephone Operations Practice 244-251-200).
  - Preparing all required documentation of test results and adjustments.

5.5 Power-Related Equipment Installation, continued

Refer to the following manufacturer specific practices, GTE Engineering Procedures, and/or GTE Telephone Operations Practices.

See...	For Information About...
EP 200-000-008*	Standard Alarms INAS Remote Discrete Sense Points
200-000-500	Power Connections Inspection and Tightening
200-002-700	Acceptance Test Basic Equipment Forms
205-001-502	Central Office Power Evaluation (COPE)
205-005-200	Batteries – Central Off ice and Remote – installation and Maintenance
205-100-200	Battery Charger Installation
205-705-201	Power Plant Bus Bar- Installation
205-705-202	Duct DC Bus – Description and Installation
243-120-200	Cook Electric Protectors – Description and Installation
244-251-200	Numbering and Lettering Power and Lighting
256-050-203	Cabling Methods – Installation Planning and Safeguards
256-050-206	Cabling Methods – Running and Securing Power Cable
256-050-207	Terminating Power Cables Using Compression Connectors and Lugs
795-l 55-074	Bus Bar Overhead Aluminum – Engineering Appli cations
795-155-075	Bus Bar Standard Bo tting Arrangements – Engineering Considerations
795-205-077	Power systems Monitor/Controtter (PSMC) – AT&T ECS-6U – Engineering and tnstatlation
938-360-012	Power Pedestal – Description and Application

* Engineering Procedures (EPs) are published by the Headquarters Engineering Department and can be available through the respective Region's Engineer.

5.5 Power-Related Equipment Installation, continued

Power and **grounding activities are included** in Demarcation Category Al for the PDF and/or-modular-power type boards (with rectifiers and batteries) and associated cabling and racking.

Demarcation Category A2 includes the installation time when batteries and/or rectifiers are existing and reused.

me cross connections of me alarm switch sense points or alarm external transfers from Dantel, Fibercorp, System 51, and the test is normally a part of Demarcation B activities. The NOC must be contacted at 1-800-483-6662 before testing.

5.6 Distributing Frame(s) Installation

Included within distributing frame(s) installation is distributing frame(s) cross-connections when required and additional terminal blocks installation. Terminal blocks over and above the blocks provided with the basic/standard switch in Demarcation Category Al are included in the Demarcation Category A2.

Refer to Note 13 in Exhibit 1 for the standard protector and module, COE or OSP installation requirements. Unless instructed otherwise, the installation quote/price is for COE only in Demarcation Category A2.

Distributing frame ground cabling is with power equipment in Demarcation Category A2. Cable racking, when required, is in the Superstructure, Demarcation Category Al.

Refer to the manufacturer's specific practices and/or the following GTE Telephone Operations Practices.

See...	For Information About...
006-243-070	Modular Distributing Frame Engineering Applications
006-243-071	Modular Distributing Frame Configurations for GTD-5 Systems
006-243-072	Modular Distributing Frame Configurations for DMS Systems
006-243-073	Modular Distributing Frame Configuration for 5ESS Systems
237-050-205	Sylvania Modular Distributing Frame – Installation Guidelines

5.7 Switch/ Transmission, Miscellaneous Equipment, Hardware Erection, and Cabling Installation

Installation of the switch, line, trunk additions, transmission equipment (DSX, carrier, and fiber optic) includes, but is not limited to, the following:

- Order all required GTE-specific minor material when required through the COEC Support Center.
- Unpack, position, and install all required equipment frames.
- Mount all miscellaneous material and "loose" equipment.
- Verify:
  - Fuse assignments and test.
  - Trunk group quantities and circuit design information.
  - All printed wiring card locations as engineered and required by the software generic.
- Testing of spare printed circuit boards when required.
- Install all:
  - Strapping options including that on miscellaneous material.
  - Peripheral equipment cross connects when required.
- Run, secure, and terminate all cable, wire, and jumpering.

  NOTE: HF **cables must maintaln proper separation guidelines. (Refer to GTE Telephone Operations Practices 795-805-073 and 835-000-071.) The cable sheath must be grounded on one end only (normally the equlpment end), unless otherwise specified by the product specific design.**
- Power up and functionally test the alarms of all the equipment installed.
- Isolation-Ail new installation of bays, frames, and relay racks must be isolated from the floor and cable rack/superstructure. All new installation of equipment shelves that have integrated grounding must be isolated from the bay or relay rack and the chassis ground for that shelf connected to the battery return bar. Integrated grounding is considered as any chassis ground that cannot be isolated from the battery return. This can be identified by testing for continuity between the battery return terminal and chassis ground terminal. This test must be performed before power is applied to the shelf.

Refer to the following GTE Telephone Operations Practices.

See...	For Information About...
007-220-001	COE Bar Code Methods and Procedures
205-000-000	Equipment Alarms Overview
205-000-001	Alarms for Electromechanical Switching Equipment
205-000-002	Alarms for Electronic Switching Equipment
205-000-003	Alarms for Toil Switching Equipment
205-000- 004	Alarms for Carrier and Radio Facilities

(continued)

5.7 Switch/ Transmission, Miscellaneous Equipment, Hardware Erection, and Cabling Installation, continued

see...	For Information About...
205-000-005	Alarms for Switching Equipment Support Systems
205-000-006	Alarms for Peripheral Equipment Port Systems
205-000-500	Power Equipment Power Connections CO Inspection and Tightening Procedures
205-001-501	Equipment Frames Preliminary Test and Power-Up Procedures
205-002-501	Isolated Ground Faults – Detection and Troubleshooting-Switching and Transmission Systems
237-050-201	Erection Methods CO Laying Out the Floor
237-050-204	Erection Methods CO Bay and Frame Uprights
237-050-205	Sylvania Modular Distributing Frame- Installation Guidelines
237-050-206	Erection Methods – AGCS **Central Off** ice Cable Runway
237-050-207	**Erection** Methods – Central Office Cable Grid
237-050-209	Erection Methods-CO Shelf Cable Brackets and Auxiliary Terminal Block Supports
237-050-211	Erection Methods Central Office Equipment Shelves
237-050-212	Erection Methods CO Equipment Shelves – Using Unit and Shelf Hoist GTC-3015
237-050-213	Erection Methods CO Equipped Relay Racks
244-200-100	Numbering and Lettering of Switch Equipment
244-261-100	Numbering and Lettering Transmission Equipment
256-050-203	Cabling Methods – Installation Planning and Safeguards
256-050-204	Cabling Methods – Running and Securing Switchboard Cable

(continued)

5.7 Switch/ Transmission, Miscellaneous Equipment, Hardware Erection, and Cabling Installation, continued

See...	For Information About...
256-050-205	Cabling Methods-Butting, Stripping, and Fanning Switchboard Cables
256-050-206	Cabling Methods – Running and Securing Power Cable
256-050-207	Terminating Power Cables Using Compression Connectors and Lugs
256-050-208	Cabling Methods Switchboard Cables – (Wrap and Solder Methods)
256-050-209	Cable Buzzing Methods
256-600-201	Cabling Methods – Forming and Dressing Miscellaneous Wire
938-624-000	Optical Fiber Cable General Outside Plant Design Considerations

5.8 Peripheral Equipment

Following is **a** listing of some standard peripheral and special equipment found in GTE COs. Installation of items not included in this list might be required **if defined** in the engineered work order. Additional items, if required, must be brought to the attention of the contractor at the time of me bid request or in joint meetings before the bid.

- PALF – Power and Alarm Frame and equipment.
  - Mount rack equipment.
  - Wire equipment.
  - Power up and test.
- 4TEL ROTL, or equivalent.
- ESARTS, Hikeimian, or equivalent transmission/facility test equipment.
  - Mount equipment.
  - Run cable, wire, and terminate.
  - Power up, test, and coordinate commissioning with Network Reliability/Customer Operations.
- Recorder Announcers (Cognitronics and Mcais).
  - Mount equipment and load messages, when required.
  - Run cable and wire and terminate.
  - Power up, test, and commission.
- 9-1 -1/E9-1-1 equipment.
  - Mount equipment.
  - Run **cable and** wire and terminate.
  - Power up, test, and commission.
- DERR or equivalent and equipment.
  - Mount equipment.
  - Run cable and wire and terminate.
  - Power up, test, and commission.
- Environmental Control Panel/Remote Alarm Equipment (e.g., System 51, Dantel, and Transview).
  - Mount equipment.
  - Run cable and wire and terminate.
  - Cross connect sense points.
  - Test alarm relay.
  - Activate sense points.
  - Test with the NOC.

For additional information related to this practice, see EP 200-000-008.

5.9 System Hardware and Software Testing

Refer to Exhibit 1 and the installation notes. System testing includes, but is not limited to:

- Performing:
  - All required manufacturer's standard commissioning tests (functionality, system and diagnostics, call and feature processing, and traffic load) and any additional tests specified by GTE COEC.
  - A traffic load and volume test including:
    - Manufacturer's s tandard.

      OR, if requested.
    - GTE standard of 20 hours at site-engineered Average Busy Hour Load, plus a minimum of 129% Peak Busy Hour Load, run consecutively (refer to GTE Telephone Operations Practice 220-014-007).
- Maintaining a 5-10% "background" traffic after quiescent test until cutover (depending on the availability of load boxes, to be determined at the preconstruction meeting).
- Testing software to ensure that all system features are verified.
- Verifying NNX (translation verification) and Equal Access.
- Performing digital analysis and routing.
- Verifying:
  - And testing external synchronization.
  - That the billing process is operational with the appropriate billing center.
- Verifying, preparing, and documenting all test results and equipment adjustments.

5.10 Trunk Testing

Refer to Exhibit 1 and the installation notes. Trunk testing includes, but is not limited to:

- Loading trunk database tape (supplied by Traffic Facilities Administration).
- Testing trunks and completing forms for trunk tumup.
- Running DID jumpers and testing with OSP (I&M).
- Performing functional end-to-end test of all intracompany, intercompany, and colocated trunks (e.g., transmission and signaling).
- Maintaining and updating status reports.
- Testing all internal metering packages for accuracy and reliability.
- Testing all switch and network management controls.
- Preparing all required verification and documentation of test results and adjustments.

5.11 Line Preparation .

Line preparation includes, but is not limited to:

Performing:

- Option 1 (defined at the end of this section).

  OR

- Option 2 (defined in Section 5.12).

- Loading line database tape (MARK Operations).
- Configuring switch line cards to match the line database and MARK jumper list. This includes all required:
  - Ground start cards.
  - Coin cards.
  - Special service cards.
- Running line diagnostics.
- Setting up and running LVT and correcting all mistakes before another run is started.

  NOTE: The final **run must equal 100%.**
- Testing all line hunt groups as provided by the MARK database. This must be checked against the old office actual configuration for these groups.
- Identifying and building stop hunt groups and working with the Service Office and customers to verify correct operation.
- Testing all:
  - Ground start lines.
  - Toll denial lines.
  - Coin lines.
- Verifying COMER/ECLIPS records, if required, and submitting any corrections to Engineering.
- Testing all special service lines.
- Installing cutover devices as required.
- Marking all cables to be cut, either at the LIDF or MDF, depending on office configuration and cutover method.
- Removing ties on marked cables and allowing space for cutover, if required.
- Setting up scaffolding as required and removing after cutover, if required.
- Cutting all required line cables and plug-in shorting cards, if required.
- Testing dial tone on all jumpered lines, with particular attention to ground start lines and correcting all problems. (Applicable if LVT did not perform this activity.)
- Retesting all outgoing trunks; testing all incoming trunks by having the end offices call in on all trunks; having the end office verify translation by calling from a house telephone to each office NNX code.
- Removing all test equipment after cutover, such as LVT and TLS and removing all test lines from the database.
- Verifying that all existing circuits work through new equipment_ Performing 100% call through if required. (Applicable if LVT did not perform this activity.)

5.11 Line Preparation, continued

Option 1 can be described as follows.

Run all new jumpers from new HID terminal blocks to:

- The main cable pairs.
- Special service equipment.
- Subscriber carrier.
- Any other type of pair gain equipment.

NOTE: This **jumper list is ptovlded by the Divislon Service Office and** MARK **Operations.**

5.12 Line Preparation (Retermination)

Option 2 can be described as follows:

Use this option if a retermination has to be done (due to a lack of floor space) to add the required frame verticals. All 2x20 or 4x20 terminal blocks have to be replaced by new HID blocks, the new location will be at the eight-foot level or as engineered. It wilt include, but not be limited to:

- Rerunning all new cables from LIDF to the HMDF new HID location.
- Terminating all LIDF cables and plugging in new cables and Y connectors on HID blocks.
- Running all line equipment jumpers to main cable pairs. At the main cable pair, lift off old jumper and tie the new jumper down, then tie the old jumper on top of the new so that it can be removed easily.
- Performing a manual LVT to verify that the old and new jumpers match; or performing manual outdial if this is a new wire center.
- Removing old jumpers from the main cable pairs and line equipment blocks.
- Manually calling through on special and emergency circuits.

5.13 Removals

Removal for reuse or junk includes, but is not limited to:

- Removing:
  - Cabling and wiring and verifying cable of wiring before the physical separation.
  - Frames.
  - Bays.
  - Shelves.
  - Files.
  - Racks.
  - Panels.
  - Superstructure and associated bracing.
  - Line equipment blocks and line equipment cables.
- Moving equipment to:
  - Scrap bins (separate bins for hazardous materials, boxes, metal, etc.)
  - Trailers.
  - Other storage areas.
- Updating office labeling, documentation, and ECLIPS.
- Reusing packaging or boxing for shipping and sales purposes.
- Following the guidelines in GTE Telephone Operations Practice 220-000-200.

DEMARCATION ACTiViTiES CHECKLIST **Page 1 of a**
Form COECAO5 (3/95)
Ref. 220-001-005

KEY: **G = GTE, C = Contractor**

NOTE: it is GTE COEC's intent to always be in sync with the basic switch/transmission engineering models for the activities described in Demarc Al. This **includes using the manufacturer's standard installation and test processes. Refer to the installation Demarc Activity Notes.**

DEMARCATION Al – Basic Switch or Transmission Equipment installation Activities/Manufacturer Standards	**Who Does**
Prefielding (Can be part of site audit/CI activity)	C & G
Preconstruction Meeting(s) and others when required	C & G
Equipment Handling/Securing	C
Floor Preparation	C
Superstructure/cable rack erection and materials (non-EQB)	C
Equipment center aisle lighting provided (except DMS-10)	C
Hardware, equipment erection, terminal blocks, and cabling	C
PDUF and cabling installation (see options for Demarc A2 for batteries and rectifier)	C
Inverters (when in the engineering model)	C
Switch ground system and cabling	C
Continuity testing	C
Switch/power alarm cabling to MDF and tested	C
Recorder Announcer and messages installed and cabled (Mcais, Cognitronics, and/or EDRAMS [for **DMS-1 0**])	C
Data equrpment (such as GDC Modem Shelf E/W modems)	C
Switch/equipment power up/verification	C
Software generic load/pseudo load initialization and test	C
Routine system level/assessment testing including alarms	C
ODD Load available and loaded (see Demarc C; normally on-site four to eight weeks before basic switch turnover depending on line size)	C
Growth/datafill load for new hardware (Note 11)	C
Vendors standard assessment/turnover/acceptance tests including load and volume (Note 3)	C
Bar code labeling of basic equipment installation (Notes 4 and 9)	C
Generate final backup database tapes	C

Exhibit 1 – Demarcation Activities Checklist and Notes (Page 1 of 8)

NOTES: One lot price is required for items in this customized category.

in addition to the standard engineerin model, vendor options, this category includes activities resuiting in extraordinary efforts for installation (e.g., multiple cable hole closures, false ceilings, and cable shafts).

Aiso included in this category are installation efforts for additional quantities of the same equipment in Demarc Al basic model quantities.

DEMARCATION A2 – Standard Switch/Transmission Vendor Options	**Who Does**
MDF Installation, additional terminal blocks, protector blocks and modules (Note 13)	
Earthquake related materials and installation	
Batteries installation, cabling , test, and commissioning might require a separate quote (Note 8 and Special Needs Labor)	
Rectifier installation (including AC), cabling, test, and commissioning	
Spare card rack, frames, and spare cards (Note 4)	
Basic switch activities complete. Check Verification forms sign off by installing group complete.	

Exhlbit 1 **– Demarcation Activities Checklist and Notes (Page 2 of 8)**

NOTE: One lot price Is required for items in this customized category.

DEMARCATION B - OEM/Misc/Peripheral Equipment Optlons	**Who Does**
Alarm sense point/peripheral equipment/remote alarm equipment installation, cross connects, test, and commissioning (e.g., System 51, Dantel, and fibercorp)	
Building/environmental alarms (provided by GTE Support Assets) cabled to MDF from alarm terminal strip, cross connect, and test.	
Additional fire alarm/bar relay equipment installation, cross connects, and test.	
Remote office and/or line test devices/equipment installation, test, and commissioning/decommissioning (e.g., Fortel and ROTL)	
Install/deinstall MCOR equipment when required	
Automatic facility/trans/trunk test devices/equipment installation (e.g., ESARTS and Hikeimian)	
Coin line test equipment (e.g., Proctor 51200)	
Special power requirements and alarm frames (additional inverters)	
Additional data equipment (e.g., Tetematics X.25 pad, NorthNet Cordel 2000 integrated storage devices) installation, test, and commissioning	
Interexchange facilities access (DSX panels)	
E9-1-1 equipment installation and generic test	
Computer and related equipment (e.g., CD ROM, modems, and printers)	
Other peripheral equipment installation and test	
Additional recorder announcer devices, recording, commissioning, and test if additional to Demarc A.	
OEM spare card testing (Note 4)	
OEM equipment bar coding/scanning (Notes 4 and 9)	

Exhibit 1 – **Demarcation Activities Checklist and Notes (Page 3** of **8)**

NOTE: One lot price required for items in this customized category.

DEMARCATION C – Pre-In-Service/Cutover Activities		**Who Does**
Recent change updates at 5% volume (can also be in Demarc B options)		
Distributing frame line cross connects, includes 100% "Mark" verification (e.g., ANA) with 10% correction rate		
Lines outdial ring confirmation required on a minimum 1% of all regular lines		
Hardware/software test verification if not included in Demarc A and B		
Host – Remote office testing (Note 11)		
Database feature test verification	) If not included	
Line load database, loaded, and tested	) in Demarc	
ODD Load loaded and tested (Normally on site four to eight weeks before TO dependent on-line size)	) A or B	
End-to-end/office-to-office trunk test and verification at 100% over facilities that exist. See Note 14 for transmission systems.		
Span testing (Note 15)		
Trunk grooming		
Board-to-board/LVT at 100% of line numbers and frequency verification		
Billing and verification testing (Note 11)		
Special services transfers, testing, and verification at 100% for subscriber ring confirmation		
Priority/high profile/emergency numbers verification at 100% for subscriber ring confirmation		
Overall cutover coordination (Note 6)		G
Cutover activities and coordination (e.g., double blocking, half tap jumpering, flash preparation, and flash cut effort)		
Test for dial tone on all lines after cutover, before peak busy time		
Cutover devices including wiring installation/deinstallation when required (e.g., reuse of protectors, an/or type 2/84/85 CXR)		
Post-cutover review meeting		G&C

Exhibit 1 – Demarcation Activities Checklist and Notes (Page 4 of 8)

NOTE: Normally, a separate price will be required for each item In many cases separate orders will result when special needs rquirements exit.

Special Needs Requirements	Who Does
Extra storage costs at a frame level for unusual cases	_____
"Hot Slide" when required	_____
Additional labor needs (e.g., "Shoehorn", computer floor environment)	_____
Relocation, recable, and/or removal of existing equipment when required	_____
GTE Standard 24-hr quiescent load and volume with last four hours run at 120% of engineered l oad (Note 3 and GTE Telephone Operations Practice 220-014-007)	_____
Spare circuit card/pack testing when required (Note 4)	_____
Battery removal, disposal, and transportation (Note 8)	_____
Hardware and/or software upgrades (e.g., SVR, BCS, BWM, and TPR)	_____
Special services (e.g., grounding audits, infrared scanning, and quality)	_____

Exhibit 1 - Demarcation Activities Checklist and Notes (Page 5 of 8)

Installation Notes for Clarifying Demarcation Activities

1. Ongoing administrative duties will be included but not limited to conducting meetings and completing the required GTE and/or manufacturer forms such as:
   - Prefielding (GTE Telephone Operations Practice 220-001-003/Check List Prefielding COE Construction, Form 90002762).
   - Preconstruction Meeting(s) (GTE Telephone Operations Practice 220-001-004/ COECA01 and COECA02).
   - Planning Worksheets and/or MOP (GTE Telephone Operations Practice 220-001-004/ COECA03).
   - COE Work Order Status Summary (GTE Telephone Operations Practice 220-001-&I/ COECA04).
   - High Risk Activity Notices (GTE Telephone Operations Practice 220-001-002/ Form 90003100/or electronic mail script.
   - Ground Cable Completion Verification for those who run by COE Installation (GTE Telephone Operations Practice 795-805-074/Inspection - CO Grounding and Electrical Protection, Form 90001528).
   - Battery Record (GTE Telephone Operations Practice 205-005-200/Storage Battery/ Charger Record, Form 90002546).
   - Site Daily Activity Log, SVR Log, and Patch Log (GTE Telephone Operations Practice 220-000-002/Patch Log, Form 90001792; SVR Log, Form 90001793; and SPC Daily Activity Log, Form 90001794).
   - Spare Inventory Control Form and Repair and Return Log (GTE Telephone Operations Practice 220-220-002/Spare Inventory Control Record, Form 90003098 and ERO Repair and Return Log, Form 90003099).
   - Basic hardware and features check verification forms (GTE Telephone Operations Practice 200-002-700/COECV01/COECV02/COECV03 on COEC.GTEP telemail bulletin board.
   - Contractors standard functional tests, check verification forms (Refer to the manufacturer's documentation and Exhibit 1 in GTE Telephone Operations Practice 200-002-010).
   - Receipt of switch test printouts.

2. The minimum time frame for establishing the pre-in-service activities start to ready-for-service date (e.g., the final turnover, to in-service date) is derived by applying the following formula:

$$\frac{\text{Equipped off ice line size}}{1000} \times 1.2 \text{ Days} + 15 \text{ Days} = \text{Total number of days before in-service date that inactive period will be completed (not to exceed 90 days).}$$

However, exceptions at times might exist for various reasons at the Region level. These exceptions must be coordinated with the vendor to not cause extra GTE COEC charges resulting in "wait" time.

Exhibit 1 - Demarcation Activities Checklist and Notes (Page 6 of 8)

Installation Notes for Clarifying Demarcation Activities, continued

3. The product manufacturers' recommended turnover/acceptance tests including their standard load and volume test(s) will be used. Should GTE elect to use testing requirements over and above mat of the manufacturer's standard installation test recommendations, GTE might incur added costs. This results when additional jumpering and load boxes are required. However, it should be noted that if GTE's method is used, it will take the place of the manufacturer's load and volume tests (only one or the other will be used).
4. Although some manufacturers recommend not to test site spare cards and not to open or break the seal of spare PWC packaging until requirements for use exist, it is GTE's policy to test and bar code all spares.
5. Ensure coordination for timely availability of modem, port assignments, test lines, etc. with Network Reliability at the preconstruction meeting. Due to the lead times required for these services, it is critical that these are ordered before the start of installation.
6. The pm-in-service activities (Demarcation Category C) when contracted to a vendor will have one designated GTE COEC person per site to work closely with. This person will ensure all Demarcation Category C activities are completed to GTE's satisfaction. This person's activities will not be a redundant effort, but rather, a part of each activities actual efforts and/or coordination.
7. Switch-mounted outlets should be commercial AC free, run off inverters. When commercial AC lighting (center aisle is standard) is required, fixtures must be isolated from the switch (refer to GTE Telephone Operations Practice 795-805-072).
8. When battery removal and disposal is required, COEC will advise as to the GTE-approved vendors who can be used. Some removal and disposal vendors will also order, locate, label, and install the batteries. Therefore, it might be advantageous to investigate the best price scenario before the vendor bid is awarded.
9. Bar code efforts are the responsibility of whomever is chartered to install the COE (refer to GTE Telephone Operations Practice 007-220-001).
10. Grounding of "common" equipment and/or equipment outside of the switch vendor's specific equipment, will be performed in accordance with GTE Telephone Operations Practices 795-805-071,795-805-072,795-805-073, and 795-805-074.
11. In the case of a remote being added to an already existing base unit/host office, it is the responsibility of the remote installation group to ensure that the database/software is correct/loaded for testing to be completed.
12. COE Installation will always be responsible for the initial (first) distributing ame jumper wire runs, including guidelines for express dial tone. On office extensions, 6 e quantity of jumpers will be determined at the preconstruction meeting, or earlier if available.

Exhibit 1 – Demarcation Activities Checklist and Notes (Page 7 of 8)

Installation Notes for Clarifying Demarcation Activities, continued

13. Distributing frame responsibilities include:

    On work orders using a standard universal (nonmodular) type distributing frame, COE Installation will be responsible for installing the frame. OSP will install the protector blocks and modules, complete splicing of tip cables to MDF, test field side, plug all cable entry holes to the MDF, and provide ground cabling in accordance with GTE Telephone Operations Practice 795-805-071.

    On work orders with modular-type (DF-300 or similar) MDFs, COE Installation will install the frame, protector blocks with stubs and modules, plug all cable entry holes, and provide for ground cabling in accordance with GTE Telephone Operations Practice 795-805-071. OSP will complete splicing of the tip cables to MDF and test field side.

    On MDFs in DLC pad-mount sites (non-buildings) and new installations, COE Installation will install the protector blocks and protector modules. OSP will complete all the splicing activities and test field side.

14. Transmission testing of a system end-to-end not in a loopback condition, either end. This test includes a 24-hour system bum-in period before performing the turnover/verification testing. DS-1 s must have a bit error rate of 1 O-9 or better. Refer to GTE Telephone Operations Practices 2OO-002-725,200-002-730,200-002-731, 331-220-510, and 392-342-500.

15. On applicable work orders, the testing of copper spans include the office repeater, span repeater, HDSL CO units, and HDSL remote units.

16. At the completion of all work performed by contractor(s), turnover/check and verification forms sign-off is required.

Exhibit 1 - Demarcation Activities Checklist and Notes (Page 8 of 8)