

Digital Loop Carrier Provisioning

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1. General

- 1.1 Purpose** This practice defines inter- and intra-departmental responsibilities and timing of activities associated with the Digital Loop Carrier provisioning intervals.
- 1.2 Filing Instructions and Supersedures** File this practice in numerical order 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 Responsibility** This practice was published by the GE Telephone Operations Administrative Services Department. For more information about this practice, contact the Headquarters Network Provisioning Department.
- 1.4 Disclaimer** This practice was prepared solely for the use of GTE Telephone Operations. It must be used only by its employees, contractors, 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 GE 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** This practice describes Digital Loop Carrier (DLC) Provisioning's:
- Inter- and intra-departmental responsibilities.
 - Timing of activities.
- Coordination and communication between the involved departments are of primary importance to achieve the target intervals. (See Exhibit 1.)
- These guidelines ensure the timely provisioning of DLCs and associated projects from the issue of PCMs to final acceptance.
- This practice applies to all standard pad-mounted DLC applications as defined in PAR 008.
- NOTE: If DLC equipment is mounted in a building or Controlled Environment Vault (CEV), Land and Buildings is responsible for the building or CEV.**
- The week numbers listed in this practice reflect the provisioning interval shown in Exhibit 1.

2. Overview, continued

2.2 Administration

All actual milestone dates must be entered into the Capital Program Management System (CPMS).

The Operations Center (OPCEN) coordinators must verify that all:

- Work orders are issued.
AND
- Work is completed.

2.3 References

The following documents are referenced in this practice, and could be required for performing certain related tasks.

For Information About...	See...
Acceptance Testing-Cable Facility	634-020-500
CPMS input	007-015-002
Contractor Bid Procedures	007-015-010
Span Acceptance	200-002-725
TEL Requirements	211-224-071
Completing Form 90001528	795-805-074
Minimum DLC Ground Requirements	795-805-075
Requesting Deviations from Protection Practice Requirements	887-000-001
Standard Pad-Mounted DLC Applications	PAR 008*
Investment Area Plan (IAP)	PAR 039*

* Planning Analysis Reports (PARs) are published by the GTE Telephone Operations Staff Planning Department.

2.4 Definitions

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

Acronym	Definition
CEV	Controlled Environment Vault
CLLI	Common Language Location Identifier
c o	Central Off ice
COE	Central Off ice Equipment
COEMOD	Central Off ice Equipment Module

(continued)

2. Overview, continued

2.4 Definitions, continued

Acronym	Definition
COT	Central Office Terminal
CPMS	Capital Program Management System
CRCC	Carrier Restoration Control Center
DBA	Database Administration
DLC	Digital Loop Carrier
DTU	Digital Termination Unit
IAP	Investment Area Plan
MARK	Mechanized Assignment Record Keeping
OPCEN	Operations Center
OSP	Outside Plant
PAR	Planning Analysis Report
PCM	Project Control Memorandum
RFF	Reserved Future Funds
RT	Remote Terminal
T&P	Transmission and Protection
sscc	Special Service Control Center

2.5 Forms

me following forms are referenced in this practice. They are stocked to order from your local stationery room.

- Form 90001528, Inspection, Central Office Grounding, and Electrical Protection.
- Form 90002199, Acceptance- Fiber Optic.
- Form 90002529, T1 Acceptance.
- Form 90002631, Acceptance- CO Facilities Basic Administration.
- Form 90002633, Acceptance Discrepancy Report.
- Form 90002634, Acceptance - Formal Summary.

3. Before Beginning the DLC Provisioning Process

3.1

Introduction

This section describes actions to be taken before beginning the DLC provisioning process. Actions are completed by:

- Exchange Planning.
- Outside Plant (OSP) Engineering.
- Administrator - Transmission and Protection (T&P)/OSP.
- OSP Construction.

NOTE: All Network Provisioning Departments must follow the procedures for CPMS input described in GTE Telephone Operations Practice 007-015-002.

3.2

Actions Before Starting the Process

Before beginning the process, Exchange Planning:

- Develops feeder route relief plans in accordance with guidelines provided in published PARs.
- issues Project Control Memorandums (PCMs) related to DLC provisioning activities, as required, to appropriate departments.

NOTES: Digital Termination Units (DTUs) must be in place before beginning the provisioning process for direct interface DLCs.

PCMs are issued 27 weeks before the in-service date of the DLC.

- On all PCMs authorizing the expansion of trunk termination capacity of digital host switches, defines the quantity of digital trunk terminations to be added to support direct interface digital remote units for the engineering period covered by the PCM.
- issues PCMs for supporting Central Office Equipment (COE), OSP and **Land & Building activities, as required.**
- Verifies the availability of DTU terminations before issuing the PCM for **direct interface DLCs.**
- Identifies DLCs planned for the first and second years of the strategic planning period in the investment Area Plan (IAP) per PAR 039. All IAPs are typically released by July 15 annually.
- Establishes Reserved for **Future Funds (RFFs)** for site selection, with input from OSP Engineering_
- During the development of the IAP, reviews projects planned for the next year with all pertinent functional departments to address load leveling considerations, which could impact project schedules.
- Coordinates with the Special Service Control Center (SSCC) to determine the quantity and method for serving special service circuits.
- Determines the Central Office (CO) 4TEL provisioning/upgrade requirements.
- Requests Network Provisioning to perform prequalifying cable tests on copper nonscreened cables, when used.

3. Before Beginning the DLC Provisioning Process, continued

3.3 Actions Four Weeks Before Issuance

Complete the following activities a minimum of four weeks before issuing the PCM authorizing the purchase of the DLC.

Who Does It	What is Done
OSP Engineering	<ol style="list-style-type: none"> Obtains the right-of-way/easement for the planned DLC specified in the IAP. Notifies Exchange Planning of the DLC location, including longitude and latitude.
Administrator-T&P/OSP	<ol style="list-style-type: none"> Makes ground resistivity measurements. Notifies Exchange Planning if excessive costs will be incurred to obtain grounding. Releases the ground design.

3.4 Actions from August to October

In the August-to-October time frame, OSP Construction uses the IAP to develop manpower requirements for the next year's activity.

4. Departmental Responsibilities

4.1 Exchange Planning

Exchange Planning does the following during the DLC provisioning process:

Stage	What Happens
1	<p>Issues PCMs directing the placement of the DLC. All PCMs related to the placement of DLCs should:</p> <ul style="list-style-type: none"> Include "DLC" within the CPMS project description. Note all related PCMs in the Related Projects/Work Orders sections of the PCM. Acquire the Common Language Location Identifier (CLLI) code for the site. <p>For projects authorizing procurement of the DLC Remote Terminal (RT) that do not include a subplant code as part of the project number, specify a unique site location identifier using subplant codes within the PCM Project Narrative.</p>
2	<p>Distributes PCMs for direct interface DLCs to:</p> <ul style="list-style-type: none"> Transmission Engineering. OSP Engineering. Traffic Engineering. Switch Engineering.
3	<p>Distributes PCMs for DLCs with Central Office Terminals (COTs) to:</p> <ul style="list-style-type: none"> Transmission Engineering. OSP Engineering.

4. Departmental Responsibilities, continued

4.2 OSP Engineering

OSP Engineering does the following during the DLC provisioning process:

Week	What Happens
0	<p>A. Receives the DLC PCM from Planning. B. Starts the work order detail. All work orders related to the placement of DLCs should:</p> <ul style="list-style-type: none"> • Copy the PCM. • Include "DLC" within the CPMS project description. • Note all related work orders. • Include the site preparation design. <p>C. Notes the following critical completion dates in CPMS:</p> <ul style="list-style-type: none"> • Site preparation by week 11. • Span turnover to COE Construction by week 20. (See Exhibit 1.)
1	<p>A. Prepares cable makeup, if required. B. Prepares requests for all permits, if required.</p> <p>NOTE 1: This practice does not change span line design responsibilities.</p> <p>NOTE 2: Permit approval is required before sending the work order package to OPCEN.</p> <p>NOTE 3: Place the DLC to enable safe access for GTE personnel.</p>
2	<p>Sends the cable makeup to Transmission Engineering if the span is served by cable.</p>
3	<p>Receives the preliminary span design from Transmission Engineering.</p>
4	<p>A. Sends the revised span line design to Transmission Engineering. B. Releases the work order to OPCEN. C. Sends a copy of the work order to SSCC.</p>
10	<p>The Administrator - T&P receives notice to inspect and test the ground.</p>

(continued)

4. Departmental Responsibilities, continued

4.2 OSP Engineering, continued

Week	What Happens						
11	<table border="1"> <thead> <tr> <th>If the Ground...</th> <th>Then the Administrator-T&P Notifies the...</th> </tr> </thead> <tbody> <tr> <td>Meets the objective</td> <td>OSP coordinator that the site preparation and ground ring are complete.</td> </tr> <tr> <td>Does not meet the objective</td> <td>OPCEN to schedule the correction.</td> </tr> </tbody> </table> <p>NOTE: Obtain the Vice President - General Manager's approval for deviations from the minimum DLC ground requirements specified in GTE Telephone Operations Practices 795-805-075 and 887-000-001.</p>	If the Ground...	Then the Administrator-T&P Notifies the...	Meets the objective	OSP coordinator that the site preparation and ground ring are complete.	Does not meet the objective	OPCEN to schedule the correction.
If the Ground...	Then the Administrator-T&P Notifies the...						
Meets the objective	OSP coordinator that the site preparation and ground ring are complete.						
Does not meet the objective	OPCEN to schedule the correction.						

4.3 SSCC

SSCC does the following during the DLC provisioning process:

Week	What Happens
4	Receives a copy of the OSP work order.
6	<p>A. Receives a copy of the COE work order.</p> <p>B. Receives the traffic order and hardware location information from Traffic Engineering and Switch Engineering.</p> <p>C. Distributes the design layout record and the circuit layout record to:</p> <ul style="list-style-type: none"> • Traffic Engineering. • CO Maintenance. • Installation and Maintenance. <p>D. Forwards recent change information to COE Construction only if me switch is not prepositioned.</p>
20	Receives the as-built work order.

4. Departmental Responsibilities, continued

4.4

OPCEN - OSP does the following during the DLC provisioning process:

OPCEN – OSP

Week	What Happens						
4	<p>A. Receives the work order. B. Reviews the work order package to determine that all:</p> <ul style="list-style-type: none"> • Required material is specified. • Necessary approved permits are included. <p>NOTE: If material is confirmed, orders material; if not confirmed, notifies OSP Engineering.</p>						
	<table border="1"> <thead> <tr> <th>If Contractors...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>Are used</td> <td> <p>Make unit price contractors the first choice for:</p> <ul style="list-style-type: none"> • Site preparation, which includes: <ul style="list-style-type: none"> - Necessary site clearing, grading, and leveling. - The pad. - Commercial power. • Placing. • Splicing. </td> </tr> <tr> <td>Are not used</td> <td> <p>A. Review manpower availability. B. Load level GTE labor for placing and splicing. C. Schedule GTE employees. D. Arrange preparation of remote site, including:</p> <ul style="list-style-type: none"> • Necessary site clearing, grading, and leveling. • The pad. • Commercial power. </td> </tr> </tbody> </table>	If Contractors...	Then...	Are used	<p>Make unit price contractors the first choice for:</p> <ul style="list-style-type: none"> • Site preparation, which includes: <ul style="list-style-type: none"> - Necessary site clearing, grading, and leveling. - The pad. - Commercial power. • Placing. • Splicing. 	Are not used	<p>A. Review manpower availability. B. Load level GTE labor for placing and splicing. C. Schedule GTE employees. D. Arrange preparation of remote site, including:</p> <ul style="list-style-type: none"> • Necessary site clearing, grading, and leveling. • The pad. • Commercial power.
If Contractors...	Then...						
Are used	<p>Make unit price contractors the first choice for:</p> <ul style="list-style-type: none"> • Site preparation, which includes: <ul style="list-style-type: none"> - Necessary site clearing, grading, and leveling. - The pad. - Commercial power. • Placing. • Splicing. 						
Are not used	<p>A. Review manpower availability. B. Load level GTE labor for placing and splicing. C. Schedule GTE employees. D. Arrange preparation of remote site, including:</p> <ul style="list-style-type: none"> • Necessary site clearing, grading, and leveling. • The pad. • Commercial power. 						
6	<p>A. Forwards a copy of the work order package to OSP Construction. B. Notifies the contractor to initiate site preparation and of the required completion date.</p>						
10	<p>A. Receives notice from the contractor to inspect and test the ground ring installed by the contractor. B. Notifies the Administrator - T&P to inspect and test ground. C. Schedules ground corrections if required.</p>						

(continued)

4. Departmental Responsibilities, continued

4.4

OPCEN-OSP, continued

Week	What Happens
11	A. Receives a notice from the Administrator - T&P that grounding and site preparation are complete. B. Notifies the COE Construction Coordinator of the site preparation and ground ring completion, including the ground resistance measurement.
20	A. Receives the as-built work order from Construction. B. Notifies the COE Construction Coordinator that construction is complete. C. Sends a copy of the as-built work order to SSCC.
26	Starts the closing process.

4.5 OSP

Construction

OSP Construction does the following during the DLC provisioning process:

Week	What Happens
6	Receives the work order.
10	A. Receives cable and other necessary materials from GJE Supply. B. Begins placing functions, such as: <ul style="list-style-type: none">• Conduit.• Manholes.• Poles.• Cable. C. Begins cable splicing.
12	A. Receives repeater housings from GTE Supply. B. Begins placing and splicing repeater housings.
18	Completes placing and splicing functions.
19	A. Tests the cable in accordance with GTE Telephone Operations Practice 634-020-500. B. Installs repeaters, if applicable.
20	Notifies the OSP OPCEN coordinator to turn the span over to COE Construction.

4. Departmental Responsibilities, continued

4.6 Transmission Engineering

Transmission Engineering does the following during the DLC provisioning process:

Week	What Happens
0	A. Receives the PCM from Planning. NOTE 1: On all work orders related to placing DLCs: <ul style="list-style-type: none">• Include "DLC" within the CPMS project description.• Note all related work orders. NOTE 2: Refer to GTE Telephone Operations Practice 21 I-224-071 for 4TEL requirements. B. Copies the PCM to the work order.
1	A. If GTE is to engineer: <ul style="list-style-type: none">• Starts the work order.• Requests a change from the switch engineer if the power/superstructure is revised.• Begins span line engineering. B. If the engineering is bid, sends the bid to the contractor. C. Copies the broad-gauge project to the work order in CPMS and shows related DLC projects. D. Pulls the drawings. E. Notifies OSP Engineering if pairs are required for 4TEL/remote testing.
2	A. Receives the cable makeup from OSP Engineering. B. Prepares the final span if DLC is on the cable.
3	A. Distributes the preliminary copy of the span design to OSP Engineering. B. Receives contractor specifications if the work order was sent to contract bid.
4	A. Receives the revised span design from OSP Engineering. B. Prepares the final span design.
6	A. Completes detailed engineering and approves the CPMS work order. B. Releases the work order to OPCEN -COE. C. Sends a copy of the work order to: <ul style="list-style-type: none">• s s c c .• The Mechanized Assignment Record Keeping (MARK) coordinator.
7	Orders all equipment via CPMS/Central Office Equipment Module (COEMOD).

4. Departmental Responsibilities, continued

4.7

Traffic Engineering

Traffic Engineering does the following during the DLC provisioning process:

Week	What Happens
1	Issues the trunk forecast for direct interface systems.
6	A. Generates the traffic order to Switching Engineering and distributes it to: <ul style="list-style-type: none">• Trunk Facilities.• Switch Engineering.• Database Administration (DBA).• Transmission Engineering.• S S C C . B. Provides ringing plant and coin collect/refund requirements to DBA.

4.8

Switching Engineering

Switching Engineering does the following during the DLC provisioning process:

Week	What Happens
1	A. Receives the PCM from Planning for direct interface. B. Receives me trunk forecast from Traffic Engineering. C. Requests cable assignments for DTUs.
6	If a work order is required, distributes copies to the: <ul style="list-style-type: none">• S S C C .• OPCEN -COE.

4.9

DBA

DBA does the following during the DLC provisioning process:

Week	What Happens
6	Receives the traffic order.
7	Receives host remote link assignment recent-change information from Trunk Facilities when the switch is not prepositioned.
12	Issues routing recent-change commands to COE Construction for direct interface systems.

4. Departmental Responsibilities, continued

4.10

OPCEN – COE does the following during the DLC provisioning process:

OPCEN-COE

Week	What Happens						
6	<p>A. Receives the work order.</p> <p>NOTE: Process work orders according to GTE Telephone Operations Practice 007-015-002.</p> <p>B. Performs work order paper prefield and manpower requirements.</p>						
7	<p>A. Confirms material ship dates.</p> <p>B. Establishes communication with the OSP coordinator via electronic mail.</p> <p>C. Gives GTE Supply delivery instructions.</p>						
	<table border="1"> <thead> <tr> <th>If Company Employees...</th> <th>Then...</th> </tr> </thead> <tbody> <tr> <td>Are available</td> <td>Provides the work order to COE Construction.</td> </tr> <tr> <td>Are not available</td> <td> <p>At the request of COE Construction:</p> <ul style="list-style-type: none"> • Contacts a unit price contractor to perform the work. • If a unit price bid is not available, prepares and sends bid letters to the contractors. <p>NOTE: Refer to GTE Telephone Operations Practice 007-015-010 for contractor bid procedures.</p> </td> </tr> </tbody> </table>	If Company Employees...	Then...	Are available	Provides the work order to COE Construction.	Are not available	<p>At the request of COE Construction:</p> <ul style="list-style-type: none"> • Contacts a unit price contractor to perform the work. • If a unit price bid is not available, prepares and sends bid letters to the contractors. <p>NOTE: Refer to GTE Telephone Operations Practice 007-015-010 for contractor bid procedures.</p>
If Company Employees...	Then...						
Are available	Provides the work order to COE Construction.						
Are not available	<p>At the request of COE Construction:</p> <ul style="list-style-type: none"> • Contacts a unit price contractor to perform the work. • If a unit price bid is not available, prepares and sends bid letters to the contractors. <p>NOTE: Refer to GTE Telephone Operations Practice 007-015-010 for contractor bid procedures.</p>						

(continued)

4. Departmental Responsibilities, continued

4.10

OPCEN-COE, continued

Week	What Happens
11	<p>A. Receives notice of site and ground ring completion, including ground megger measurements, from the OSP coordinator. (Site completion includes AC service.)</p> <p>B. Prepares the work order package to include:</p> <ul style="list-style-type: none"> • Form 90001528, Inspection, Central Office Grounding, and Electrical Protection. • Form 90002529, T1 Acceptance. • Form 90002831, Acceptance- CO Facilities Basic Administration. • Form 90002833, Acceptance- Discrepancy Report. • Form 90002834, Acceptance Formal Summary. • Form 90002199, Acceptance- Fiber Optic.
13	<p>Receives the bid from the contractors and:</p> <ul style="list-style-type: none"> • Consults with the COE Construction Supervisor. • Awards the bid.

4.11

COE Construction

COE Construction does the following during the DLC provisioning process:

Week	What Happens
9	Receives the work order.
13	Reviews the work order.
14	Assigns the work order to Construction installers.
15	Holds a preconstruction meeting with CO Maintenance and the Carrier Restoration Control Center (CRCC).
17	<p>A. Arranges the delivery date of the COT/RT equipment to the field.</p> <p>B. Verifies that the equipment received is CO/remote.</p> <p>C. Inventories the equipment.</p>
18	Starts the installation.
20	<p>Receives the:</p> <ul style="list-style-type: none"> • Recent change notice from Trunk Facilities for direct interface systems. • Routing recent-change commands from DBA. • Notice of OSP span construction completion.

4. Departmental Responsibilities, continued

4.11
COE
Construction,
continued

NOTE: Some of the following tasks may be performed through joint acceptance testing with CO Maintenance.

Week	What Happens
22	<p>A. Completes and coordinates span acceptance in accordance with GTE Telephone Operations Practice 200-002-725.</p> <p>B. Ensures that:</p> <ul style="list-style-type: none">• Order wire is functional.• The following forms are accurate and complete:<ul style="list-style-type: none">- Form 90002199, Fiber Optic Acceptance.- Form 90002529, T1 Acceptance.
26	<p>A. Completes and coordinates joint DLC acceptance and system diagnostic tests in accordance with GTE Telephone Operations practices or vendor documentation.</p> <ul style="list-style-type: none">• Inventories COT/RT equipment for correct quantities, including spares.• Tests all spare cards.• Ensures peripheral test equipment is functional.• Ensures all trace cards and required DLC labeling is completed, which includes labeling the DLC remote cabinet with plant and subplant codes, as specified by the work order.• Ensures bonding, grounding, and commercial power meet requirements in accordance with GTE Telephone Operations Practice 795-805-075.• Completes Form 90001528, Inspection, Central Office Grounding, and Electrical Protection, in accordance with GTE Telephone Operations Practice 795-805-074.• Checks the emergency generator with the commercial power disconnected.• Verifies the ringing generator for correct voltages and frequencies.• Verifies that fans, filters, and heaters are functional.• Performs a load test.• Completes self-diagnostics.• Verifies that local and remote alarms are working.• Makes a physical inspection.• Ensures the commercial power disconnect box and DLC cabinet locks are installed. <p>B. Corrects any deficiencies reported on Form 90002633, Acceptance Discrepancy Report, and Quality Assurance operational reviews.</p> <p>C. Completes Form 90002634, Acceptance-Formal Summary, for the Network Services CO supervisor's signature.</p>
27	Places the DLC into service.

4. Departmental Responsibilities, continued

4.12 The MARK Coordinator does the following during the DLC provisioning process:

MARK

Coordinator

Week	What Happens
6	Receives a copy of the work order.
20	Prepositions MARK for DLC assignment.

5. Supplementary Reading

5.1

Additional Information

The following chart provides sources of supplementary information related to this practice.

NOTE: GTE Telephone Operations Practices must be used for grounding guidelines on all DLC systems.

For information About...	See...
Quality Assurance Operational Review COE Construction	Practice 004-200-001
COE Work Order implementation Procedure	Practice 200-001-004
Acceptance Test General Plan	Practice 200-002-010
Acceptance Test Basic Equipment Forms	Practice 200-002-700
T1 PCM Repeated Line- Transmission Considerations for Engineering	Practice 835-000-071
Outside Plant Engineering of Digital Loop Carrier Systems	Practice 938-360-010
Outside Plant Feeder Planning	PAR 007*
Digital Pair Gain Deployment	PAR 008*
CAF PCM Development Guidelines	PAR 016*
Investment Area Plan	PAR 039"
4-TEL Loop Testing	EP21 I-224-071 **

* PARS are published by the GTE Telephone Operations Staff Planning Department.

** Engineering Procedures (EPs) published by Network Engineering.

Exhibit 1 - Proposed DLC Provisioning Intervals

